

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

WINNIPEG CANADA  
SEPTEMBER  
NINETEEN SIXTEEN



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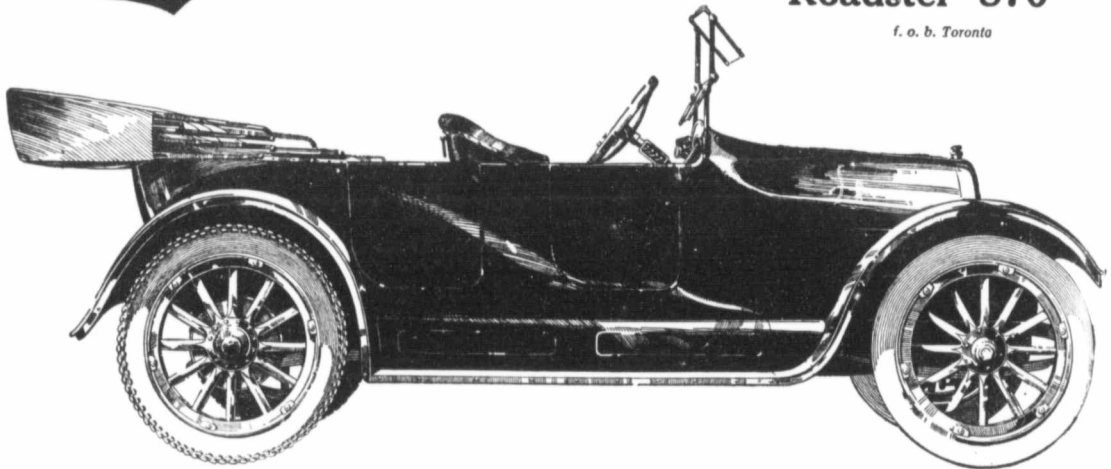
# The Greatest Value On the Face of the Earth

*Overland* \$890  
TRADE MARK REG.

**New Series  
Model 75B**

**Roadster \$870**

f. o. b. Toronto



Never before at anywhere near its price—\$890—has there been a car which would measure up to this one.

Take it point for point and compare it for downright value with any car you have ever seen or heard of.

In appearance, there is nothing at the price to equal the superb style of its pure streamline body.

In comfort—no car at the price

is so roomy, none at the price have cantilever springs—none ride so easily.

In completeness of equipment—every single thing is furnished—not an extra to buy.

Go over the entire field and see if you can find such real tangible value in any other low priced car.

The Overland dealer will show you other value points—see him at once.

Take any hill which you consider a real test of power—put this Overland at it.

Give it the severest power test you can think of.

Put any other low priced car to the same test—and watch this Overland clean up the field.

And no wonder!

It has a motor that develops full 31½ horsepower at 1950 r.p.m.

It develops 50 miles an hour on the road.

It gets twenty to twenty-five miles to a gallon of gas right along.

Think of a car at this price, with such a powerful, speedy, economical motor.

Can you beat it!

But remember the rush to own this car amounts to a stampede. Order yours to-day.

Catalogue on request. Please address Dept. 662

**Willys-Overland, Limited,** Head Office and Works **West Toronto, Canada**

# WHO GIVES MORE?

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"With proper management to be capable of doing more and better work than any other machine made of like size and proportions, working under the same conditions and on the same job."

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You can easily find out what this guaranty means by sending for a copy of the Home Edition of the Red River Special paper. Your own neighbors who understand have furnished the facts for this number. Ask for a Big Catalog, too. Both free. A postal request will do. Just sign your name and address.

## NICHOLS & SHEPARD CO.

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Red River Special Threshers, Wind Stackers, Steam and Oil-Gas Traction Engines

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BRANCH HOUSES (With Full Stock of Repairs) At

WINNIPEG, MANITOBA

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H. P. NORTON COMPANY, CALGARY, ALBERTA

# The Latest Rural Necessity

By THE CONTEST MANAGER

*I remember the old farm house,  
The place where I was born;  
The little window where the sun  
Came peeping in at morn. Now,  
You'd hardly know the old place  
For dad is up to date,  
And the farm is scientific  
From the back lot to the gate.  
We have silos and hay loaders,  
We have dynamos and things;  
A telephone for gossip  
And a phonograph that sings.  
The engine in the laundry,  
Is run by gasoline;  
The house and barn are lighted,  
And we drive a Ford machine.*

fences when a car swings in sight, and in some sections a rural picnic looks like a meet of auto enthusiasts. The farmer's car shortens distances and affords a pleasant diversion from the work of the day. It rests a fellow to get out in the machine, lean back and take a spin. It is doubly refreshing to the farm women folk and youngsters. It pumps the lungs of all of us full of pure air; in short the farmer's car is enabling us to get more out of life. Now, all this is merely an intro-



OFF FOR A JOY RIDE

*The little window where the sun  
Came peeping in at morn,  
Now brightens up a bathroom,  
That cost a car of corn,  
Our milkmaid is pneumatic  
And she's a dandy, yes;  
For dad gets five, a gallon. Yes,  
For the milk that once brought*

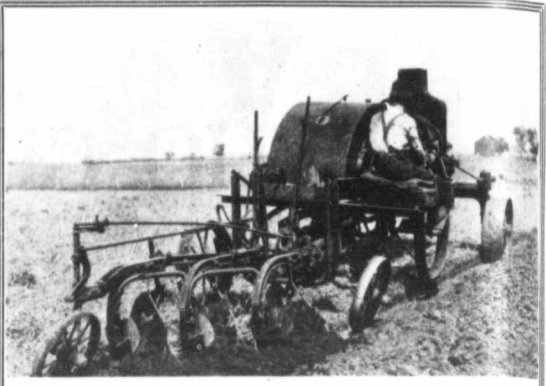
How are you going to spend your spare time in the future? All the joys of a spin into the cool fragrance of the open country are yours with an automobile. Your car will carry you to any one of a thousand cosy nooks and paths. Are you planning to spend your spare time sitting around the hot porch at home, or will you strike for the open? With a car you are free to go where and when you please. Every part of the West—in fact, the whole Dominion is yours to explore!

The automobile is the latest rural necessity. When neighbor Jones, in a reckless moment, "fell for" the glib talk of a sales agent and brought the first automobile into the neighborhood, every one flocked to see the new contraption. Now, all over Manitoba, Saskatchewan and Alberta the auto is as familiar as the face of father Jones. The horses no longer jump ditches or climb

duction to our real message. On the next page will be found particulars of the most attractive proposal the Canadian Thresherman and Farmer has ever made to its readers.

Briefly we will give away three (1917 model) Ford touring cars, one to each province, Manitoba, Saskatchewan and Alberta, to the first person in each of these provinces who correctly estimates the number of whole kernels in five pounds and seven ounces of No. 1 Northern Wheat; or the first person in these provinces who is nearest to the exact number of whole kernels.

As a guide to every one who enters the contest, we may state that Frank B. Snyder, of Elkhorn, Manitoba, headed the last competition with an estimate of 47,038 kernels—the actual number of whole grains in the bottle being 47,037. The bottle contained three and one quarter pounds of No. 1 Northern Wheat, which weighed 64 pounds to the bushel. The grain in the present contest also runs 64 pounds to the bushel, the only difference being the amount of wheat used, which is **five pounds and seven ounces** in place of three and one-quarter pounds.



Hart-Parr Tractor Plowing Hard Baked Land at Hutchinson Demonstration proving its merits on KEROSENE fuel.

# We are Proud of Hart-Parr Tractors

The story of Hart-Parr at the eight national tractor demonstrations in the States should interest Canadians. Before audiences of hundreds of thousands of keen farm critics Hart-Parr tractors proved by consistent work under all conditions that they were the fittest to survive the hardest tests. Canada needs such dependable tractors to overcome the shortage of labor and to sustain the heroes who left the harvest fields for the battle front.

Whether the ground was hard baked or easily turned, Old Reliable 60, Oil King 35 and Little Devil 22 plowed their acres to the required depth. The plows were never raised or the motors raced. Our catalog ratings were never violated.

- Hart-Parr Motors never overheated.**
- Hart-Parr Oil Cooling devices worked perfectly.**
- Hart-Parr Automatic Lubrication protected every bearing surface.**
- Hart-Parr Enclosed Construction saved vital parts from injury on dust clouded fields.**

HART-PARR KEROSENE MOTORS BURNED KEROSENE EVERY DAY. GOT JUST AS MUCH POWER FROM IT AS FROM GASOLINE, GALLON FOR GALLON. WE INVITED EVERY TEST—AND NEVER TOOK DOWN OUR KEROSENE SIGNS.

## We Used Only Three Tractors to Plow on the Entire Circuit

We did not carry a score or more machines for EMERGENCY PURPOSES. The same tractors plowed at every demonstration. We wanted to practice before every farmer the truth we have always preached—that Hart-Parr Tractors are DURABLE—FLEXIBLE—EASILY HANDLED—THAT THEY LAST.

## Our Plant is Working Capacity

We are calling for 200 men to help build tractors. Our large capacity is already taxed.

The same kind of machines that proved their superiority at the demonstrations can be delivered to you now IF YOU GET YOUR ORDER IN EARLY. AND REMEMBER, the demonstrations proved that HART-PARR Tractors are REAL KEROSENE TRACTORS. Many claim to burn kerosene but make them put the guarantee in the contract, that they will get just as much power from it, as from gasoline, gallon for gallon. Write to-day for our latest circulars.

## HART-PARR COMPANY

Portage la Prairie Regina Saskatoon  
Home Office: Charles City, Iowa.

Founders of the Tractor Industry—Builders of the Tractors That Last!

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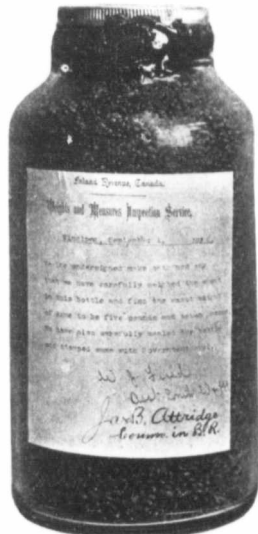
## These Three Beautiful Ford Touring Cars GO TO THE WINNERS OF OUR BIG AUTOMOBILE CONTEST

This is the most important announcement ever made in any contest carried on by any farm paper in Canada—the first time three Automobiles have been offered as grand prizes in any competition of this kind. A handsome 1917 Model Ford Touring Car will be presented to the person making the correct or nearest correct estimate in each of the three prairie provinces—Manitoba, Saskatchewan and Alberta, between 15th September, 1916, and April 1st, 1917.

### HOW TO WIN AN AUTOMOBILE

We will present a handsome Ford Touring Car (1917 model) to the first reader of *The Canadian Thresherman and Farmer*, in each of the three prairie provinces, Manitoba, Saskatchewan and Alberta, who estimates nearest to the number of whole kernels in 5 pounds and 7 ounces of No. 1 Northern wheat, between the 15th of September, 1916, and 1st of April, 1917. The wheat is a fair clean sample of No. 1 Northern, grown in Saskatchewan, and weighs 64 pounds to the bushel. It was obtained from the Dominion Grain Inspector at Winnipeg. The wheat and bottle were taken to the Dominion Weights and Measures office, and exactly 5 pounds and 7 ounces were weighed out and poured into same. The bottle was then immediately sealed up in the presence of two witnesses, photographed, and deposited with the Union Trust Company of Winnipeg. It will remain in their vaults until the contest closes, 1st April, 1917, when it will be taken out and counted by a board of 3 judges, none of whom are in any way connected with *The Canadian Thresherman and Farmer*. The contest is open to every bona fide farmer in Manitoba, Saskatchewan and Alberta, except residents of Winnipeg.

Frank B. Snyder, Elkhorn, Man., won the last competition. On that occasion there were 31 pounds of wheat in the bottle, which counted 47,037 kernels. Mr. Snyder's estimate was 47,038 kernels. This information ought to help you considerably in the present competition.



This bottle contains 5 pounds and 7 ounces of No. 1 Northern Wheat.

The wheat is a fair clean sample grown in Saskatchewan, and weighs 64 pounds to the bushel.

The photograph shows the actual bottle after it had been weighed and sealed by the Dominion Weights and Measures Inspector.

Can you estimate how many whole grains of wheat there are in the bottle?

### HOW TO SEND YOUR ESTIMATES

Everyone who sends us a subscription direct to this office between the dates mentioned, for *The Canadian Thresherman and Farmer*, either new or renewal, is entitled to estimates as explained below. These estimates may be credited in whatever way you desire, and you may send in as many estimates as you wish in accordance with the schedule below. Remember every additional estimate increases your chance to win a car. Estimate now and increase your chance of winning, because it is the first one in each province who estimates nearest to the number of whole kernels that wins an automobile. Estimates will be accepted as follows:

- 1 year's subscription at \$1.00 gives you 3 estimates
- 2 years' subscription at \$1.50 gives you 7 estimates
- 3 years' subscription at \$2.00 gives you 11 estimates
- 4 years' subscription at \$2.50 gives you 15 estimates
- 5 years' subscription at \$3.00 gives you 19 estimates
- 6 years' subscription at \$3.50 gives you 23 estimates
- 7 years' subscription at \$4.00 gives you 27 estimates
- 8 years' subscription at \$4.50 gives you 31 estimates
- 9 years' subscription at \$5.00 gives you 35 estimates
- 10 years' subscription at \$5.50 gives you 40 estimates

NOTE.—1. Old subscribers sending in new subscriptions for friends are entitled to the additional estimates if they are all sent to us in one envelope.

2.—Every coupon sent in to us will be acknowledged by letter to obviate possible errors. Get all your friends to enter the competition, or better still, make them a present of a subscription and take advantage of the extra estimates yourself.

### DO NOT FORGET

Before any one is eligible to compete in the contest, his money must be sent in to the office direct, along with his estimates. Contestants who hand their subscriptions to our agents on the road are not eligible to enter the contest unless they send a further subscription into the office here.

### COUPON

E. H. HEATH CO. LIMITED, Winnipeg.

Please find enclosed \$..... for..... years' subscription for *The Canadian Thresherman and Farmer*, to be sent to Name..... Address..... Prov.....

My estimates as to the number of whole kernels in 5 lbs. 7 ozs. of No. 1 Northern Wheat are.....

If more space is required for names and estimates, use a blank sheet and attach securely to this coupon.

## : : : : OUR BIT IN THE EMPIRE : : : :

WHAT the end of the war will be is as certain as the movement of this planet in its daily course. When the end will be reached no one may yet divine, but in the words of an eminent chaplain at the front: "It is inconceivable in the face of what we know and what we possess that a complete victory for the Allied arms can be long delayed."

Canada has won and will hold a place in the Empire, the most enviable from whatever standpoint it may be contemplated. In a sense, the war has never touched her and at no time has the prospect of an "invasion" ever come home to the average easy going citizen. Three thousand odd miles is a very reassuring interval of space between one's fireside and the point where a scrap is in full swing. And when that space or nearly all of it happens to be a moat—in some places several miles deep—filled with water and very stormy water, too, the idea of perfect safety is complete. Further, that great moat or ocean pathway has from the very outset, been kept as free from piracy or molestation of any sort as in the days when there wasn't a war-cloud in the sky. All the greater honor to Canada, therefore, some might say, if, notwithstanding all this security she saw fit to pledge her last man and her last dollar if need be to the common cause of the Empire.

Actually, on June 1st of this year the Dominion had raised 334,736 men out of a total population of 8,075,000—more than a fourth of her whole eligible list of men. It is as if the United States had assembled a force of 4,200,000 men. In addition "Canada has voted credits of \$400,000,000 for war purposes, or \$19.05 per capita. Based on population, this is equivalent to a credit of almost \$5,000,000,000 by the United States. In addition the people of Canada have subscribed a total of \$30,000,000 to date for the Patriotic Fund, the Belgians Relief, for Red Cross and hospital work and other humane purposes. The women of the Dominion are knitting a million pairs of socks a month for the soldiers. Thirty-two thousand Canadians have been killed or wounded in the war, and yet Canada is going valiantly about the work of redeeming her pledge to bring the total of her recruits up to 500,000 men."

From the most ultra selfish outlook, these wonderful contri-

butions but far more the magnificent conduct of our men at the front have "advertised" Canada in a way that nothing else on earth could have effected. Yet the last thought in any man's mind who has staked his all, as every one of those brave fellows have done, was the sordid idea of going to "advertise" anything, far less his own business interests on a field of blood.

However gratified the Motherland may be with our performances, many of us having an insight into the deeper workings of the domestic life are far from satisfied with the outlook in so far as the conduct of the household affairs are concerned. There are good men, splendid men, capable men still left in every province and municipi-

**Our sons and grandsons will pass judgment upon us. By our works will they judge us. They will contemplate the work of the men who faced suffering and death in the trenches of Flanders, and will say that it was good. But what will they say of the men to whose hands was committed the task of saving the economic and commercial existence of their country?**

ality of the Dominion, but like the black rust that has sapped the vitals of part of our season's crop, they are being smothered by corruption and its withering blight in the higher levels of our political life.

If this war does not mean a finality to our political highwayman and the legal pilfing that is poisoning the very head waters of justice, then the very brightest prospect that victory offers is but the mirage on the desert sands, and the end will be "confusion worse confounded." If winning the war does not mean the cleansing of the national life, the rooting out of private and political graft, the profiteers and those chartered scoundrels in high places who make profiteering possible, then to Canada winning the war means nothing, paint the future how we will.

But we are not wholly desolate—nor even down-hearted a little bit. We still feel that our trust in common decency and general fidelity is not misplaced. If any man thinks there is something radically wrong with the race in these winnowing times, he had better look within and see what part of his own being needs tinkering. Most people, we believe, are doing their best and are

trying to live and let live according to the light vouchsafed them. The deliberate evil doers are in the minority—how small is that minority would amaze us if we only knew it—or life would be insupportable.

No, notwithstanding what has come to light within recent date and lots more behind it that money and the rascality money can buy will probably be able to suppress, we have not and we never will lose our faith in the perennial and prevailing goodness of human nature. As Principal Jack has recently said: "Human nature needs no revolutions. It needs only a chance. What needs changing is state nature for state nature is the cause of all woes."

The Motherland, every corner of the Empire, our gallant Allies

of whatever nationality are all ringing with our praises. They can't find language to express their admiration. We stand to them in these days as the personification of decency, so magnificently, so unexpectedly, so unnecessarily (it would seem) have we given of our substance and rushed to their support in the great war of liberation. In the name of all that is real and decent, let us live up to our reputation!

What they reckon us at is something altogether too flattering to refer to in any detail but when they speak of the wonderful resources of this land, the fine race of men and women it is capable of breeding and the opportunity it does offer to the hand of the diligent, it is hardly possible to overstate the case. Publicity literature (our own product) has described Canada as "The Bread Basket of the World." Well it can turn out the finest bread the world is capable of producing, but so far its contribution in this way is but a small item in the market of the universe. We hear of an annual crop of hundreds of millions of bushels of fine and coarse grains, but to raise these a very small percentage of the available land has been laid under tribute.

The Publicity Commissioner of Alberta gave some extraordinary figures to the Royal Commission on Natural Resources, sitting in Edmonton the other day, which were all the more remarkable because they happened to be current and not the inflated familiarities of unscrupulous dealers in real estate. The average yield in 1917 had been 36 bushels to the acre of wheat, 57 bushels of oats and 70 of barley. At anything like present prices, these results might well excite the cupidity of the greediest "profiteer" that ever many times have produced. That in 1915 when prices were at a high ebb, the Commission reported that the average would be 40 bushels of wheat, 57 of oats and 70 of barley. In some portions of the province, it is a still better price.

Then Mayor Henry told the Commission of the trip of some adept Edmonton business men to the north country, produced maps of the district and samples of grain that were produced raised there. He assumed the Commission that the man went north and could not get back. "The quietest speak of the country as each slow of speech and dead of heart." He informed them that nearly all the most fertile land lay north of Edmonton as between Edmonton, best meet and Winnipeg, and that the same was even better than the George Fosterton, owing to the fact that the country was not so elevated and that it benefited by winds which what similar to the chinook, blow from the south.

Canada's timber wealth is so great that it cannot well be grasped when stated in bald billions on the board feet. In many respects it is a unique character in its variety and adaptability to economic purposes if merely listed would fill many pages, and it has been a been tapped. The same can be said of the country's undeveloped deposits in iron, copper and other valuable minerals. And as to its fuel supplies of coal and oil, why these are a ping up and spurring out in most unexpected spots all over the country. Around Edmonton, for example, we know that the fields in some cases are so shallow that the surface, the farmers have to dig for it as if they were looking for potatoes, or making a trifling excavation necessary to expose a stone basement to the home.

These are but scraps from a commonplace book on Natural Resources—and "the half never been told!"

IN AFTER-THE-WAR PROBLEMS

REBOUNding from two years and more of the most destructive and wasteful war in history, the world will plunge into a trade and economic contest in which forces will assume totally new alignments, when competition will be keener and stronger than ever, and when science and organization will play a leading part in any successful struggle Canada must gird up her loins and make ready her full equipment of plenty and readiness. She has the advantage that over many other countries in richness and abundance of resources, in geographical world position, in vigor of race and in robustness of the intellectual and moral fibre, while the hope, verging on pronounced optimism, is an abiding and stimulating force with our people.

"I doubt, however, if we yet sense adequately the unnatural situation in which we have become involved, or the wrench and strain that will accompany the resumption of our natural and normal position. The question which it seems to me each should face is this: What will be the situation as regards our industry in Canada when the war ends and how can our best meet it?"

Thus speaks the Right Hon. Sir George Foster in his Call to Action, and the words are reproduced in the form of a "fiery cross" which is now being sent broadcast throughout the Dominion, inviting the interest of every live Canadian citizen who can offer the humblest contribution to the common stock of wisdom in a National Business Conference which will be held this autumn.

The purpose of this conference is to discuss and formulate plans for dealing with conditions when peace has been declared. Dr. Fleming, speaking before the Royal Society of Arts, London, in February of this year, said: "This war is a war quite as much of chemists and engineers as of soldiers and sailors. Hence, from the point of view of national security alone, we must take steps to foster scientific investigation." In the series of "fiery cross" pamphlets issued by Sir George Foster, some questions of mighty import are asked, from which we quote the following:

Are we giving due consideration to the adoption of systematic courses of training for our industrial statesmen; our commercial, financial and technical

experts; our managers, superintendents, foremen and machinists and our unskilled labor, or are we content to allow other nations with their superior training to under sell us in our own markets?

2. Why sit back and see Germany grasp our undeveloped ideas and devise processes of manufacture for utilizing materials now being turned to waste in Canada, when by arousing the latent forces in us, a far greater superiority of talent would be discovered?

3. Have you forgotten that Canada's abundant material resources are useless without the trained men to handle them and that the delightful mental exercises which add to our knowledge of materials make us less materialistic and more refined in our judgment and enthusiastic in

intelligence. The school, plus the home, and the small shop educated the child. To-day the small shop has been eliminated and the home has lost many of its former opportunities. A much greater part of the education of the child must be assumed by the school of the present generation. It is true we have in the schools a little manual training and are now talking about pre-vocational and vocational training. But the school still considers the problem entirely from the standpoint of how to do a little of the industrial training with the least disturbance to the traditional programme. What we really need is a complete re-organization of the entire elementary school system to meet changed social and industrial conditions. Patchwork will not do,

The ideal truth is that the more all nations are dependent on each other, the more truly they constitute the one family of God on earth, and even after the war this is the ideal we must maintain. Any "view" or objective that falls short of the universal brotherhood of man is but courting disaster. Love is the only elixir of life now as well as hereafter.

exalting righteous commerce?

It seems to us that not only have we to prepare immediately to get rid of all rottenness, weakness or stupidity in our industrial system, in our antiquated, wasteful agricultural methods where these still exist, but as our greatest asset in the long run will be found to be our young people, we've got to strike at the root of our whole educational system.

This most vital of all our social problems has been handled in an altogether novel and exhaustive fashion by an American writer (R. S. Bourne) in this month's "Scribner." The article is too long for reproduction in our limited space and to break it down would be impossible except at the risk of spoiling it. We commend it very strongly to every reader and for the present merely indicate the purport of it by quoting a prefatory note to Mr. Bourne's article by Mr. Wirt, the director of the Gary Schools, the model from which the suggested reconstruction methods might be taken. Mr. Wirt says:

"It was in the industrial training of children in the home and small shop that made children of the past generation reliable, industrious, physically strong and contributed much to their general

ing in the "British Weekly" he says:

"The Church and the State alike had better prepare for surprises. This is easy talk, and has little substance in it. It is just as true to say that after the war everything will be the same. No shock really upsets the equilibrium of the world; there may be a considerable but only a transient disturbance; things will settle down again, and the centre of gravity will not be too far from the old point. Human nature will be the same. The law of God will be the same.

Nations are Dependent

"Every humane and Christian spirit must protest against the temper in which the change in our economic position after the war is being preached and contemplated by many of those who support it. It is advocated not as a necessary measure of self-defence, but as if it were a positive ideal that the British Empire should be a world by itself, a little globe within the great globe, living and moving in a splendid isolation, selling to everybody and buying from nobody.

"Our present relations to Germany are not permanent, and to make an ideal, in which we exult, out of a necessity imposed on us by the malice and ambition of our enemies, is no mark of wise or good men. The ideal truth is that the more all nations are dependent on each other the more truly they constitute the one family of God on earth, and even after the war this is the ideal we must maintain.

Church and Trade Disputes

"There is only one way in which the Church can promote the work of reconciliation in the economic sphere. It is not by officially interfering in trade disputes the moral responsibilities of which can only be undertaken by those to whom they belong. It is by preaching the equality of men as all made in the same divine image, redeemed by the same divine sacrifice, and called to the same divine destiny.

"It is by eliminating from its own life the spirit which denies equality and cultivates the rich rather than the poor. It is by an absolutely disinterested ministry, which not only speaks of a life which does not depend on the abundance of the things a man possesses, but indubitably and unimpeachably lives that life before all men.

# THE CANADIAN THRESHERMAN AND FARMER

CANADA'S LEADING AGRICULTURAL MAGAZINE

E. H. HEATH, PRESIDENT  
E. W. HAMILTON, MANAGING DIRECTOR  
F. C. BRAY, TREASURER



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Sept.

1916

## ∴ TWO HEN-WIVES ∴

### 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, a refund 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."

HOW comes it that an illiterate woman, the mother of ten robust, intelligent children, was no less successful in raising chickens, while a near neighbor, with no children, lost every penny she invested in hens, and would never thereafter permit the subject of poultry to be discussed in her presence? Those two women are no fanciful personages dragged in to make a story, but were real, hustling females of flesh and blood, who were in the pink of health, to our knowledge, some two score years ago. The first, Janet Baxter, never had a clear month's schooling in her life, and she married at nineteen. Even if she had been able to read fluently, she hadn't a single book on "How to Make Poultry Pay," and there was no agricultural press in that neighborhood with its smug, time-polished platitudes on the breeding, feeding and marketing of poultry.

very man you want," and he added (to himself), "I want to give it up."

A bargain was struck. The entire "cleeekin" and plant of the erstwhile breeder of Buff Orpingtons passed at once from Bowman's back-yard to the "more commodious premises" of Miss Rogers of Runnymede Cottage. The birds revelled in their new experience, and the fact that the incident had given a great impetus to poultry-raising in that county was duly recorded in that year's proceedings of the R.A.S. Next year it was expected that Miss R. would be a prominent exhibitor in the poultry section—but she wasn't. Notwithstanding the unlimited freedom enjoyed by these birds, the fresh air they inhaled without restriction, and the splendid view from their "run" upon the surrounding country, by some means one fatality after another seemed to attach itself to that family of fowls. Gapes, roup, diarrhoea, and every dread disease known to hens, claimed them. They died out or were sold out at a ruinous loss.

### SUBSCRIPTION RATES

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Postage prepaid, United States and Foreign Countries \$1.50 Per Year

Failing to receive paper, you should notify the office at once, when mistake, if any, will be corrected immediately. All Subscriptions must be paid for in advance and no subscription will be accepted for a shorter period than six months.

Advertising copy in order to secure good position should be in our hands not later than the 15th of the month preceding day of issue.

Advertising rates furnished on application.

The other lady (always referred to as Miss Rogers) was the daughter of well-to-do parents, who did not go to their long rest till their girl had reached womanhood, and had been well provided for. She had been a typical boarding-school miss in her time, and was considered one of the best educated representatives of her sex in that community. Her accomplishments were much in evidence on every public occasion, but she was a creature of fitful fancies, and suffered from a rather malignant form of instability of temperament; was moodish, in fact, and inclined to flit at unexpected intervals from one employment to another. This weakness even marked her ordinary conversation, and she rarely started or butted into a friendly talk without dropping into a parenthesis and getting hopelessly bogged therein.

Janet Baxter had to keep hens. Her part in providing for her bairns laid the necessity upon her, but she liked hens, and their company never wearied her. In fact, her motherly instinct created a keen interest in the feathered beasties. She had the real red corpseles of the hen-wife in her veins, and she "toiled terribly." Miss Rogers, on the other hand, did not need to keep live stock of any sort, unless it might be for companionship in her lonely life. But she liked those creatures of the fields and the farm-yards, and one day, while visiting the Royal Agricultural Society's annual show, she was seized with an uncontrollable itching to make a name among the poultry breeders. That very night she expressed her desire to Sandy Bowman, the town-crier. "I want to keep poultry, Sandy," said the eminent lady. "I'm the

All which is intended to illustrate by commonplace facts that to succeed in anything, it is not enough to know *how* to do it. Among the changes the war is expected to bring about, we hope that one of them will find its way into the business or profession of agricultural journalism. Not forgetting ourselves, is it not the fact that the agricultural press of North America is surfeited with information and advice on the details of farm work and farm home life? Elementary knowledge on every thinkable subject, from rearing ostriches to rat-catching is pumped into vessels that are already primed to bursting. They are often in far better position to bestow big chunks of their wealth in knowledge and experience than the man at the pump handle is to spare an ounce of his. And we can't imagine our "Constant Subscriber" to be the man who is hunting for these "seasonable paragraphs."

Making the most generous allowance for the discovery of new facts and increased experience, what is sorely needed is not new text books or freshly painted guide posts on the oil trail, but some ginger that will have the effect of making men and women DO what they know they ought to do. If we moralised till the crack of doom we are bound to come back to this, that the only real difference between men is ENERGY or the want of it, CONTINUITY, or the want of it.

Aberdeen, Banta C. Billing, C.



# Profits from Your Tractor

To the man who expects to buy a tractor, there are many points on which he wants to satisfy himself, but the *one big point* that interests him most, is *the power to reduce costs and increase profits.*

We make no guesswork claims on the profit-making abilities of the Rumely OilPull Tractor—there are more than 6000 owners who have *proved* that it will do just what you demand of the tractor you will buy—the ability to handle *all* your power-jobs easier, better, and cheaper.

## Kerosene for Fuel

To take advantage of the high price of gasoline, there have been some great claims and promises as to what various tractors would do on kerosene, but we go farther than claims or words of mouth promises. We *know* what the OilPull will do, and we give an absolute *written guarantee* that it will burn kerosene *at all loads, under all conditions, all the time.*

Figure what that means to you—your operating expenses *cut in half.* There's no guesswork about it. Not only will the OilPull burn kerosene under all conditions—it will deliver more power on a gallon of kerosene than any tractor of equal rating on gasoline.

Then, to this cost cutting advantage of the OilPull, add the other points of superiority that make the OilPull your safest tractor investment.

## Dependable Construction

The OilPull is built to not only do the work you demand, but *stand up to it.* We know the hard usage and strains that a tractor is up against and we have provided for it. The OilPull is built to last.

## Close Regulation

When you come down to *regulation*, where the load is extremely fluctuating and variable as in threshing, the OilPull stands absolutely in a class by itself, and owners will tell you so. Our Oil Fuel System provides for *automatic* control and regulation to conform to the needs of the engine at every instant, under all and varying loads.

## All Around Usefulness

We have yet to find the power job that the OilPull won't handle—drawbar or belt. One thing is certain, you can count on it to not only do your plowing and handle all your soil working equipment, but to take care of all your belt jobs—feed mill to grain separator. As a road machine, for hauling crops to market and for road building, the OilPull can't be beaten. Two sizes: 15-30 and 30-60 H P.

Put an OilPull on your soil plowing and it will produce from the first day you put it on the job.

Ask our nearest branch for a catalog—it tells the whole story, and if there is an OilPull owner in your neighborhood, ask *him* what he thinks.

### Advance-Rumely Engine Plows

There are no better engine gang plows built than Advance-Rumely plows and we have the right size for your tractor and your farm.

Rumely Automatic Lift—made in 4, 5, 6 and 8 bottoms.

Rumely Hand Lift—made in 4, 5, 6, 7 and 10 bottoms.

Rumely Sanders Disc Plow—made in 4, 5, 6 and 8 disc sizes, with 24 or 28 inch discs.

### Other Dependable Advance-Rumely Tractors

For the man who wants a light weight, general-purpose tractor, we can recommend the Rumely GasPull, 15-30, easy to handle, short turning and powerful.

Rumely All-Purpose  
The Rumely All-Purpose 8-16 and 12-24 tractors are for the smaller size farm and represent the latest in a one-man all-purpose outfit.

## ADVANCE-RUMELY THRESHER CO.

LA PORTE (Incorporated) INDIANA

Aberdeen, S. D.	Dallas, Texas	Kansas City, Mo.	Nashville, Tenn.	San Francisco, Cal.	Calgary, Alta.
Battle Cr. & Mich.	Des Moines, Iowa	Lincoln, Neb.	New Orleans, La.	Spokane, Wash.	Saskatoon, Sask.
Billings, Mont.	Fargo, N. D.	Madison, Wis.	Peoria, Ill.	Wichita, Kans.	Regina, Sask.
Columbus, Ohio	Indianapolis, Ind.	Minneapolis, Minn.	Portland, Ore.	Winnipeg, Man.	



# The Art of Blacksmithing

As applied to the trade

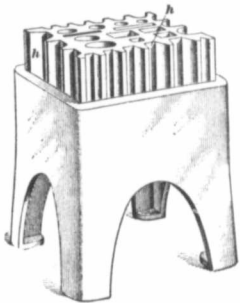
ARTICLE No. 7

FLOOR AND BENCH TOOLS  
Swage Blocks

The following cuts show two forms of cast-iron swage blocks. These blocks have variously shaped grooves and holes cut into them, and are used like a swage or as a heading tool, and for similar work. They are really simple



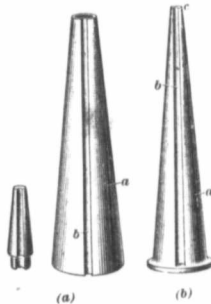
forms of dies. Cut (B) shows a swage block on a stand. The grooves (h) (h) in the edges are used for forming hexagonal heads and nuts of various sizes. The block may be turned on the stand to bring any side or edge up.



Tapered Mandrel

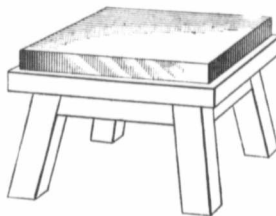
For forming rings and eyes, the cone, or tapered mandrel, shown in the following cuts, (a) and (b), is largely used. It is made of cast iron and is formed of either one or two pieces. If it is formed of two pieces, as shown in cut (a) the top piece, shown at the left and called the tip, is made with a shank on the bottom, which fits into the bottom piece and dowels the two parts together. The body (a) of the mandrel is given a plain smooth taper, but usually a groove (b) extends the entire length. This groove enables the smith to grasp the work with a pair of tongs while it is on the

cone; or, in the case of a ring attached to a chain or of an eye or a ring, the link or eye enters the groove. Some cones are so tapered that the upper end (c) is little more than 1 in. in diameter, the diameter of the lower end ordinarily varies between 8 in. and 1 1/2 in. The height ranges between 2 1/2 ft. and 5 ft. When the cone is made in two pieces, the shank of tip may be placed in a vise to hold it firmly for bending small work.



Surface Plate

The ordinary surface plate is made of cast iron, varying in thickness from 1 1/2 in. to 4 in., and planed smooth on the top. This planed face is used for testing work — to see whether it is straight, and to detect warp or wind. It is also very useful in laying out work. The surface plate is generally placed on a small strong bench, as shown in cut, so as to be accessible from all sides.



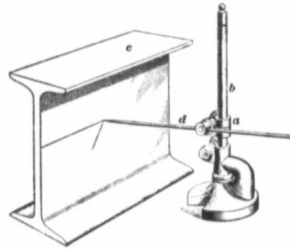
It should be carefully leveled and then secured in position; this makes it possible to test work on it by means of a level. Large surface plates are ribbed on the bottom to make them stiffer. Surface plates about 4 ft. wide and

8 ft. long are of convenient size for general use, the top being about 2 1/2 in. thick, with two side ribs around the bottom and several cross ribs, making the total depth of the plate about 8 in.; these plates are used for rocker shafts, yokes and similar work. For use in shops where locomotive frames are made, plates about 4 ft. or 4 1/2 ft. wide by 20 ft. or 24 ft. long are used, made as shown in the following cut. The sides of these plates are 3 in. thick, and are connected by ribs as shown. The plate is planed on both sides, and may be turned over occasionally to keep it straight, as the hammering it gets tends to stretch the upper surface and make the plate high in the middle.



Surface Gauge

The following cut shows a surface gauge that is used to scribe a line on a piece of work (c). This tool is used on the surface plate to draw or scribe lines parallel to the surface of the plate. The sliding collar (a) can be set at any height on the vertical standard (b) and the needle (d) can be clamped in any position on this collar.

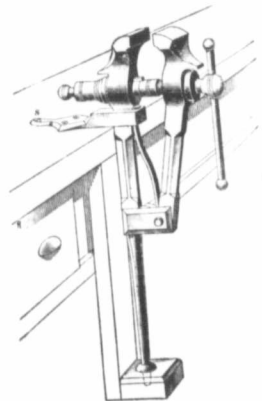


Bench Vise

The vise is a tool in which the work is held securely for bending, twisting, chipping, filing, etc. The blacksmith's vise shown in cut is called a leg vise. The leg rests in a solid block on the floor, while

the body is secured to the bench with bolts through the strap (e).

The vise is made of wrought iron and has hardened steel jaws. The screw has a square thread and should be oiled occasionally. The top of the vise should be set at elbow height; this will be found most convenient for filing and chipping.



Anvil Vise

In shops where heavy horse-shoeing is done, a heavy 6 in. vise can, with advantage, be bolted to a 10 in. x 10 in. timber post set in the ground near the anvil. The jaws of the vise should be about the same height as the top of the anvil. A vise thus arranged has several uses, the principal one being to clamp the hot horseshoe while bending the heel calk.

Vise Jaws

A very necessary addition to the vise is a pair of copper vise jaws, shown in cut. These are made of sheet copper, from 1/16 to 1/10 in. thick, formed to fit over and between the jaws of the vise. They protect the work from being bruised, as it would be if it were clamped between the bare jaws. Besides they protect the jaws of the vise for it is often necessary to clamp hot pieces of iron in the vise. This would draw the temper out of the jaws if they came in direct contact with it.

Continued on page 35

## THE FAMOUS CASWELL ADJUSTABLE BELT GUIDE

IS FOR SALE IN CANADA BY

The Garden City Feeder Co. of Regina, Sask.

Write for Prices



## “That’s Certainly Plowing!”

This is the way one man was overheard to express himself when watching the work of Avery Tractors at one of the National Tractor Demonstrations. And Avery Tractors are, “certainly plowing,” as he said. **PLOWING DEEP**—around 8 inches or more. **PLOWING FAST**—running at just the right speed to do the best plowing. **PLOWING STEADY**—Avery Tractors can be depended upon to keep running right along.

### What Avery Tractors are Showing in the Demonstrations

**FIRST**—Avery Tractors are proving that they are genuine Kerosene burners. They are running on kerosene day after day. Get an Avery Catalog and read about the advantages of the special double Kerosene and Gasoline carburetor on Avery Tractors.

**SECOND**—Avery Tractors are demonstrating that the patented Avery sliding frame is superior to any other form of transmission system made. It is the reason why Avery Tractors have the least gears, the least shafts and the least bearings of any two-speed, double drive tractors built.

**THIRD**—We are showing every day the advantages of not having any fans, fuel pumps, water pumps, outside lubricators, belts or sprocket chains. There’s never any

trouble with any of these parts on Avery Tractors, for they are all eliminated in the Avery design.

**FOURTH**—We are demonstrating the wonderful Avery renewable cylinder walls, which make it possible to replace that part on a tractor most subject to wear at very little expense.

**FIFTH**—We are showing that the Avery opposed slow speed motor, with its extra large crankshaft, is, as one owner expressed it, the finest power plant ever put on an engine.

**SIXTH**—We are showing that there is only one line of tractors with a standardized design—that Avery Tractors are the only make built in sizes for every size farm, with five sizes all of the same design.

### You Ought to See the Avery Line of Tractors

See Avery Tractors at some demonstration. Or take a trip to see the ones that have been sold nearest to you. Or see them at one of our Branch Houses or Dealers. Or, if you can’t see them in any one of these ways, write now for a copy of the complete Avery Catalog and see illustrations of all of them there. Don’t fail to see them in some way and get ALL the Facts about the Avery Bull Dog Line of Tractors.

**EVERY COMPANY Canadian Avery Co. Ltd.**  
685 Iowa St., Peoria, Ill.

Western Canadian Distributors WINNIPEG, REGINA

# EVERY

# PRACTICAL TALKS TO THRESHERMEN

LESSON CXVII.

**T**HERE are three principal functions that must be performed by every successful gas engine. It must mix a properly proportioned charge of fuel and air, this charge must be compressed in the cylinder, and it must be ignited at the proper instant. For the immediate present we shall confine our discussion to the first of these functions, which is known as carburetion. An engine may be fitted with properly designed valves, properly timed and with the most perfect ignition system and yet if the carburetor is not properly designed and adjusted the engine will not operate or if it does operate it will do so in an inefficient manner.

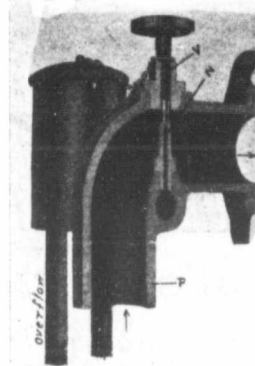
The function of a carburetor is to measure out a definite quantity of fuel for each charge, supply this fuel with just the right amount of air and mix the two intimately before it reaches the cylinder. In addition the fuel must be thoroughly pulverized and to some extent converted into a vapor. All of this must be done, moreover, in an amazingly short time. For example, take an engine that runs at a speed of 800 revolutions per minute; if it is of the four cycle style, as most of them are, it must prepare four hundred charges and deliver them to the cylinder in sixty seconds or at the rate of one in .0375 of a second. There is not a great deal of time for measuring and mixing and vaporizing and yet to be successful a carburetor must do all these things accurately in the given time. Moreover, it must be sensitive enough and accurate enough to take care of all variations in speed and supply a mixture of practically uniform value. When we consider that there are engines that run as high as four thousand revolutions a minute, it seems almost incredible that a carburetor can work at all and yet the fact is they do operate.

There are, it is true, some very crude looking fuel valves and carburetors on the market. These are found generally on cheap, slow running engines where they perform with a fair degree of satisfaction. The reason they perform so well is that they are fitted to very simple engines of the hit and miss type that run at practically

constant speed. They would not work on variable speed motors or if they did they would not give satisfaction. In a constant speed motor all that is necessary is a fuel nozzle to deliver the fuel a properly proportioned area through which the correct volume of air can pass at the right speed, and a space between the fuel nozzle and the engine in which the fuel and air is mixed. Only one adjustment is necessary, namely: the needle valve which controls the flow of fuel. The air port needs no adjustment.

A very simple form of carburetor or mixer valve appears in the cut. It consists merely in an air pipe **P** provided with a fuel nozzle **N** in which the fuel stands when the engine is idle about a quarter of an inch below the top of the nozzle. Usually the fuel is

maintained at this constant level by means of a small fuel pump.



Simple form of Mixing Valve  
The needle valve **V** regulates the size of the fuel nozzle. When the

engine is in operation, air rushes through the pipe **P** in the direction of the arrows due to the partial vacuum caused by the outward movement of the piston. The area of low pressure extends out into the pipe **P** and causes the fuel to rise in a spray around the needle valve. Here it is caught by the rapidly moving current of air and carried into the cylinder.

The fineness of the fuel spray is dependent upon the shape of the nozzle, the shape of the needle valve and the velocity of the air current. The latter depends upon the size of the inlet valve opening into the cylinder, the volume of the cylinder and the speed of the piston. Since all of the air that gets into the cylinder must pass through the inlet valve opening, and since enough must pass through to fill the cylinder at or very near atmospheric pressure it is evident that the velocity of the ingoing air depends upon the relative size of inlet valve opening as compared with the area of the piston head. This relation is, of course, decided by the designer. In ordinary slow speed engines an air velocity of between 6,000 and 8,000 feet per minute is provided while in high speed engines air velocities twice as great are frequently attained. The pumping effect at the mouth of the fuel nozzle is almost directly proportional to the velocity of the air.

There are, as just indicated, many difficulties to be overcome in carburetion. These difficulties are caused by differences in the quality of the fuel; by seasonal changes in temperature; by changes in the temperature of the motor itself and to sudden changes in motor speed. The ordinary mixing valve can easily be adjusted for a fixed set of conditions but it requires re-adjustment every time conditions change. Manifestly it is not suitable for an automobile or a tractor motor and it is not used for engines of that type.

One of the difficulties incident to carburetion is due to the variable quality of gasoline. A dozen years ago the ordinary gasoline tested 72 degrees on the Baum scale. Then it dropped to 68, to 66, and now it is as low as 60 with a promise that it will go

## DREADNAUGHT ENGINES

**A HARNESSSED HURRICANE FOR DOING WORK**

CANADIAN MANUFACTURE	QUALITY FIRST	STARTS WITHOUT SNEEZING
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### 5 YEAR GUARANTEE WITH EACH ENGINE

IS ABSOLUTE PROTECTION TO YOU.

**ITS REPUTATION MAKER FOR US**

**The Specifications**  
Massive frame.  
Capacious water jacket.  
Perfect piston fit.  
Forged crank shaft.  
Piston rings tight and sprung.  
Valves mushroom type.  
Suction feed, safe and reliable.  
Ample bearings.  
Perfect lubrication.  
Absolute balance of mining parts.

**Time Profit Producer in**  
Pumping.  
Churning.  
Lighting.  
Grain Cleaning.  
Cream Separating.  
Clipping.  
Feed Chopping.  
Wood saving.  
etc., etc., etc.

**BE SURE TO SEND FOR HANDSOME FREE ENGINE CATALOGUE**

**Guarantee Certificate:**  
We guarantee every Dreadnaught Engine to be made of first class material and workmanship to develop full rated horse power and to be economical in fuel consumption. We will furnish free of charge all parts proving defective in material or workmanship within (5) years from date of purchase.

**Engines take First Class Freight Rate.**

## WESTERN STEEL & IRON CO. Limited

WINNIPEG

**AGENTS WANTED IN UNREPRESENTED TERRITORY**

**1 3/4 Horse \$45.00**  
(No. 1) Cash  
Bore 3 1/2 Stroke 4 1/2  
Speed 500 Pulley 3  
Weight on wood skids 260.  
High tension, battery ignition, kerosene burning attachment, not recommended for this size. Feed for Separators, Churns, Washers, etc.

**4 Horse \$110.00**  
(No. 3) Cash  
Bore 4 1/2 Stroke 7  
Speed 450 Pulley 12  
Weight on wood skids 650.  
High tension, battery ignition, kerosene burning attachment extra. Feed cutters, grinders, light pumping, etc.

**2 1/2 Horse \$65.00**  
(No. 2) Cash  
Bore 3 1/2 Stroke 6  
Speed 500 Pulley 5  
Weight on wood skids 480.  
High tension, battery ignition, kerosene burning attachment extra.  
For fanning mill grinders, etc.

**6 Horse \$170.00**  
(No. 4) Cash  
Bore 5 1/2 Stroke 10  
Speed 350 Pulley 16  
Weight on wood skids 1200.  
High tension, battery ignition, kerosene burning attachment.  
Sawing, grinding, pumping, etc.

# WAR LOAN

## DOMINION OF CANADA

Issue of \$100,000,000 5% Bonds Maturing 1st October, 1931.

PAYABLE AT PAR AT

OTTAWA, HALIFAX, ST. JOHN, CHARLOTTETOWN, MONTREAL, TORONTO, WINNIPEG,  
REGINA, CALGARY, VICTORIA.

INTEREST PAYABLE HALF-YEARLY, 1st APRIL, 1st OCTOBER.

PRINCIPAL AND INTEREST PAYABLE IN GOLD.

### ISSUE PRICE 97½

A FULL HALF-YEAR'S INTEREST WILL BE PAID ON 1st APRIL, 1917.

THE PROCEEDS OF THE LOAN WILL BE USED FOR WAR PURPOSES ONLY.

THE MINISTER OF FINANCE offers herewith, on behalf of the Government, the above named Bonds for subscription at 97½, payable as follows:—

10 per cent on application;
30 " " 16th October, 1916;
30 " " 15th November, 1916;
27½ " " 15th December, 1916.

The total allotment of bonds of this issue will be limited to one hundred million dollars exclusive of the amount (if any) paid for by the surrender of bonds as the equivalent of cash under the terms of the War Loan prospectus of 22nd November, 1915.

The instalments may be paid in full on the 16th day of October, 1916, or on any instalment due date thereafter, under discount at the rate of four per cent per annum. All payments are to be made to a chartered bank for the credit of the Minister of Finance. Failure to pay any instalment when due will render previous payments liable to forfeiture and the allotment to cancellation.

Subscriptions, accompanied by a deposit of ten per cent of the amount subscribed, must be forwarded through the medium of a chartered bank. Any branch in Canada of any chartered bank will receive subscriptions and issue provisional receipts.

This loan is authorized under Act of the Parliament of Canada, and both principal and interest will be a charge upon the Consolidated Revenue Fund.

Forms of application may be obtained from any branch in Canada of any chartered bank and at the office of any Assistant Receiver General in Canada.

Subscriptions must be for even hundreds of dollars.

In case of partial allotments the surplus deposit will be applied towards payment of the amount due on the October instalment.

Scrip certificates, non-negotiable or payable to bearer in accordance with the choice of the applicant for registered or bearer bonds, will be issued, after allotment, in exchange for the provisional receipts.

When the scrip certificates have been paid in full and payment endorsed thereon by the bank receiving the money, they may be exchanged for bonds, when prepared, with coupons attached payable to bearer or registered as to principal, or for fully regis-

tered bonds, when prepared, without coupons, in accordance with the application.

Delivery of scrip certificates and of bonds will be made through the chartered banks.

The issue will be exempt from taxes—including any income tax—imposed in pursuance of legislation enacted by the Parliament of Canada.

The bonds with coupons will be issued in denominations of \$100, \$500, \$1,000. Fully registered bonds without coupons will be issued in denominations of \$1,000, \$5,000 or any authorized multiple of \$5,000.

The bonds will be paid at maturity at par at the office of the Minister of Finance and Receiver General at Ottawa, or at the office of the Assistant Receiver General at Halifax, St. John, Charlottetown, Montreal, Toronto, Winnipeg, Regina, Calgary or Victoria.

The interest on the fully registered bonds will be paid by cheque which will be remitted by post. Interest on bonds with coupons will be paid on surrender of coupons. Both cheques and coupons will be payable free of exchange at any branch in Canada of any chartered bank.

Subject to the payment of twenty-five cents for each new bond issued, holders of fully registered bonds without coupons will have the right to convert into bonds of the denomination of \$1,000 with coupons, and holders of bonds with coupons will have the right to convert into fully registered bonds of authorized denominations without coupons at any time on application to the Minister of Finance.

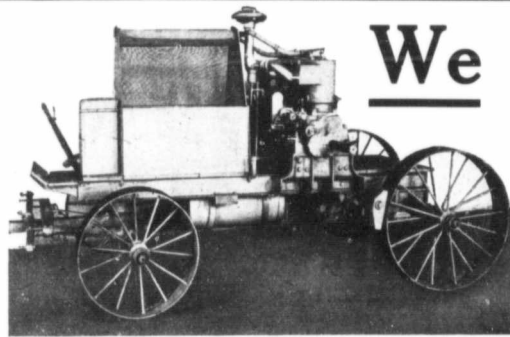
The books of the loan will be kept at the Department of Finance, Ottawa.

Application will be made in due course for the listing of the issue on the Montreal and Toronto Stock Exchanges.

Recognized bond and stock brokers will be allowed a commission of one-quarter of one per cent on allotments made in respect of applications bearing their stamp, provided, however, that no commission will be allowed in respect of the amount of any allotment paid for by the surrender of bonds issued under the War Loan prospectus of 22nd November, 1915. No commission will be allowed in respect of applications on forms which have not been printed by the King's Printer.

Subscription Lists will close on or before 23rd September, 1916

DEPARTMENT OF FINANCE, OTTAWA, September 12th, 1916.



# We Need The Money!

And to get it quickly and honestly we propose sacrificing all profit and a big slice of original cost on the following lines of

## Farm Power Machinery

**A Bargain** ONE SENECA FALLS LATHE, practically new. Used but three months; 12-in. swing; 5-ft. bed with chuck. Bargain price. Cost in vicinity of \$375. Price \$250. Suitable for garage or any small machine work. R. S. Ewing, 200 Union Trust Building, Winnipeg.

### A FEW FEED GRINDERS

6-Inch Superior Grinder, \$18.00

### POWER WASHING MACHINE

One Minute Washer, new, \$11.00

### CRUCIBLES FOR MELTING BRASS

We have 100 of these Number XX

Cash Prices, but Reasonable Terms can be arranged in the case of Tractors

Write for any details you want, and merely state what you need

**R. S. EWING**

**200 Union Trust Building**

**WINNIPEG**

**GADE AIR COOLED GAS ENGINES**

6 H. P. (new).....	\$150.00
6 H. P. (rebuilt).....	115.00
<b>OHIO ENGINES</b>	
15 H. P. Standard (new).....	\$325.75
12 H. P. Standard (new).....	306.50
11 H. P. Special Hopper cooled(new).....	185.00
12 H. P. Standard (rebuilt).....	200.00
8 H. P. Standard (rebuilt).....	175.00
<b>INGECO KEROSENE ENGINES</b>	
10 H. P. Farm Engine Hopper cooled (new).....	\$256.35
2) H. P. Farm Engine, Hopper cooled (new).....	65.00

**BADGER ENGINE GAS STANDARD**

14 H. P. (rebuilt) good order.....	\$150.00
<b>GASOLINE TRACTORS</b>	
45 H. P. 4 cylinder Tractor (rebuilt).....	\$1,200.00
45 H. P. 4 cylinder Tractor (new).....	1,750.00
Manitoba Universal (rebuilt).....	630.00

**GEISER SEPARATORS**

AA Sep. 40x60 complete (rebuilt).....	\$1,000.00
A Sep. 36x66 complete (rebuilt).....	800.00

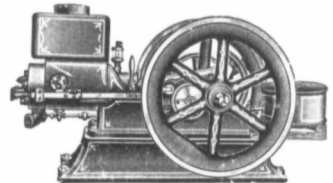
**TRACTORS, STEAM**

35 H. P. Double Cylinder (rebuilt).....	\$2,000.00
25 H. P. Northwest (rebuilt).....	1,000.00

**PORTABLE ENGINES**

22 H. P. single cylinder, portable, Geiser (new).....	\$800.00
22 H. P. single cylinder, portable, Geiser (rebuilt).....	603.00
20 H. P. single cylinder, portable, Geiser (rebuilt).....	500.00

Also have a couple of 20 to 22 H. P. portables which will rebuild and sell at about \$400.00 each.



### Liquid Fuels—Present and Future

Cracking oils into lighter derivatives is nothing new. It was discovered by accident early in the history of the oil industry, and has been used for increasing the yield of kerosene for quite a number of years. The present methods of increasing the yield of gasoline are simply refinement of the old cracking process. It is a fact known to all oil refiners that you can do almost anything with petroleum, with high temperature and high pressure. The main

### Liquid Fuels---Present and Future

By E. W. ROBERTS

Continued from page 26 August issue

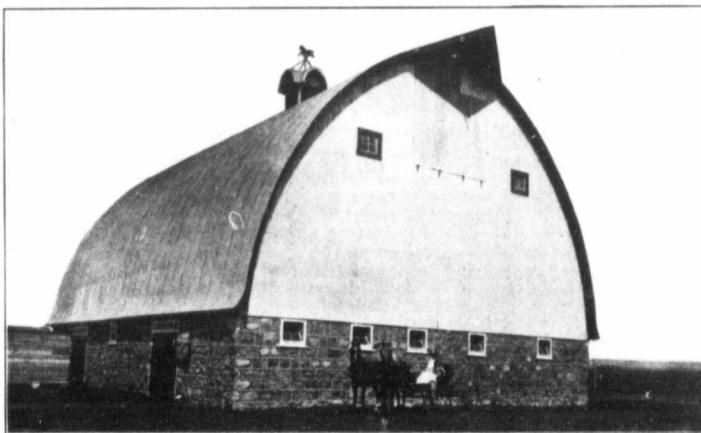
point about these methods consists in making them commercially practicable.

In the Burton process, used by the Standard Oil Co., from 45 to 50 per cent of the petroleum residuums are transformed into gasoline. By means of the Rittman process, developed under the auspices of the U.S. Bureau of Mines,

practically the entire amount of crude can be transformed into gasoline. This brings us to a peculiar phase of the liquid fuel situation that does not seem to be generally appreciated, and it is a point that is to be considered by makers of fuel oil engines. As the demand for gasoline increases, and the price, of course, goes up

with it, fuel oils will be withheld by the refineries, and transformed into gasoline. This is not a mere conjecture, but a certainty. The Standard Oil Co. of Indiana have withdrawn their fuel oils from the market, and fuel oil in the district covered by this company is obtainable from the independent refineries only. Please note that this statement is authoritative and obtained from no one else than Dr. W. M. Burton himself. What the other Standard Oil companies are doing along the same lines I am unable at this moment to state.

Going now to the question of alcohol as a substitute for gasoline, it should be pointed out that there are phases of the alcohol



Model Modern Barn referred to on page 49

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situation that are not generally appreciated by those who have not studied it. Some eight years ago a series of tests were conducted by the U.S. Geological Survey at St. Louis, Mo., and Norfolk, Va., under the technical supervision of R. H. Fernald. Robert M. Strong, in Bulletin 392 of the U.S. Geological Survey, gives us some very interesting

figures on the comparative values of alcohol and gasoline as fuels for internal combustion engines.

By increasing the compression to 180 lbs. per square inch, a fuel consumption of .7 lb. of alcohol per b.h.p. was obtained. As 94 per cent alcohol (the grade employed) weighs 6.83 lbs. per gallon, this makes a very fair comparison with a gasoline consumption of .6 lb. per b.h.p. hour. In other words it means a consumption of .12 gal. for alcohol, as compared with .10 gal. of gasoline per b.h.p. hour. Therefore, the fuel consumption of either fuel, under the best condition for each, is practically the same, in spite of the fact that the heat value of alcohol per lb. is approximately 60 per cent that of gasoline. As both fuels are sold by the gallon, we may therefore consider that when the price of gasoline has risen to that of alcohol, or the price of alcohol has been brought down to the level of gasoline, either one, it will be profitable to use alcohol as an engine fuel.

It must be borne in mind, however, that at the low compression practicable for gasoline, the fuel consumption, when running on alcohol, will be considerably higher than when running on gasoline. Another thing, when using alcohol at the most efficient compression, the maximum pressure of the explosion will run up to practically double that in the gasoline engine, and therefore, an engine to be run on alcohol should be very much stronger than for operating on gasoline. The maximum explosion pressure in an alcohol engine with a compression pressure of 180 lbs. per square inch, runs to as high as 600 to 700 lbs per square inch.

There is another phase of the question which is to be considered, and that is the purity of the alcohol. It is probable that alcohol of a lower grade than 94 per cent may be much cheaper. It is possible to work an engine on alcohol as low as 50 per cent, although not with equal facility. When using 80 per cent alcohol, the operation of the engine is practically equal to that on 94 per cent fuel, and the consumption is

inversely proportional to the percentage of alcohol.

Alcohol has been sold in Germany as low as 15.2c. per gallon. However, this was under a government bounty. Some ten years ago, one of my correspondents in Cuba advised me that alcohol could be obtained in that country as low as 13 cents per gallon. The present price of denatured alcohol in barrel lots is 60 cents per gallon. In normal times the price is from 35 cents up. Makers claim that there is no profit in alcohol when it drops below 45 cents per gallon.

Alcohol can be manufactured from almost any waste vegetable material. Its cost to manufacture will naturally depend on the cost of the material and the cost of the process. I have seen quite a number of estimates on the cost of manufacturing alcohol, but none on which I would care to rely. One authority estimates that the cost of manufacturing, in addition to the cost of the material would be as high as 30 cents per gallon, but this does not agree with the price at which alcohol has been sold in other countries.

To sum up the situation we might say that our present liquid fuels and the fuels that will probably be used for some time to come, are derivatives of petroleum obtained from wells. For the future, as the price of the oil increases with increased demand, we will undoubtedly go to our oil shales as an additional source of supply, and possibly to coal. Probably after the close of the war there will be a certain amount of benzine available from gas tar, and from our by-product coke ovens. This fuel, it is believed by those familiar with it, can be sold at 24 cents per gallon. The present price, owing to the war, is about five times that. Commercial benzine, in normal times, sells for about 45 cents per gallon. A crude benzine known as "benzol" can be marketed at a much lower figure. The introduction of alcohol, as a competitor of gasoline, will be a question of price of the fuel itself, and the introduction

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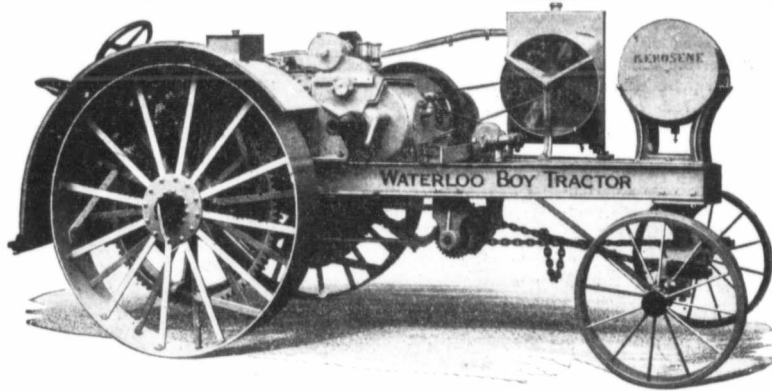
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Gasoline at the end of January, 1916, was 31c per gallon. The price of gas is soaring all the time. It is highly probable that it will touch the 50c per gallon mark before the end of the year, and at a time when you will want it most. When you buy a tractor you need to figure out the cost of operation. Fuel should be one of the chief determining factors. The initial cost of the tractor itself is but a minor consideration. With the positive advance of gasoline, farmers will naturally turn to a low-grade oil as a substitute. The Waterloo Boy One-Man Tractor which is specially constructed to operate on low-grade oil, will give gallon for gallon equal and even greater efficiency at a consequent lower cost per acre. It should not be overlooked that The Waterloo Boy is a Kerosene One-Man Tractor, and we guarantee it to fulfil every requirement we claim for it.

The Waterloo Boy will pull a light engine gang with three 14-inch plows in stable any depth you wish. It will pull two 14-inch plows in any prairie breaking. On your summer fallow it will handle a disc with harrows behind at from 2 1/2 to 3 miles per hour. It will drive a 24-ho thrasher with all attachments at a capacity of 700 bushels of oats per day. The Waterloo Boy performs this work with efficiency, economy and durability. All in all it is Special Value. Under the circumstances it will pay you to obtain information, price, etc. Mailed free. Write us today. We also handle Gas Engines, Grain Grinders, Cordwood and Pole Saws, Electric Lighting Machinery, Hand and Power Washing Machines, Grain Elevators, Pump Jacks, Small Threshing Machinery, Belting and Threshers' Supplies. Live Dealers wanted in Territory where we are not represented.

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tion of a more efficient engine, especially designed for that fuel.

The situation so far as the automobile and other gasoline engines are concerned, will be relieved more or less by means of the cracking processes. But as I have already pointed out, this will be at the expense of the fuel oil supply, and an increase of gasoline output, by means of these processes, will mean a diminution of the supply of fuel oil, or an increase in its selling price.

Summing up the present available fuels suitable for internal combustion engines of all classes, we have gasoline, kerosene and the fuel oils, and the more or less refined crudes with tar oils in the eastern section of this country. On the Pacific coast we have a large variety of petroleum derivatives, beginning with gasoline, followed by distillate and kerosene, three fuels which are free from asphalt. Then we have Star fuel, calol, a Diesel fuel and finally, fuel oils, of which those from 18 to 20 gravity can be used successfully in certain classes of hot bulb engines. By skilful manipulation, it is possible to use road oils containing as high as 70 per cent asphalt. As a rule, however, the limit of fuels for internal combustion engines is 18 to 20 gravity fuel oils, of which the 18 gravity contains 54 1/2 per cent asphalt.

In the matter of our future supply it might be of interest to point out that at this time the production of petroleum in certain territory has fallen off considerably during the past year. In the Oklahoma fields, the reduction was the most marked of perhaps any field in the country, dropping from a production of over 300,000 barrels a day to less than 100,000 barrels. I have just received from

the California State Mining Bureau a report on the total production of that state for 1915. This is 88,210,620 barrels. Compare this with the total for 1914, which was 99,775,327 barrels, a falling off of over 11,500,000 barrels, or 11.6 per cent. This would indicate that unless new fields are opened up in the near future, the yearly production of petroleum in the United States is likely to diminish, and this with a certainty of increased demand, will mean that the price of free oil will rapidly increase. Therefore, it may not be long until we are drawing upon other sources than wells for our supply of liquid fuels.

Just a word in conclusion, with reference to those wonder workers who promise us a chemical to be mixed with water, and transform it into fuel. The utter absurdity of such a proposition is at once apparent to the chemist. To the laymen it may offer some hope, and for the benefit of the non-technical I will analyze briefly the latest offering.

On May 22nd there appeared in the Sandusky, O., paper an account of how a lowly janitor had invented a wondrous chemical. This substance, which the inventor called "Water gasine," was of such a nature that an ounce of it added to five gallons of water would transform the water into fuel. What made it even more absurd was the statement that the substance was derived from breakfast food. The inventor made a supposed test, filled the tank of an automobile with what purported to be "Water gasine," and made a most successful demonstration. But, alas, for the poor janitor. An inquisitive reporter got busy, and discovered that the liquid used in the demonstration

was gasoline. The inventor, invited to a show-down, subsided and refused to mix his dope before witnesses.

The absurdity of this and similar propositions is easily shown. The most powerful heating agent is hydrogen, which has a heat value of nearly 64,000 b.t.u per pound. Add an ounce of hydrogen to any quantity of water and

you will have a mixture with a heat value of 4,000 b.t.u. Gasoline weighs 6 pounds per gallon, and each pound has a value of 19,000 b.t.u. Therefore, five gallons of gasoline would contain 30 pounds of 19,000 b.t.u. each, or 570,000 b.t.u. total. In other words, five gallons of gasoline would have over 140 times the heat value possible in the janitor's mixture.

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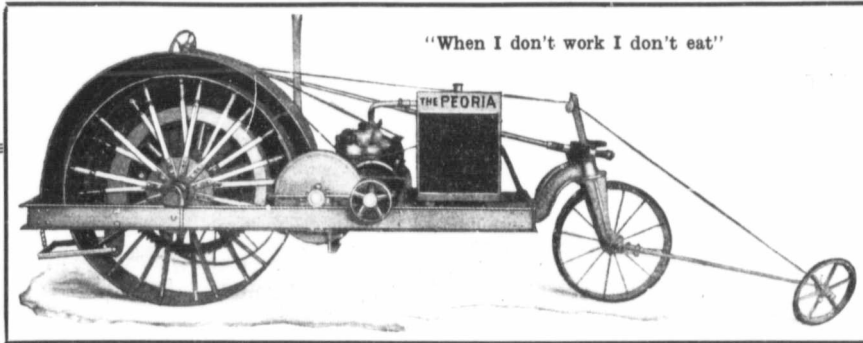
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**PRACTICAL TALKS TO THRESHERMEN**

Continued from page 12

power. High test is from 62 to 66. Furthermore, a good deal of the gasoline is what is known as a blended product. That is, it consists of a very high test casing head gasoline which will test between 80 and 90, mixed with a low grade product little better than kerosene. Enough of each is used to bring the grade of the mixture up to current specifications.

Kerosene on the Baume scale tests 48 degrees and will not flash till it reach a temperature of 150 degrees F. It is not volatile and does not vaporize on exposure to the air. Gasoline of 72 degrees vaporizes very rapidly at ordinary summer temperatures and forms a gas. Consequently it is easy to carburet. The low grade gasolines do not vaporize so easily and are hard to carburet. Adding some of the very high test helps because even if the charge as it goes into the cylinder is partly in the form of a mist or fog, the light portion will turn into a gas and make ignition certain. There is just as much, in fact more, heat in the low grade fuels than in the high, but they are harder to vaporize and hence do not work so well in an engine. They require better carburetors.

Seasonal changes in temperature cause much trouble. In cold weather any motor is hard to start because unless the gasoline is of very high test there is not enough heat in the air to vaporize any of it. This makes starting on low grade fuel next to impossible. In cold weather it is advisable to have a small can of very high test gasoline on hand for priming purposes. Then after the cylinder warms up the heat of the exhaust may be utilized, as it is in the best carburetors, for vaporizing the fuel. The modern carburetor has many conditions to take care of and the wonder is that it succeeds so well. It may need some aid in below zero weather but once the motor starts it is usually able to continue without interruption. We shall take occasion in the next few months not only to present the subject of gasoline carburetors but kerosene carburetors as well.

**The Logic of It**

"You must stop worrying and take a holiday," said the sauve practitioner.

"My dear doctor," replied the irritable patient, "if I could get my affairs into a shape that would permit me to take a holiday, I'd be so relieved that I wouldn't need one."

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Only one sample of grain and one of potatoes can be sent to each farm. As the supply of seed is limited, farmers are advised to apply early. Requests received after the end of December will probably be too late.

Anyone desiring a sample should write (post free) to the Dominion Cerealist, Experimental Farm, Ottawa, for an application blank.

"Huh!" exclaimed little Edith, after hearing the story of Adam

and Eve. "That old serpent couldn't have tempted me with an apple, 'cause I don't like apples."

"But," suggested her small brother, "s'pose somebody had told you not to eat apples?"

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**Consumers' Lumber Company VANCOUVER, B.C.**

# CARBURETION

Paper read to the National Gas Engine Association, Chicago, June 1916,  
By EDWARD E. DEAN

**T**HE object of this paper shall be to present to this body the subject of carburetion and its kindred interests in a manner that shall be both interesting and profitable to all concerned.

The writer appreciates, at least to a degree, the very deep responsibility resting upon him in attempting to discuss a problem of so grave and far reaching importance, especially at a time when fuels and their values are in such an unprecedented state of unrest.

The fuel situation is becoming serious and is only comparable to that obtaining in the metal markets with which you are all more or less familiar.

In the limited time assigned it will be possible to scratch the surface, only touching upon such phases of the subject as shall seem most pertinent to the practical solution of the problems confronting us to-day among which we find that of efficiency most prominent.

By efficiency is meant anything which shall contribute toward a greater output per power unit.

The term is manifold in its application, implying: economy of fuel, simplicity of operation, cost per unit, intelligent handling, etc.

In the course of this discussion the writer wishes to touch upon the use of fuel oils other than gasoline, offering personal opinions and experiences in their application.

It is very probable that these will give rise to diverse criticism and the writer would have it so.

The use of fuels other than gasoline have by no means reached their zenith, especially as used in the present type of internal combustion motors.

This statement is not made pessimistically, but with a full realization of the difficulties to be overcome, which the writer fully believes can and will be surmounted. These do not lie entirely within the scope of the carburetor manufacturer but will and must be accomplished through the hearty co-operation of the motor builder.

The treatment of carburetion in this paper shall be understood to be of the induction principle, that is one in which the flow of air and fuel is induced and maintained by air displacement. It will, therefore, be apparent that the flow must vary from zero when piston is at rest to maximum velocity when piston has attained its maximum velocity. As soon as the piston begins to move

on its induction stroke, air displacement occurs and the pressure in passages between carburetor and piston head become negative, decreasing gradually until maximum velocity is reached.

That we may more fully appreciate the functions of a modern carburetor, let us briefly consider some of the basic principles involved with a brief description of a few of the more representative types as used to-day.

In the following the writer desires to avoid a technical treatise on the subject, but rather to offer a practical talk which may sow some seeds for earnest thought.

Like all great achievements the carburetor had a small beginning and was subject to progressive improvement.

necessary to so proportion the size of tube and fuel duct to attain a proportional mixture for all air velocities.

If we were dealing with a perfect gas or were able to so deliver the fuel to the air stream thoroughly atomized, homogeneously mixing it with the air without any expenditure of energy of the air stream we might expect a proportional mixture of the air and fuel for all speed. This, however, is not possible, as we must contend against friction, head, viscosity and other retarding influences which vary with the velocity.

Why does a simple carburetor seemingly deliver an increasingly richer mixture as the air velocities increase?

This, in the opinion of the writer, is due to inefficient atomi-

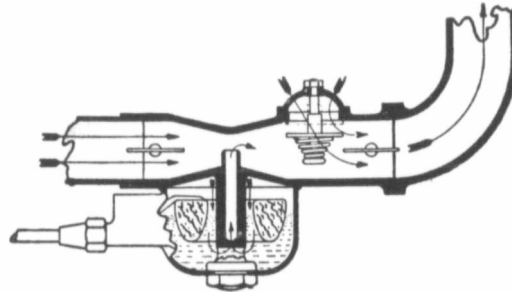


Diagram Form of Simple Carburetor and Auxiliary Air Valve

The above cut is for illustration of principles only, embodying a graphical combination of a simple carburetor and auxiliary air valve.

## The Simple Carburetor

This consists of a tube of constant diameter, having a fuel jet placed in communication with the air flow.

The study of physical laws tells us that the flow of fluids, including gases within certain limits of pressure differences are proportional and are as the square of their velocities.

Example: In a tube of constant diameter, assuming a given flow of air in feet per second acting upon a fuel jet placed at the point of highest velocities, which would be the center of air stream, and disregarding friction, head, viscosity and other retarding influences, we could expect to induce a given flow of fuel in feet per second. Now if the air flow in feet per second be increased four times, it follows, based upon the above law of the flow of fluids, that the fuel flow will be increased four times.

As the quantity of both air and fuel vary as the square of their velocities, it would seem only

zation when air velocities are low and lack of thorough saturation of the air stream with the fuel molecules. To offset this condition we must admit fuel under less retardation, or, in other words, increase the fuel orifice.

As the air velocities increase so also does the efficiency of atomization. The increase in the fuel orifice which we found necessary for low air velocities now becomes excessive, consequently the quantity of fuel molecules becomes more numerous as the air velocities increase, resulting in an over-rich mixture.

The simple carburetor must of necessity be limited in its range of capacity and at best wasteful of fuel.

## The Mixing Valve

Let us give a few moments to this device as, a combination of the mixing valve and the simple tube carburetor becomes the foundation of our present instrument.

We are all familiar with the mixing valve and little need be said here except to emphasize the fact that its range is far more limited than the simple tube. The tendency being toward rapid impoverishment as the air velocities

decrease with air valve opening. It will be noted that its action is the reverse of the simple tube carburetor. The mixing valve delivers an increasingly weaker mixture as the air quantities increase, while the tube delivers an increasingly richer mixture under the same condition.

## The Compensating Type

As its name implies, is an attempt at correction.

Attempts to correct the tendency to over-richness exhibited by the simple carburetor led to the early adoption of the auxiliary air valve.

The popular conception of its functions seems to be that of correction by diluting with air the over-rich mixture delivered by the simple tube portion of the carburetor. This is true, but its dual function is to not only add an extra amount of fresh air, but more particularly effect a modification of the air velocities at the fuel jet.

Its dual effect being to increase the air supply which decreases the tension on the air flow at the jet and consequently effects a reduction of inspiration, resulting in a weakened mixture.

As will be apparent from the foregoing the auxiliary portion, be it spring or weight, can serve but one purpose, that is to correct an over-rich mixture and at but one point at a time.

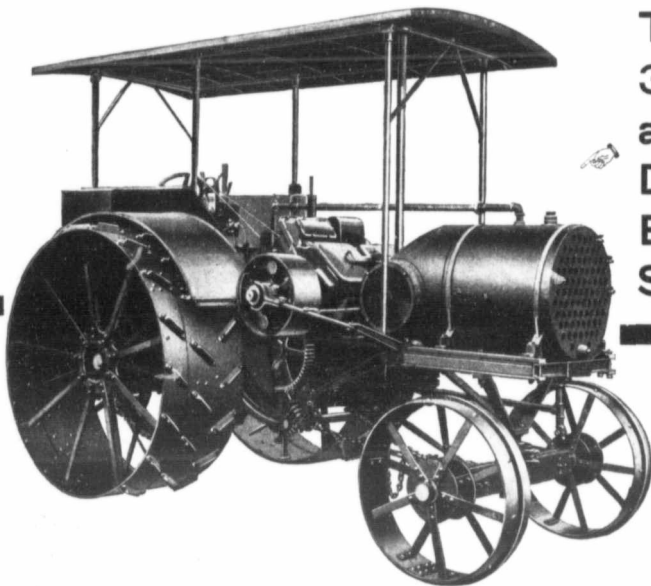
It, therefore, follows that no adjustment of spring tension can do more than slightly modify this tendency toward impoverishment of the mixture. While the addition of various forms of subsidiary springs, becoming operative only at some point of valve opening can do more than correct the air at one given point and then start as it were merely a new scale of errors. This is not only true when springs are used but is an unavoidable fact when correction is attempted in this manner by any means.

I would not, however, criticize too harshly, as many of our most successful instruments are based upon this construction, but rather to point out the inherent faults that lie in this method.

## The Multiple Jet Type

This may be compared to the auxiliary air type, being an attempt at correction by the addition of jets as needed and is subject to the same criticism as pointed out in the auxiliary air valve construction.

Results approaching perfection may be attained by this method.



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but of necessity must be sensible in construction.

The jets in the smaller sizes must be minutely small if any number are to be employed, with consequent troubles from water and foreign matter in the fuel.

**The Variable Fuel Orifice Type**

One in which a tapered valve is withdrawn from the fuel orifice in relation to the quantity of air passing through the carbureter.

This in principle approaches the ideal. However, when we consider that the fuel and air ratio by volume is about one to 8,000 and as this method is a direct graduation of the one part its sensitiveness will be readily apparent.

In the opinion of the writer we have but reached an approximation of the ideal in carburetion even at best. We have a long road yet to travel.

**The Successful Carbureter**

This must accomplish as fully as possible atomization of fuel at all working air velocities and a thorough saturation of the air stream with fuel molecules, consistent with volumetric efficiency of the motor and must so deliver the mixture to the manifold.

It must be simple, with no more moving parts than absolutely necessary. Its principle must consist in controlling the air pressures which directly effect inspiration.

Some physical characteristics of fuel oils including gasoline, kerosene and air, the component parts of which make up a carbureted charge.

The term gasoline as applied to gas engine fuel is very indefinite in its application, being used to cover a range of distillates embodying a large percentage of the more volatile portion of the crude.

Its specific gravity is rapidly increasing until to-day it is encroaching upon the less volatile series from which kerosene is derived. Both are subject to temperature effects, made manifest in viscosity, vaporization and atomization. All are negligible quantities in the process of carburetion and must be carefully considered.

Air supply is unlimited but requires careful study in its combination with fuel oils. Unlike liquids it is very elastic and its volume may be controlled by mechanical construction. It is also effected by temperature. Its volume varying inversely as the pressure and directly with the temperature rise. It also acts as a medium of fuel transportation thoroughly enveloping the fuel molecules in transit to the combustion chamber.

**Some Problems of Kerosene Carburetion**

To successfully utilize kerosene or other fuel oils in an internal

combustion motor, it becomes necessary to deliver the fuel charge to the combustion space thoroughly saturated with the fuel molecules in a correct proportion for all air velocities.

Its duty is to effect such a thorough saturation of the fuel stream with fuel molecules, maintaining a proper mixture proportion under all operative conditions and deliver it to the manifold for transit.

The accomplishment of this depends upon several factors.

**Correct Design**

One in which the air velocities must be maintained sufficiently high at all speeds to effect a thorough atomization of the fuel stream from the jet, at the same time not so high as to cause wire drawing, resulting in a partial charge and loss of power.

**Heat Applied**

The writer would liken the process of carburetion of air and fuel as three-stage, the carbureter being responsible for first stage, the manifold and inlet passages the second stage and the period of compression as the third and final stage.

Assuming the mixture has been delivered to manifold in a thorough state of saturation which is the completion of the first stage. Throughout the second stage, this thorough admixture of air and fuel not only must be maintained but must be assisted by partial vaporization and delivered to the third stage. In the third stage occurs gasification due to compression.

Compression accomplishes at least two things, a closer commingling of the fuel molecules with the air, resulting in rapid flame propagation.

This is assisted materially by the rise in temperature due to compression and heat from cylinder walls.

Summarized we find: First stage, atomization; second stage, vaporization; third stage, gasification.

If these three stages be accomplished successfully, the use of fuel oils will be possible.

We will not attempt to enter into any mathematical equations affecting the loss of heat in a column passing through a carbureter as the time is much too limited. Suffice to state that the temperature of the incoming air is subject to considerable change, dropping practically 50 per cent under normal conditions. This is due to at least two causes: expansion after leaving tube restriction and loss due to evaporation of the fuel.

As kerosene begins to give off a vapor at about 80 deg. F., it follows that the temperature must not fall below this figure at any

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100 ft., 7 in. x 4-ply	29.50	150 ft., 8 in. x 5-ply	58.25
100 ft., 7 in. x 5-ply	35.00	150 ft., 8 in. x 6-ply	68.75
100 ft., 8 in. x 4-ply	34.50	160 ft., 8 in. x 5-ply	64.75
100 ft., 8 in. x 5-ply	40.00	160 ft., 8 in. x 6-ply	72.50
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time and should be somewhat higher consistent with volumetric efficiency.

To offset this temperature drop we may increase the temperature of the incoming air. However, this is not sufficient. If we could maintain a suspension of fuel molecules in the air stream without any deposition, this would be sufficient. Unfortunately we must have bends and turns in fuel passages and as the fuel molecules have a greater specific gravity than the air, they will be impinged or thrown against the sides and remain in a liquid state; this means an improvised mixture. This must be avoided and can be by applying heat to the sides or walls of manifold. This will ma-

terially assist in vaporizing these molecules sending them back into the air stream.

## Heat Application

Modern practice seems to point out the advisability of applying heat to assist carburetion.

There are at least three practical methods being used successfully: raising the temperature of the intake air, heat jacketing the manifold and applying heat directly to the fuel supply.

The successful burning of the lower grade distillates depends upon at least the two former means. The third may be employed with good results.

In the application of heat we are attempting to maintain a temperature within the carburetor and passages sufficiently high to assist and maintain vaporization. This is best accomplished through the medium of raising the temperature of the intake air.

Pre-heating the fuel will assist in atomization, but owing to the extremely small amount entering the air stream, can have but slight effect in maintaining the necessary temperature for vaporization.

Applying heat to the fuel passages is very necessary, especially

where the change has some distance to travel. Deposition of fuel must inevitably take place and unless this can be gotten back into the incoming charge it must arrive at the combustion space in an impoverished condition.

It is, therefore, very essential that heat be applied to the manifold and brought as near to the carburetor as possible.

As the specific gravity of fuels increase so should the temperature of heat application increase.

With present day gasoline much benefit could be derived by jacketing the manifold with hot water throughout its entire length, but with kerosene hot water is not sufficient.

Exhaust gas must be used. Here arises a situation which does not lend itself to direct application when best results are sought.

At low motor speeds, when air velocities through the carburetor are low and atomization is incomplete, we should have highest temperatures, especially around the manifold jacket. The temperature and quantity of exhaust gas is limited at this time. Therefore the supply of exhaust gas is inversely proportional to the

needs. To offset this condition a governing means might be employed so as to utilize all of the exhaust at low speeds, controlling it as much as may be found necessary, for the increase in speed.

Little has been said in this paper on the subject of manifolds. This, however, plays a very important part in good carburetion. The best mixture proportion obtainable may be delivered by the carburetor but never reach the combustion space.

It would be folly to attempt a discussion of manifold design as a part of this paper. The writer can but point out some of the advantages and disadvantages of construction as may affect carburetion. The writer believes that the manifold should be as short as possible consistent with good diffusion and proper distribution. It should have few bends and large radii, avoiding pockets, and change of cross section to such an extent as shall affect the velocity of incoming charge.

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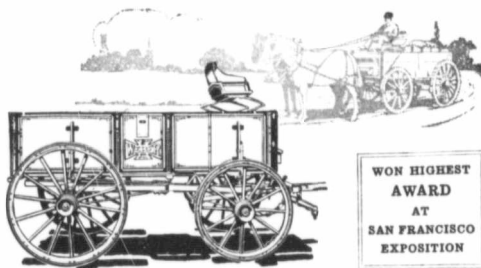
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### CARBON IN THE EXHAUST PIPE

After taking down and cleaning out the muffler of my car recently I examined the interior of the exhaust pipe between the engine and the muffler, and found that it was very thickly incrustated with carbon deposit, so much so that the bore of the pipe had been reduced from 1 3/4 in. to less than 1 1/2 in., says an English writer. As this would, of course, have considerable effect upon the power developed by the engine—especially at the higher rates of revolution—I set to work to clean out the pipe. But I soon found that I had taken on a "tall order." The pipe had a bend almost at right angles near the engine, and a gentle bend at a point about 3 feet long. In all, it was about 5 feet long, so that what with the bends and the length of the pipe itself it was impossible to scrape it out directly as one would in the case of a short, straight pipe.

At the first attempt to clear the pipe I put a bung in one end and filled it with kerosene, allowing it to soak all night. This softened the deposit but did not remove it. Then I put in a small quantity of kerosene and half a dozen 1/2-in. nuts, plugging up both ends and tipping the pipe first one end and

then the other for half an hour or so. The nuts and kerosene moved some of the deposit, but it was a very slow job, and I therefore tried another method. I took a piece of thin metal (hard brass actually in my case, but steel would serve equally well, if not better) and drilled in it two holes, one at each side of the center; then the strip was curved slightly across its width at each end by laying it on the open jaws of a vise and tapping it with a ball-ended hammer. The ends were curved opposite way, as shown. Next, two pieces of stout cord were threaded through the holes and knotted. Each cord was a foot or two longer than the pipe, and one piece of cord was weighted with a nut, lowered through at one end of the pipe and brought out at the other end. The scraper now came into operation, and when it was drawn to and fro in the pipe with both cords kept taut one curved end of it tended to dig into the carbon and loosen it. As the scraper is dragged toward the left that end of it is pressed down firmly, especially if the right-hand cord be kept taut. When it is drawn back the other end of the scraper comes into use.

The pipe must be held firmly in a vise or otherwise, and partially rotated now and again so as to

bring the scraper to bear over the whole of the inner surface.

I cannot, of course, say that in this way I removed every bit of the deposit, as I cannot see inside the pipe to make sure, but, judging by the amount of carbon that came out, I must have moved most of it and have improved matters very considerably.

### TWO-CYCLE SUPERIOR TO FOUR-CYCLE IN PERFORMANCE

Having spent much time and money experimenting with two-cycle engines and knowing by actual results that the two-cycle can be very satisfactory on all points and compare favorably with the four-cycle, I dislike to remain quiet when incorrect views concerning the two-cycle engine are expressed, says Chas. E. Duryea, in Automobile. If the man who thinks the two-cycle cannot handle its charges for lack of time will extend his exhaust ports well around the cylinder he will find he need not open so early as does the four-cycle exhaust valve and that he can run with fair power up to 3,000 r.p.m. or over. Nor is there a high heat flow to the cooling jacket. On the contrary, the two-cycle lets its hot gases get out quickly and cool gases enter

and absorb the flash of heat before it gets far into the wall. A two-cycle will cool easier than a four-cycle on this account. That a two-cycle is not efficient at full power is largely true but automobile engines seldom work at full power and at part power the two-cycle is more efficient than the other because of the constant compression.

Crank bearings can easily be fitted with stuffing boxes if one is really anxious to hold the crank-case compression. Having but about one-fifth the number of

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parts that the four-cycle has, we may add many and still have much advantage. But this is not necessary. Splendid two-cycles can be made with very little complication.

**Flexibility and Two-Cycle Engines**

That they are not flexible is another fallacy. First define flexibility. If we mean that motor is most flexible which develops least power at 300 r.p.m. and most power at 3,000 r.p.m. then the four-cycle is winner, but that is not my definition. For automobile use I need a motor which will pull like a mule at 300 r.p.m. and yet be able to speed along over perfect roads at 3,000 r.p.m.; and that is just where the two-cycle shines. It takes full charges at low speeds and develops surprising power for mud, sand and hills where power is needed and where one does not like to use the low gear. Perhaps it is wasteful of fuel at such times. So well does it run and so hard does it pull we can afford to overlook this fault. Bad roads do not occur often, we think.

**Cooling Ability Not Limiting Factor**

That the cooling ability is the limiting factor either is not true, or is mis-stated. Air-cooled two-cycles can be made as easily as can air-cooled four-cycles. Nor is there any difference in the fuel needs. Or if there is it is in favor of the two-cycle which carries several charges in the crankcase where they are warmed and fully vaporized before passing to the cylinder. I have used crank cases so hot that low test cylinder oil vaporized. Almost any grade of fuel could be used in such an engine after it warmed up.

Every advantage is in favor of the two-cycle. It is cheaper, simpler, lighter, gives double the number of impulses, has constant compression and therefore higher efficiency, except when forced to the point of crowding its new charge out with the old, is more compact, less noisy and has much less internal friction. Many folks think it will not idle, but if one will shut off the fuel or sparks so that half the strokes are idle ones as in the four-cycle it idles even better than the four-cycle. But with every one pushing the four-cycle, the two-cycle like air cooling has a hard time to find buyers. There were almost as many new automobile buyers last year as old users. Can you blame them if in their inexperience they followed the crowd and bought the oldest and best known kinds, even if not so good? But men who know better things should not remain silent.

**OAT RUST**

There is every likelihood that oats will be rusted as badly as the wheat this year. Although the rust did not appear as early, neither were the oats as early, but oat rust started generally on Friday, August 4th, and the weather had been very favorable to rust development during that week. Even on Monday the oats on the College Farm, the Great Lizo and the Banner Oats were red with rust, and since then there has been a further development, and as these oats were just in the milk stage a week ago, the crop will no doubt be as materially affected as will the wheat, as oats are more susceptible to rust injury than wheat, growing thicker and having broader leaves. It is interesting to note that wheat rust does not blow or spread to oats, nor vice-versa. Each has its own rust, which, however, has the same effect on both crops.

Wheat rust will live on timothy, wild barley (skunk grass) and western rye grass, and timothy and wild barley are badly rusted now; no doubt these grasses help the rust go from year to year. It is important, therefore, that skunk grass (wild barley) should be burned where possible this year, and no timothy allowed to remain uncut or undestroyed. Oat rust lives on orchard grass and a few other grasses, and often spends the spring stage on blue-ber and other borage weeds, so that the two rusts have an independent origin, which accounts for their appearing at different times, as they have this year.

V. W. Jackson,  
Prof. of Botany, Manitoba Agricultural College, Aug. 11, 1916.

**FREE CANNING AND PRESERVING BULLETIN**

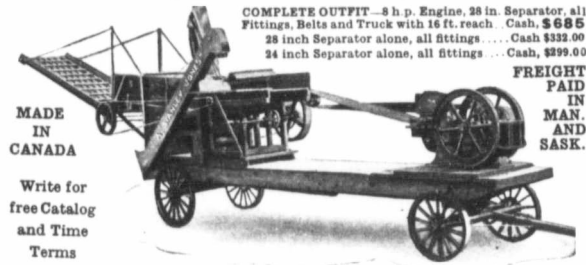
"Let me see, how did I can those plums last year, anyway? Did I pour the syrup in hot or cold? And did I put one cup of water for two cups of sugar, or two cups of water for one cup of sugar?"

Many a housewife right now is asking just such questions as these. The Household Science Department of Manitoba Agricultural College has a very excellent bulletin (Bulletin No. 11) entitled "Canning and Preserving in the Home," which discusses the whole subject of fruit preservation by the various modern methods, illustrating utensils to employ in the work, giving instructions as to handling various kinds of fruits, and explaining the whole theory of fruit canning and preserving. Free copies of this bulletin may be had by writing the Extension Service, Manitoba Agricultural College, Winnipeg.

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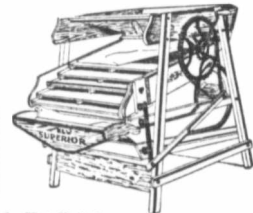
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**INJURY CAUSED BY THE WESTERN SAW FLY**

Reports received by the Manitoba Agricultural College indicated that considerable insect injury was being noticed this year in the wheat fields in some localities in the southern part of the province. Accordingly, a representative from the Entomological Department of the college was sent to investigate the damage. The district around Killarney was visited and observations made on a number of fields in that locality. Some fields showed from ten to fifteen per cent injury, and indications were that the injury was quite general throughout the field. The area affected extends from Killarney westward through Boissevain to the western limits of the province. The area of greatest infestation is around Boissevain and westward to Deloraine.

The injury is caused principally by the Western Saw Fly (*Cephus occidentalis*). This is a native insect and is found every year working on the stems of grasses. Occasionally it finds its way into the wheat fields, where it does more or less damage. The injury this year is more pronounced than in years past.

Observations that were made on affected stems found the larva at this date (August 11th) in the stubble at the base of the stem. Affected stems showed more or less crinkling, due to the weakening of the stems by the insects boring through the joints.

The life history of this insect is quite simple, there being but one brood during the year. In the West, the adult flies are supposed to emerge during the month of May and at once begin to lay eggs on the stalks of the growing wheat near the topmost joint. The small whitish larva, which hatches, at once bores into the stem, supposedly near the top, and works downward through the stem. It cuts its way through the joints, and affected stems are filled with the borings of the developing larva. It reaches the base of the stem about August 1st, and begins preparing its winter quarters. The fully developed larva, which is whitish and about one-half inch in length, winters in the stubble in a papery cocoon and emerges as a fully developed fly during the month of May of the following year.

As the larva works within the stem, it is impossible to deal with it during the period when the injury is being done. Deep fall plowing to bury the larva, or burning the stubble in the fall, are measures which can be followed to advantage in controlling this insect. Keeping the fields and

fence corners clean is also advisable owing to the fact that they frequently develop in grasses and pass from these to the cultivated fields.

F. W. Brodrick,  
Prof. of Horticulture and Entomology, Manitoba Agricultural College, August 11th, 1916.

**DISPOSING OF A RUSTED CROP**

"My crop is very badly rusted. What shall I do with it—cut and thresh it, burn it off, or plow it down?"

This question in various forms has been asked the Manitoba Agricultural College, and the following is written to summarize, about as well as possible, what advice may be given.

The answer must depend upon several factors, including the following:

- (1) Development of the crop at the time when the rust made the attack;
- (2) Severity of the attack;
- (3) Heaviness or lightness of stand;
- (4) Presence or absence of weeds in the field;
- (5) Supply of labor;
- (6) Availability of a silo;
- (7) Number of live stock kept.

**What Fields Should be Burned?**

It seems heroic treatment to suggest, but there are a few fields this year that would be better burned off. Where a crop is so badly rusted as not to be worth reaping and threshing for the sake of the grain; where, at the same time, live stock is not kept and cannot be purchased; and where the crop is weedy—there the owner had better take advantage of the first opportunity to burn off the field and then get busy at once with the plow, disk or cultivator. With the amount of moisture now in our Manitoba soil it is quite possible, after burning up most of this year's production of weed seeds, to start a good growth of any other seeds there may be in or on the ground and have the benefits, if not of a summer fallow, at least of an autumn fallow. August plowing of a moist soil, during a season like the present, should present a valuable advantage, especially to the farmer who is short of help.

**Plowing Down the Crop**

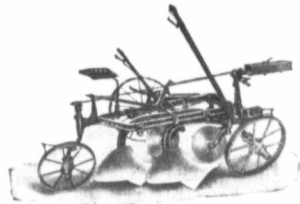
There are three difficulties in connection with an attempt to plow down a standing crop. The first is that of burying the large amount of straw there is on some fields. The second is the danger of a heavy volunteer crop next year. The third arises out of the burial of all weed seeds. By using the chain, a great deal of growth can be buried, and by putting the packer over the field after

**Cockshutt Plows Hold Down Your Costs**

How much does your plowing cost per acre? Far too much, unless you are using Gang Plows that are light in draft, cut a full furrow, and stand up to their work day in and day out. The safest plows to use are

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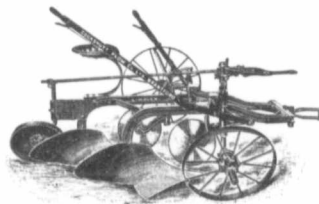
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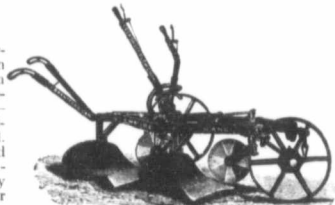
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the plow, the straw can be packed well down into the bottom of the furrow where it will furnish valuable plant food for future crops, but in many of our fields there are far too many ripe weeds and other seeds to risk this, even if the plow will turn it under. The chances of a bad volunteer crop of grain and weeds next year are great.

**For the Man with a Silo**

The farmer with a silo, a lot of cattle and a crop of heavy, green badly rusted straw could have made excellent silage by cutting and putting it in the silo before it became too dry. Even when partly dried out, it could be used if a good stream of water were turned in along with the cut straw and it were tramped into the silo. But comparatively few Manitoba farmers have silos, and most of these have planted corn to put into them.

**For the Average Farmer**

The average Manitoba farmer will cut and thresh his crop and feed the straw, and there is one important fact that he should know. In many cases the farmer with a lot of cattle will, if he has a choice, feed his brightest, cleanest straw and send his rusted straw—if he burns any of his stacks—up in smoke. The fact is that in chemical content rusted straw contains very much more feeding value than rust free straw.

In the year 1904 Manitoba had a badly rusted crop. During that autumn samples were gathered and sent to the Dominion chemist at Ottawa in order that he might make comparative analyses of bright and rusted straw. The samples were picked one straw at a time so as to get the least rusted and the worst rusted possible from the same area. The two hand picked lots were taken from the same stooks, and were of the same variety of wheat, sown on the same day, cut on the same day, subject to similar conditions in every way except that one lot of plants had, as individuals, been very much worse hit by the rust than had those in the other lot.

The Dominion chemist found that the rusted straw contained three times as much crude protein as the rust free sample. Commenting on this, Mr. Shutt said: "Under the term crude protein is included all those nitrogenous compounds of a food that go to repair waste, form blood and build up muscle and tissue. The high value of concentrated food stuffs is due chiefly to the large proportion of protein they contain. It may safely be concluded, therefore, that the rusted straw, containing as it does more than three times the protein found in the rust free straw, is very much superior in feeding value."

The explanation of this is simple. After germination, there are, broadly speaking, two more or less distinct processes in the life of a wheat plant. One is a process of assimilation—the taking of plant foods from the soil and air and elaborating them into tissue in the growing plant. The second is a process of transfer, in which elements hitherto in the stem and leaf are assembled in the kernel or seed. A rust outbreak interferes with the latter process, and because the plant food cannot be transferred to the seed, the kernel is shrunken and small. But the very failure to develop the kernel is the cause for the high protein content of the rusted straw.

When we take a mowing machine to kill a timothy plant while green we have much better hay than we would have if we ripened the straw and then threshed out and removed the seeds. The reason is the same: the green plant contains in leaf and stem the elements that are removed in the seed from threshed, ripe timothy straw.

In so far as actual food value is concerned, rusted straw, chemically, is more valuable than bright straw. Its palatability and digestibility are matters of more doubt; but even so the man with live stock should be careful to

make the most of the valuable by-product which even the straw piles of a rusted grain crop present.

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Get a Case tractor to do your plowing this fall. Then use it for baling, filling the silo, operating the husker shredder, or corn sheller. Use it for hauling or for road work. You can keep a Case tractor going all fall and get your work done quicker and at less expense. Case tractors are made for all around work. There is no limit to their usefulness.

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More important is the fact that Case tractors will keep on doing this work year after year, season after season. Remember Case built the *pioneer* gas tractor in America. Case facilities for designing and manufacturing are second to none. Case is backed by unlimited resources and long experience in the tractor field. *Thousands of farmers know Case and know they can rely on Case Products.*

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A tractor properly designed must be simple thruout. There should be easy access to the working parts so such necessary adjustments or occasional replacements can be made without delay. When you are busy you can not afford to waste time and money. Thousands of Case users in United States, Canada, South America, and Europe have found the Case feature of simplicity most valuable and economical. For instance, the crank case is so designed that the crank shaft can be removed without touching any vital parts or adjustments. The main bearings are interchangeable, removable die cast babbitt shells, held in place with shims so that the wear on these bearings can be taken up. Crank shafts and gears entirely enclosed but readily accessible. The piston ends of the connecting rods are fitted with special hard bronze bushings and the crank pin end with genuine nickel babbitt shells, bronze backed. The cap on the crank end is provided with metal shims for taking up wear. Crank shaft and crank pin bearings are interchangeable and made of the very highest grade babbitt. Their design permits of being renewed in very short time. *Simplicity* is the *dominant* factor thruout Case machines. Hyatt bearings are used thruout all sizes of Case tractors

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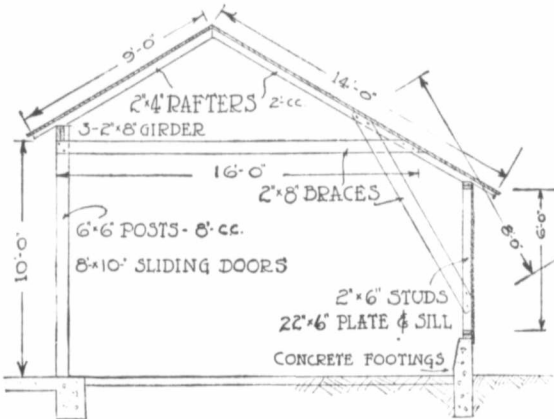


**A MACHINE SHED**

By W. E. Frudden

To-day everywhere in the farming sections mechanical power is playing a more important part. There is a machine for every farm job now-a-days. The machines have been invented and perfected just as fast as the average farm hand could be instructed to use them intelligently. Farm machinery has revolutionized farming, but often the farmer, in the rush of a season's work, has misused in a frightful manner these valuable farm implements. The machinery on the average farm

dry. While the concrete is still soft in the forms, it will be necessary to set the anchor bolts every six feet along the wall. Let the threaded end project up at least four and one-half inches so that when the concrete is hard the double two by six-inch sill can be securely bolted to the masonry work. This will keep the shed in position. The frame is simple. Of course, the front is all open and covered with sliding doors so as to make it convenient to get the heavy machines in and out of the shelter without the loss of much time and trouble. The low rear



represents from \$500 to \$600, and should be cared for properly if the leak holes in farming are to be stopped up. Machines on the farm kept out under the old willows, or in the shade of the corn crib, with the blue sky as the only protection against the elements, are short lived. Properly housed farm implements will last twice as long. An eighteen by forty-foot machine shed like this one, which will care for the average farmer's needs, will be found to be practical and convenient for use, and the cost is very reasonable. In many parts \$152 will buy the lumber, and the cement for the foundations, \$10, making a total of materials, \$162, while the cost of labor would be a small matter, as the farmer who is at all handy with tools could erect the structure if these plans and instructions are followed:

Run the concrete foundation up above the ground line for a foot or so. This keeps the framework

walls and the two ends are boarded up solid. The sills at the bottom of the two by six-inch wall studs are doubled and the plate at the top is the same. The rafters are two by fours. The rear slope takes fourteen-foot lumber and the front slope requires rafters nine feet long, as is illustrated on the drawing. The roof must be braced to prevent sagging. Run a two by eight-inch cross brace and a wall brace of the same size every eight feet. Spike the braces well to the rafters and studding, and on the end walls put in criss-cross braces to prevent racking or twisting. The doors along the front are eight feet wide and ten feet high. That means that a six by six-inch post will have to be spaced every eight feet along the front wall and in order to support the roof over the doors a three-ply girder rests upon the posts. This girder is made by spiking together three two by eight's so that no two end

**We Like It Best**



because it is so easy to operate, so easy to clean, so steady on its feet and it needs no coaxing to do its best. That is the unanimous testimony of owners or operators of the "MAGNET" Cream Separator, who have tried other machines and who have a serious interest in saving every ounce of butter-fat they can extract from the milk product. Put to the vote ANYWHERE where comparisons have been made, the

**"MAGNET" Cream Separator**

has not only "headed the poll," but the next candidate scarcely had a vote.

**THE MAGNET**

**The Clean SKIMMER**

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

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

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

**The Petrie Mfg. Co. Ltd.**

Head Office and Factory: Hamilton, Ont.

WINNIPEG, CALGARY, REGINA, VANCOUVER, MONTREAL, ST. JOHN, EDMONTON, LETHBRIDGE

**TAKE ADVANTAGE OF OUR SPECIAL OFFER ON**



**Endless Thresher Belts Canvas and Rubber, and on Suction Hose, while they last**

Having sold out our entire output of Portable Engines for Threshing Purposes this Fall, to the Sawyer-Massey Co., of Regina, Winnipeg and Calgary, we are offering our new supply of "Red Wing" and "Star" Thresher Belts at the following cash with order prices, or sight draft against Bill Lading. Positively guaranteed that none of these belts were carried over from last year.

100 ft. 7 inch x 4 ply canvas belt	\$29.00
120 ft. 7 inch x 4 ply canvas belt	35.00
120 ft. 8 inch x 4 ply canvas belt	40.50
150 ft. 8 inch x 5 ply canvas belt	60.00
120 ft. 7 inch x 4 ply rubber belt	48.00
120 ft. 8 inch x 4 ply rubber belt	52.00
120 ft. 8 inch x 5 ply rubber belt	64.50
150 ft. 8 inch x 5 ply rubber belt	80.00
20 ft. 2 inch inside dia. wire lined suction hose	8.25

Every belt and suction hose warranted to give satisfaction, with ordinary care.

**Order Your Other Belts With Your Drive Belt**

2 inch Rubber 3 ply belt	10c ft.
3 inch Rubber 3 ply belt	15c ft.
4 inch Rubber 4 ply belt	22c ft.
4 1/2 inch Rubber 4 ply belt	25c ft.
5 inch Rubber 4 ply belt	27c ft.
6 inch Rubber 4 ply belt	31c ft.

The rubber belt we handle is not the cheapest available but the best guaranteed equal to any, furnished in any length.

All the above prices guaranteed for 60 days.

**Manitoba Engines Limited, Brandon, Man.**

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Subalter Tommy (

butt joints will come at the same place in the complete beam. Cover the rafters with common sheathing lumber or any sound boards. Shingles should be laid so that butt and one-half inches of the butt end will be exposed to the weather.

**Material Required**

- 5 barrels cement for foundations.
- 6 pieces 6x6—10 ft. posts.
- 8 pieces 2x8—10 ft. girders.
- 15 pieces 2x6—16 ft. plates.
- 40 pieces 2x6— 6 ft. studs.
- 22 pieces 2x4—14 ft. rafters.
- 22 pieces 2x4— 9 ft. rafters.
- 6 pieces 2x8—16 ft. braces.
- 11 pieces 2x8— 8 ft. braces.
- 6 pieces 2x8—10 ft. braces.
- 1300 board ft. barn siding lumber for walls.
- 1050 board ft. roof sheathing lumber.
- 100 board ft. cornice lumber.
- 9 M. cedar shingles.

**ALLOW RUSTED WHEAT TO RIPEN IS OPINION**

Hon. W. R. Motherwell gives views of leading experts on the question

"Rusted wheat should, in my opinion, be permitted to ripen just like normal wheat, so far as the straw and chaff are concerned, and till the berry shows indications of shrivelling or drying up in all parts of the fields."

Such was the opinion expressed by Hon. W. R. Motherwell, minister of agriculture, when interviewed respecting the rust question. A large number of requests have been received of late for information on the best method of handling a rusted crop, and Mr. Motherwell has some interesting information on the subject.

Continuing his interview, he said:

"My attention has been called to the repeated statements of a number of gentlemen who are said to be rust experts, that wheat when attacked by rust, no matter how green it was, should be cut at once.

"As rust is often present in varying degrees in the same field it is obvious that such portions

of, or heads in, the field as are least affected may be still green and filling, while the more affected parts may be at a standstill or drying up. To jump into such a varied field of rusted wheat with the binder regardless of how green it was or the chances of the least affected part still filling and improving, would be folly tantamount to killing one's weakened wheat to save its life.

"We cannot stop the spread of rust but we can at least refrain from cutting our wheat as long as the straw and chaff are green and the kernel plump and normal, and with no evidence of starting to shrink. As long as there is circulation in the straw, even impaired circulation, while the rust may get some of it, the wheat will fight for its share and go on improving till the circulation ceases. This is immediately followed, especially during a warm week like the present, by the straw and chaff rapidly drying up and chaff are green and the kernel starts and continues to shrink until the moisture is all transpired therefrom.

"Rusted wheat should, therefore, in my opinion, be permitted to ripen just like normal wheat so far as the straw and chaff are concerned, and till the berry shows indications of shrivelling or drying up in all parts of the field.

"This last chance to fill may often be sufficient to keep the sample out of feed and in the milling grades—a very important consideration a year like this—when wheat is wheat and a probable spread of 15c. per bushel between number six and feed, is in sight.

**Expert Opinions**

"I am aware that many good men think differently from the above on this rusted wheat question and are firm in their conviction that the binders should be set going just as soon as the stalks



Subaltern—"Well, what do you want?"  
Tommy (formerly a cobbler)—"The cap'n's 'orse wants soleing and 'eeeling, sir."

**Donald Morrison & Co.**

ESTABLISHED 1904

**GRAIN COMMISSION  
GRAIN EXCHANGE**

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WE handle Wheat, Oats, Flax and Barley on Commission, obtaining best possible grades and prices. Our work is prompt, accurate and reliable. Let us handle YOUR shipments this season. Daily or weekly market letter on application.

References: Bank of Toronto, Northern Crown Bank and Commercial Agencies.

Send for new "Money Saver" Booklet

**Barrett Money Savers for Farmers**  
Made in Canada

If you want steady, sure profits, watch the little leaks in your purse. A stitch in time saves nine. Many a sturdy fence has to come down for want of preservative at the right time. Many a house has to be replastered because that little leak in the roof grew big. Many an order goes to manufacturers of farm implements because the older implements weren't painted. And so it goes. A little expenditure here, a little one there, until you are surprised at the sum on the debit side of your ledger.

Now look at the articles in this advertisement. Then ask yourself if you haven't lost money in the past for lack of just such things. We are appealing to the common every-day horse sense of the Canadian Farmer. And he's famous for just that quality.

**Carbonol**—When a product gives you the best possible aid in a hundred different ways, can you afford to be without it? Carbonol does this. It is a disinfectant of the highest grade. When you clean house, add Carbonol to the water. It removes grease marks, kills germs and banishes odors. If you cut yourself, you can heal the wound and prevent blood poisoning by using Carbonol. And sores that injure horses or cattle are easily cured with it. If the garbage pail draws flies, sprinkle it with Carbonol. It is the best thing you could use in the sick room to prevent contagion. There isn't anything like Carbonol for farm and home use. Get some today.

**Everlastic Roofing**—In Everlastic Roofing we offer a thoroughly reliable "rubber roofing" at very low cost. It is easily laid without skilled labor and is famous for its wearing qualities. Wherever you have steep roofs, use Everlastic and do away with leaks. Water, wind and weather are defied by this roofing. The best value you ever saw.

**Elastigum**—Little repairs can easily run into money unless you have something like Elastigum on hand. A tough, adhesive, elastic and waterproof cement that will save you money and worry in a hundred different places. To reline or join gutters, use Elastigum. To seal leaks of any kind, use Elastigum. To stuff cornices or renew chimney flashings, use Elastigum. You will find it makes repairs not only cheap but easy and permanent.

**Creosote Oil**—Grade-One Creosote Oil is the most effective wood preservative on the market because it penetrates more deeply than any other. And it's practical for you because you can apply it by the dipping or brushing method instead of the difficult and expensive closed-cylinder method. Grade-One Creosote Oil will make an ordinary good fence post last 20 years. Use it on all your exposed woodwork. It makes exposed surfaces rot-proof and moisture-proof.

**Amatite Roofing**—Amatite Roofing is distinctive for two reasons—its bright, attractive, sparkling appearance and its great durability. It has wide fame, too, as the roofing that needs no painting. Its mineral surface is waterproof and fire-resisting. Amatite is made in rolls, each roll containing enough to cover 100 square feet with a 3 inch lap.

**Everjet**—Black as Egypt and much more useful to you—that's Everjet Elastic Paint. This glossy, permanent, elastic paint is a triumph. Indispensable as a roof paint and covering for exposed surfaces. Make your roofs permanently weather-proof and waterproof with Everjet. It's a wonder. It clings to metal surfaces regardless of temperature. It never peels or chips. Positively insures against rust.

**Creonoid**—The first step toward having healthy, profitable live stock is to keep them free of vermin, lice or flies. Creonoid, Lice Destroyer and Cow Spray, will do this better and more surely than any other animal antiseptic. Just spray your cattle lightly with Creonoid and watch the difference. No flies or mites will bother them. Put some in the cracks and corners of the henery wood-work. No more mites to make nervous, poor laying hens. Try it in the piggery.

Sold by good dealers everywhere. Send for new "Money Saver" Booklet. Address our nearest office.

THE PATERSON MANUFACTURING COMPANY, LIMITED  
MONTREAL TORONTO WINNIPEG VANCOUVER  
THE CARRITTE-PATERSON MANUFACTURING CO., LIMITED  
ST. JOHN, N. B. HALIFAX, N. S. SYDNEY, N. S.

or stems are attacked, but the binder at such a stage may easily be made more an ally of the dreaded rust than of the wheat it is desired and intended to save.

"To further satisfy myself on this point I, yesterday, wired Prof. Bolley, of Fargo, North Dakota, the recognized leading American authority on fungus diseases in grain, as follows: 'Popular opinion here is that when wheat first shows unmistakable evidence that it is being attacked by rust, even though kernel is still natural, that it should be cut at once as development of disease is said to do more damage than impaired circulation does good, towards further filling. Wire your opinion, night letter, collect, as portion southeast of province is affected.' The reply I received was: 'Prof. Bolley absent, but his written opinion from experiment and observation is that wheat attacked by rust should be allowed to stand until thoroughly ripe. Have had many rusted samples from Manitoba and Saskatchewan. Your lettergram forwarded to Prof. Bolley.'"

**Another Opinion**

"Dean Rutherford when asked for a statement on this question said: 'My advice has been to treat the rusted crop as nearly as possible as you would treat a normal crop under normal conditions. Let it stand as long as it is making a plumper berry. By doing this many plants in all parts of the field will be given an opportunity to do their best. The kernels thus produced may be the means of raising the grade. We should aim at keeping our wheat in as high a grade as possible. The millers are anxious to get quality and the farmers are just as anxious to furnish them with it.'"

**CLEANING GRAIN AT THRESHING TIME PRACTICABLE**

(See August Editorial)

The following experience of an Alberta grower should be of interest in connection with the elimination of waste due to the shipment of grain subject to a dockage on account of screenings.

"The loss of feeding material and the loss on freight of same due to shipping out uncleaned grain, had appeared to me capable of being eliminated either by cleaning the grain as it was threshed, or by getting it cleaned as it was passed through the local elevator on to rail. After some discussion the local elevator company agreed to instal a cleaner and deliver back the screenings at a charge of 1 3/4 c. per bushel, but they expected that even after their cleaning the government inspector would still put on a small percentage of dockage. Their proposed charge of 1 3/4 c. per bushel seemed too large, as I believed the cleaning could be done cheaper on the farm. I was assured by more than one that cleaning direct from the separator had never been done in Alberta and was impracticable.

However, in 1913, our average dockage on grain shipped out was about 1 1/2 per cent. when there was not a weed on the place, and I figured that with an 80,000 bushel crop, 1 1/2 per cent of broken and small grain would go a good way in paying for a first class cleaning outfit to work in conjunction with the separator in the field. I, therefore, bought a Monitor grain cleaner with all the latest improvements and capable of handling up to 400 bushels per hour of wheat at a cost here of \$378. The power required for driving this was 2 1/2 h.p., but I got a 5 h.p. engine, suitable also for other work, and mounted both it and the cleaner on an extra strong wagon gear, with a 15-foot ordinary separator grain elevator attached to the cleaner spout. The cleaner and engine were covered as in a van, and the cost of the outfit was:

Cleaner.....	\$378
Engine.....	200
Elevator.....	110
Wagon gear.....	125
Labor of assembling and boarding in apparatus.....	100
<b>Total.....</b>	<b>\$913</b>

In operation the cleaner was drawn up so that the separator spout sent the grain directly into the cleaner hopper. Then the elevator attached to the cleaner delivered the cleaned grain into the wagon or the field bins, as required. There was no trouble in shifting the separator as the cleaner was attached by a chain and trailed by the separator.

An ordinary box wagon stood beside the cleaner, the light and broken grain from which fell into this wagon. The latter was emptied midday and evening so the other work was not hindered. The weed seeds in the cleaner were taken out by the lower screen and fell into a large receptacle underneath, attached to the framing supporting the cleaner and engine. Originally this lower screen was a perforated sheet zinc, adapted for mustard seed and measuring some five feet long in halves of 2 1/2 feet each. I changed one of these halves to a regulation dockage screen mesh (ten wires per inch each way) and as all the market grain had to pass over this I reckoned nothing could be left to go through the government inspector's screen. As a matter of fact, we had very little weed seed, and what fell through the bottom screen into the receptacle was mainly small bits of broken grain like medium crushed wheat. This was fed directly to the hogs without further crushing, and they did well on it. I reckoned we could take care of any weed seeds germinating after digestion by the hogs, as these were enclosed in a small pasture. Of course, if weed seeds were to form any material part of what fell through the lower screen, the idea was to burn it. It will be understood that the adjacent wagon received the great bulk of the screenings.

A lad attended the cleaner and cleaner engine and his wages, with the cost of fuel and oil, worked out at \$3.35 per

**To the Farmers of Western Canada:**

We strongly advise you not to sell a bushel of wheat, oats, barley or flax seed for future delivery on track or at street prices. Ship your own grain, wait until you get returns from Port Arthur or Port William before thinking of selling. We figure it will pay you big money to follow out this advice. Don't get frightened on any big breaks and sell at home. These big breaks are engineered by speculators and there is nothing in the situation to warrant low prices at any time this year. All your wheat, oats, flax and barley will be wanted this year and wanted badly. You have the situation in hand and the prices that the consumer will be forced to pay this year will help to make up the ravages in your crop caused by rust and frost. You are not obliged to sell at home to meet your obligations. Every commission man makes advances on grain and we will gladly make you big advances on each carlot of grain and hold it until we get what we consider the proper price. If your crop is only five or ten bushels per acre, we think it will pay you to do it. We repeat again, get in the habit of shipping your own grain and secure the full value of it less the regular commission. We do not want all your grain, but just a share of it. Give us a trial.

Write us for market information at any time

**McBEAN BROS.**

Grain Exchange.

Winnipeg, Man., Aug. 16, 1916



At the Fair—

**KODAK**

Get pictures of all the things that interest you. The prize-winning horses and cattle and sheep and hogs—pictures of machinery and whatever may help you in your farming.

Yes and pictures of the friends you meet at the fair, and the incidents in coming and going. There's a worth while album full of Kodak pictures on every such trip.

Ask your dealer to show you the new 2C Kodaks and 2C Brownies. The pictures are 2 1/4 x 4 1/4 and these cameras are right up to the minute. They have all the worth while new features and make pictures of the size and shape you want at a low cost. They sell at \$9.00 to \$19.00.

**CANADIAN KODAK CO., Limited**

606 King St., W., Toronto

day. The bushels per bushel we lost on each bushel. If with this under 2.0 bushels—bushel to We had grain that about 80, neighbor t bushels to cleaning r showed an of 2.6 pe severely a neighbor t 1,500 bush had not a 1915 separ turn was 3 am safe, t ing elimina 80,000 bush feed wheat a bushel fo at 23c per another \$22 to rail at t bushel per bush. The 1915:—

Capital exp Operating . Repairs, ele Interest on Balance

1,600 bushel Freight on c Haulage ...

It would be paid for its cleaner, own structure, etc started.

**The Challenge**  
WATERPROOF all-linen COLLAR  
THE CHOICE OF PARTICULAR MEN  
SMART - STYLISH - ECONOMICAL  
NO LAUNDRY BILLS TO PAY  
AT YOUR DEALER'S, OR DIRECT, 25c  
THE ARLINGTON CO. 25-26 HURONTARIO ST. TORONTO  
MADE IN CANADA

**WE PAY THE FREIGHT**

32x18 ft. \$16.40 7x3 ft. \$20.00

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12 Barrels \$38.50  
16 Barrels \$46.20  
Fits Bolster

**Freeland Steel Tank Co.**  
HALDRITE, SASK.  
Manufacturers of all kinds of Steel Tanks

**Breakages WELDED BY Oxy-Acetylene**

Impart a strength to the machine greater than it ever possessed, while the job is the most finished bit of work ever attained in repairing a fracture.

**WE ARE THE PIONEERS OF THE PROCESS**  
ARE EXPERTS IN EVERY DETAIL OF OXY-ACETYLENE

If anything breaks or is worn out on your threshing machine or traction engine, have it welded by the Oxy-Acetylene process.

**YOUR BLACKSMITH OR REPAIR EXPERT CAN DO THIS WORK FOR YOU**  
See him now about your broken castings. If he has not a welding plant write us, giving his name, and we will supply him with full particulars. It will save you time and money.

**L'Air Liquide Society** 328 WILLIAM AVENUE, WINNIPEG, MAN.  
Largest Manufacturers of Oxygen and Welding Plants.

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25 Cent Bottles at all Dealers

# Vessot Feed Grinders

WHAT better recommendation than this could a feed grinder have—"It grinds flax, barley, corn, crushed ear corn, oats, wheat, rye, peas, buckwheat, screenings of any kind of mixed grain or any other feed stuff, fine or coarse as desired, and removes foreign substances."

"It grinds all feed stuff"—because of its excellent grinding plates. So well known are the original Vessot plates, and so highly regarded by all who know them, that imitations are appearing. To insure our customers getting genuine plates, we have arranged to have the trade-mark, "S. V.," placed on every genuine Vessot plate so plainly that you cannot go wrong. Look for the "S. V."



Vessot grinding plates do their work so uniformly well that a clean, satisfactory job is assured. The two-sieve spout removes all foreign matter, from nails and stones to dust and sand. One caution only—use steady, reliable power to drive a Vessot grinder, such power as is furnished by an International Harvester oil engine—Mogul or Titan.

Buy a Vessot feed grinder in the size best suited to your work and a Mogul or Titan oil engine to run it.

See the IHC local dealer, or write to the nearest branch house for full information.

## INTERNATIONAL HARVESTER COMPANY OF CANADA, LIMITED

### BRANCH HOUSES

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

day. The cleaning capacity being 400 bushels per hour the operating cost per bushel would thus be (neglecting interest on capital) less than 1-10th cent per bushel. But the normal day's threshing, with this year's long straw, was rather under 2,900 bushels wheat—say 1,500 bushels—which thus cost under 1/4c. per bushel to clean.

We had no dockage in the returns of grain that went through the cleaner—about 80,000 bushels wheat. But a neighbor threshed a straight carload of bushels for us, without of course any cleaning attachment, and the returns showed an average government dockage of 2.6 per cent, although there was scarcely a weed in the field. Another neighbor threshed a straight carload of 1,500 bushels wheat off a small field that had not a weed noticeable on it, using a 1915 separator, and the government return was 3 per cent dockage. I think I am safe, therefore, in saying the cleaning eliminated 2 per cent dockage on 80,000 bushels, or 1,600 bushels of good feed wheat, which would be worth 60c. a bushel for feed, making \$960. Freight at 23c. per 100 was also saved, making another \$220, besides hauling from farm to rail at the local rate of one cent per bushel per mile, or \$64 for the five mile haul. The account therefore stands for 1915:—

Capital expenditure .....	\$ 913
Operating .....	200
Repairs, cleaner and engine.....	28
Interest on capital.....	54
Balance .....	49
	\$1,244
1,600 bushels at 60c.....	\$ 960
Freight on ditto at 23c. 100 lbs.....	220
Haulage .....	64
	\$1,244

It would thus appear that the outfit paid for itself in one season and the cleaner, owing to the substantial construction, seems as good as when it was started.

I think cleaning grain on a large farm is practicable where one has his own threshing outfit. On a medium-sized farm, where the threshing is hired out, it could not be done in the case of grain hauled directly to market. When the grain is stored before hauling, cleaning is practicable and advisable. On the same basis of screenings, the proposed elevator charge of 1 1/4c. per bushel would have caused a loss of \$220 besides the expense of hauling both ways, but I imagine the charge might well be a good deal less. The really practicable way for the whole country would be to have the threshing outfits include a grain cleaning attachment, as many of them now do a sheaf-loading machine.

### Saskatchewan Sheep and Swine Sales

At a recent joint executive meeting of the Saskatchewan Sheep and Swine Breeders' Association it was decided to hold two sales this year, one in Regina on Wednesday, October 25, and the other in Saskatoon one week later, November 1st next. The Saskatchewan sales have steadily gained in importance and popularity amongst buyers and sellers, over three hundred animals having been distributed in the last three years.

Judging from inquiries received by the secretary for all kinds of breeding stock, this year's sales bid fair to eclipse all previous records. Entries in the sheep classes are open to breeders of the three prairie provinces and al-

ready several Manitoba sheep men have indicated their intention to offer stock for sale, since they were highly satisfied with the prices obtained last year. Arrangements will again be made for the distribution of grade range ewes under the terms of the Live Stock Purchase and Sale Act by the Live Stock Branch during the week of the sales. For further particulars write to P. F. Bredt, secretary Saskatchewan Live Stock Associations, Department of Agriculture, Regina, Sask.

### ANTISEPTIC OINTMENT

A good antiseptic ointment always comes in handy for treating cuts, wounds and bruises occurring among live stock and in the poultry yard. Accidents frequently occur in the daily routine of the farm work and the careful husbandman will find it a good practice to be prepared for all such emergencies. A handy supply of antiseptic ointment for treating cuts and wounds may be the means of preventing more serious complications from infection brought on through neglect.

The following formula will be found satisfactory for this home doctoring: One ounce each of oil of origanum, pine tar and resin; three-quarters of an ounce of

resol; and eight ounces of clean axle grease.

In preparing the ointment the axle grease and resin should first be melted and the other ingredients then stirred in. Mix the whole vigorously and pour it off into a permanent receptacle of some kind. A small stone crock or tin box will answer the purpose very well. Nothing but freshly opened axle grease should be employed. This ointment may be liberally applied to all cuts and wounds.

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**RAIN**  
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A Thresher Belt

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Endless  
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**Canvas Belts**

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120 Lombard Street WINNIPEG

"A Good Concern to  
Do Business With"



THE  
HANDY  
HEN

THERE IS NO BEST BREED

By M. Brazier

**A**FTER selecting a type, it is well to realize that there is no one breed a lot better than any other, for if there were the valueless breeds would disappear. But selecting the type is important and it depends on whether you wish to concentrate on producing eggs or meat, and something also on the condition under which you wish to keep your flock.

Every experienced breeder knows that there is comparatively little difference in the results to be obtained from any of several different breeds of the same class. Any of the standard breeds are good enough to bring success to the man who understands them. A man of any intelligence would not purchase Leghorns if he desired to raise market poultry, or any heavy breed if he wished the best layers.

No one can go far wrong in selecting any pure-bred fowl of the class suited to his needs, so make up your mind to have good stock in one class or the other (or both). You can have a general utility dual-purpose bird which combines the good qualities of both types in a lesser degree of excellence, but perfection in both directions is not yet combined in one-third.

Some Advocate Two Breeds

Some advise keeping two breeds of the different types, just as a farmer might keep beef cattle and dairy cattle if he did not cross the blood. They maintain that it is highly advantageous to keep Brahmas (or some other heavy bird) for table and market purposes and some of the Mediterraneanans for egg-production, in the proportion of one heavy bird to three light ones. The Brahmas would lay enough eggs to hatch the necessary chickens to replace themselves and would also incubate sufficient eggs to renew the laying flock, if incubators are not preferred.

Advocates of this plan claim that it produces more meat and eggs than when any type is kept alone. This method, of course, necessitates keeping the breeds separate during the breeding season, but most of the heavy birds are very easily penned. While many think that no single breed has the excellence of these two independent types, one selected for egg-production and the other for market and table purposes, others

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OF CANADA

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\$90,000,000  
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BEST  
ANTI-FRICTION  
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prefer a general-purpose fowl combining the qualities of a fairly good layer and a good table fowl. If the former plan is followed, it must be borne in mind that a bird desired for flesh should have a deep broad breast, a long body, small bones and fine skin—and this means the Asiatic class. The variety should preferably be white or buff, because these look more attractive. Breeds from this class are well adapted to cold climates, contented in confinement, large and heavy, slow in maturing, produce large brown eggs and, when well managed, a considerable number of them.

The Egg Breeds

The bird desired chiefly for egg-production should be well developed in the pelvic region and have little fullness in front. It should be active, because the naturally lazy bird is never a good layer and because the active bird will gather a large part of the material she needs for egg-making in the shape of grubs and worms. The Mediterraneanans answer these needs, and can be kept in large flocks, so simpler, wholesome, less laborious methods may be used in their management. Birds of this class are smaller and weigh less than Asiatics, good

flyers, produce a large number of eggs which are never managed horns; bred up lay eggs can breed (A straw which hatches general distinct chickens build a success of time, The Mediterraneanans; pose birds; happy in rear, turn knit from length. The utilitarian guard as 1 er's bird country; have four egg-produce. Were c eggs of the cost least sumption; temperatu eggs, active. But equal. T



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flyers, mature quickly and produce a great many small white eggs when well handled, but they are nervous unless carefully managed. Special strains of Leghorns and Minorcas have been bred up in their own weight and lay eggs equal to those of American breeds in weight and size. (A strain of fowls is a family which has been so bred for several generations that it has a distinct characteristic of its own. To build a strain of fowls takes years of time, study and careful work.)

### The Dual Purpose Breeds

The Americans are intermediate between Asiatics and Mediterraneans and furnish the dual-purpose birds, which must strike a happy medium in size, be easy to rear, tame, strong, and have well knit frame and legs of medium length. This is the type of general utility bird which many regard as par excellence the farmer's bird, but throughout the country there are farmers who have found flocks specialized for egg-production highly profitable.

Were other factors equal, the eggs of the smallest breeds would cost least per dozen, as food consumption depends upon climatic temperature, the weight of the eggs, activity and weight of birds.

But other factors seldom are equal. The healthy hen's food

and drink provide material for body growth and renewal, muscular activity and egg-production. An increase in any one of these necessitates an increase in food consumption. An increase of egg-production or of activity without an increase in feed would reduce the body weight.

Mediterraneans will provide eggs at less cost for feed and smaller amount of floor space than

any other class and, while their eggs are smaller than some, they will be produced in greater quantities.

In my yards, a Leghorn hen costs less to feed than a heavier bird, but it costs about a third more to keep a hundred pounds live weight of Leghorns than a hundred pounds of the heavier breed. The eggs of the heavier breeds are slightly larger but,

while eggs are sold by number instead of weight, these additional ounces per dozen do not greatly affect conditions; and the hundred pounds of Leghorns will lay nearly twice as many eggs as a hundred pounds liveweight of any heavy breed under like care. Of course, the Leghorn hen will bring a trifle less in the market when her usefulness as a layer is past, but not enough less to offset her value as an egg-producing machine.

Whatever your choice of breed may be, do not forget that the paying hen must be a rustler, must mature early, and be a prolific winter layer. Whether the Leghorn answers this demand better than other Mediterranean breeds is a matter of opinion.

This does not mean that no other breed can approach the Leghorn as a layer, merely that no other has so much of the natural tendency. Under the best possible care, Minorcas and Andalusians might be expected to lay as many eggs in a year as the Leghorns, as they also waste very little time setting.

Plymouth Rocks, Wyandottes, Orpingtons, Rhode Island Reds and Langshans are about equally valuable as dual-purpose birds. All five are good general utility breeds.



THE NEW SUBMARINE DANGER

"They'll be torpedoin' us if we stick 'ere much longer, Bill."—Bystander.

## How I Make My Auto Pay

By ALFRED ANDERSON

The first auto problem that meets the farmer is its upkeep. This can, to a large extent, be overcome by the farmer himself. When he gets an auto he should get a book on automobiles by some good authority and study it carefully. After he has done this he will, to a certain extent, know where to look for trouble and how to remedy it.

### Dirty Gasoline

One of the causes of stoppage of the engine can be traced to dirty gasoline. This can, to a large extent, be offset by the use of a chamois skin. Most autos have a filter in the carburetor. This should be cleaned out occasionally. See that your carburetor is not stopped up anywhere.

Be sure and look over the wiring on your auto to see that the insulation has not been worn through and is rubbing on iron, causing a short circuit.

### Ignition Troubles

In case of battery ignition be sure and test your battery before looking elsewhere for trouble. The battery should not test under five volts. A charged battery should always be kept on hand. Be careful that this does not touch any metal tools. Keep the spark plugs clean and see that the points are not sooted over. Sometimes oil on the porcelain on the spark plug may make the spark jump instead of drawing down.

### Lubrication

Be careful to go over your lubricating system and see that the drip feeds are working right. In case of a belt or chain driven pump be sure to see that they are tight.

The pipes should be cleaned out once in a while by forcing kerosene through them. This can be done by putting on an ordinary bicycle pump and blowing the kerosene through the pipes. Sometimes the compression is bad. Do not use too thin a lubricant in summer. See that your intake and exhaust valves are working nicely. These may have become pitted and worn when they need grinding in. The rings may be broken or worn or the spark plug may be leaking. The compression cock may also be open.

### Things to Watch

Be careful that your engine does not overheat. This may be caused by a choked up radiator or the fan belt may be slipping. The pump may also be out of order. Do not retard the spark too much with the throttle way open. The clutch may be slipping, causing

the engine to race. This can be told by feeling of the clutch to see if it is hot. Put new leathers in the clutch occasionally. In case of serious over-heating let the engine cool before putting in water. See that your cylinders are getting enough oil but not too much as too much is almost as bad as not enough. See that your valves are working right, the spring may be too weak or too strong, causing the valves to open or close sluggishly. The valve may break in this case, the engine should be stopped and the pieces removed, or they may do damage in the combustion chamber. A bent wire smeared with wax or other sticky material is often found useful in removing the small pieces. The valves should be ground in when they become worn or pitted. This may be done by taking the valve out and smearing the valve seat with emery dust and oil, then replace valve and turn it till it fits nicely, wash out with gasoline or fine gritty substance may get in the cylinder and ruin it. Do not be disappointed if the valve leaks a little as it takes some time for a valve to become gas-tight.

### Look Over the Tires

Look the tires over after each run to see that they are not cut. If they are, take them off and have them vulcanized. This can be done at almost any garage. If you do not do this, gritty pieces of sand get in and in a little while you have a ruined tire. Be sure that it is inflated enough but not too much. A tire should be pumped so that you can just see it bulge when loaded. Use your brakes moderately and turn corners slowly. One violent stop may do as much damage to a tire as a month of ordinary use. Be sure that your wheels are in line or your tires will plow through a little sideways if they are not. This is very hard on tires. Do not let the tires get any oil on. If possible avoid riding on a deflated tire as this ruins both casing and tube. Better take the tire off and wrap some rope around the rim of the wheel.

### Care of Car After Using

After a car comes in it should be looked over to see that everything is all right. Do not leave this till before starting as the next trip may be taken in a hurry. If a car comes in muddy do not rub off the mud as this spoils the finish of the car. Do not squirt water on a car with force but let it run gently down taking the mud with it.



## New Deere Light Draft Gang Plows

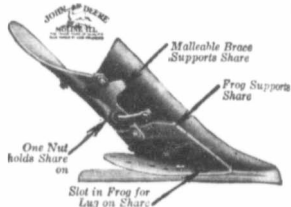
This gang has a simple and practical foot lift, and in addition has an auxiliary hand lever. With the aid of this lever operator can raise both bottoms when plow is deep in the ground and horses stopped.

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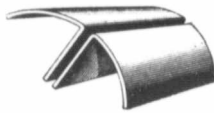
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**The Art of Blacksmithing**

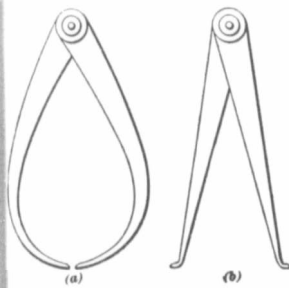
Continued from page 10

To make them more efficient for this purpose, pieces of asbestos paper are placed over the jaws of the vise, under the copper jaws. This makes the insulation very good, and besides protecting the steel jaws, prevents the rapid cooling of hot iron by contact with the cold vise. Sheet-iron jaws are often used for hot work.



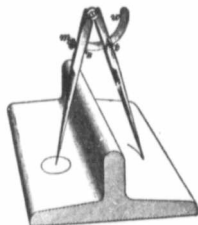
**Calipers**

Calipers are used for measuring diameters, widths and thicknesses. Single calipers are made of two pieces of sheet steel bent to the required shape and put together with a rivet. They are made to work rather stiffly, so as to remain wherever set. Cut (a) shows a pair of outside calipers, cut (b) a pair of inside calipers, and cut (c) shows a pair of double calipers, which may be set for two sizes as, for instance, the width and thickness of a forging.



**Dividers**

The dividers shown in cut are used for measuring the distance between two points and for describing circles. The points are clamped by means of a thumb-screw (t), which bears against the wing (w) and the finer adjustments are made by means of the thumb nut (m). The points are held apart by means of the spring (s).



**Measuring Wheel or Circular Rule**

The measuring wheel, or circular rule, shown in cut, also called a traveler, a traverse wheel or a tire wheel, is usually a thin circular ring (a) about 1/10in. thick. Sometimes the hub consists of a



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Made from selected best quality box boards procurable, well braced and ironed. Southern pine bottom, tongued and grooved, and supplied with five hardwood sills, reinforced at wearing places; double thickness where the box rests on the bolster; detachable spring seat; Comstock patent endgate furnished regularly on all boxes. All woodwork is thoroughly seasoned. Painting of the highest order.

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We Guarantee "Galloway" Wagons to be well made of good material, thoroughly seasoned and of sufficient strength for all purposes for which they are designed. Should any breakage occur within one year from date of sale to the user, resulting from defective material or workmanship, new parts will be furnished without charge, provided the defective part is returned to us at Winnipeg as evidence of such defect.

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4P912	3 x11	2 1/2	\$1.75	\$77.50
4P913	3 x11	3	\$4.50	\$79.50
4P914	Double Wagon Box with Seat			\$23.50
4P915	Double Wagon Box without Seat			\$20.75
4P916	Tip-top Box, 10in.			4.50
4P917	Extra for Neckyoke and Whiffletrees			2.00

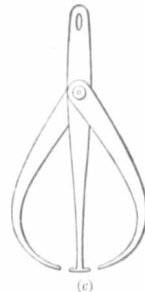


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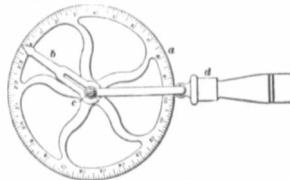
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thimble fitted into a hole in the center of the wheel. This thimble also forms the support for an index arm or pointer (b), which turns with the wheel and may be



set to any point on its circumference. The spindle (c) on which the wheel turns is held between the ends of a forked handle (d) as shown. Sometimes a boss is stamped on one side of the wheel to form the hub, which is threaded and fitted with a thumb nut to bear on the pointer and hold it in position. The measuring wheel is sometimes a drop forging turned true on the edge and having the division marks stamped on



**Measuring Wheel**

one side in the process of forging. The wheel usually has a circumference of 24in., which is subdivided on one side into inches, halves, quarters and eights, the zero and 24in. marks, being at the same point. Sometimes, however, the wheel is plain with the exception of one short radial line on one



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side touching the circumference. The pointer is moved to indicate the point on the circumference of the wheel where the measurement ends.

The wheel is carefully rolled over the length of the work to be measured, the measurement being started at and read from the zero line. The pointer is moved to indicate the point on the circumference of the wheel where the measurement ends.

To be Continued in October

# A Woman's Talk



# To Women

By Lillian Beynon Thomas

### FREE HOSPITALS FOR ALBERTA

Alberta is one of the most progressive prairie provinces in social legislation. Both men and women in that province are alive to the needs of the country, and both are ready to do all possible to get for the people what is best. The latest campaign started is for free hospitals. A Free Public Hospitals League has been organized, the object being to have every district in the province served with a good hospital, the service being free to everyone in the district.

It does seem hard that by our present system, the man or woman who is unfortunate, and needs hospital care, must not only lose by being away from work, but must each day there, add a great burden of debt that will keep them working for years to pay. This consciousness of an added burden, must in many cases lessen the chance of the patient to recover.

It would seem that in a properly organized community, the one who was in trouble should be helped by those who had escaped and were in a position to help. That is the idea of the free hospital scheme. The people are to raise the money by a tax on the land, build the hospitals and maintain them in the same way. The petition to the government that is being circulated at the



Out-patients waiting their "turn" - Winnipeg Children's Hospital

present time states: "Whereas the number of nurses and doctors in the rural communities of Alberta is inadequate to meet the needs of the people; and the scale of fees charged by members of these professions is so high that few settlers can afford the attention and services necessary to properly safeguard the life and health of their families, except at exorbitant cost; and the accommodation for the proper nursing and care of the sick is inadequate and unsuitable.

"And whereas the loss of life and health, owing to these conditions is so great, as to constitute a serious national loss, and a grave menace to the happiness and welfare of the people, therefore we the undersigned hereby petition the government of the province of Alberta to take the necessary procedure to inaugurate a system of public hospitals as complete and gratuitous as our public schools.

"And we recommend that these hospitals be built, maintained, and administered by the local municipalities wherever possible; that the cost of these hospitals be defrayed by a tax on the land in the municipalities served; that these hospitals be under the direction of an adequate staff of registered nurses, who shall be paid on a scale commensurate with the scale of wages for this class of service throughout the country, and that wherever possible, qualified doctors be engaged as heads of the hospitals, or that an arrangement be made guaranteeing a minimum salary to a doctor in order that such a person shall be located within reasonable distance of the hospital."

Other recommendations in the petition are that the government make the provision of adequate public hospitals in every district compulsory, organize a system of hospital inspection, and arrange for the taking over by the people of the hospitals now in the province.

They, of course, recommend that the service of these institutions be free to the people residing in the district they serve, according to the need of each person.

#### Out Patient Department

Every up-to-date hospital has an out-patient department. To many people this department is the most important in the hospital. It is a department to which the poorest may go and be sure of getting the attention of the best doctors in the hospital free. Every day before the hour at which the doctors will be in attendance, great numbers of people may be seen waiting for some doctor, for whose attention they could not hope to pay. But he will be along

at a special hour, and everyone waiting for him will take their turn in hearing his opinion, and getting his advice.

The picture above is of the women waiting to get the advice of the doctors in the out-patient department of the Children's Hospital, Winnipeg. One can imagine that the doctors there must be kept busy with so many kiddies waiting for attention. The children and mothers look so happy, that it is difficult to think that all the kiddies have some physical ailment, but in many cases it is not serious.

#### Help for Harvest

The immigration authorities for the province of Manitoba offered to bring out women from the east to help in the farm homes if those wishing the help would guarantee to pay twenty-five dollars a month for three months. There were only ten applications for this help.

A letter from a Manitoba farmer's wife states that if they paid that sum, as well as the necessary amount for extra men, there would be nothing left for themselves. She says that her husband is more willing to pay for help in the house than she is, but when she has not seventy-five dollars the whole year to spend on herself, she cannot see her way clear to paying it to a girl for three months work.

Women in the city are paying from fifteen to thirty dollars a month for good help, and the price is not going down. Country women cannot afford to pay this sum, so something else must solve the work problem on the farm. Women are constantly urging their husbands to leave the farm and move into the village because they are not able to do the work, and they cannot get help. It is evident that the help (that is good help) cannot be secured without paying a big wage.

Some women in the United States are solving the question by getting co-operative methods of doing the community work.

#### A Community Workhouse

The ideal, of course, is a great community house with a creamery, a laundry, a bakery, a co-operative store, and butcher shop. But in practice, deserted houses or shops are used to begin with, and the business started in a simple way.

In the west, so far as I know, there is not one co-operative laundry and bake-shop in a country district, and not many in the country to the south; but in some older countries, there are many, and the women on the farms have all the privileges of city life, with the privileges of country life added.

#### The Women Across the Line

The women in the United States are more interested in politics at the present moment than ever before in their history. Those who are in favor of woman's suffrage never had such high hopes as at the present time, and those opposed never had such fear that the country was going to the bad.

The great question in the United States has been whether there should be a federal amendment to the constitution granting the franchise to the women in the country; or should the matter of granting the franchise to women should be left to each state to decide for itself. Many years ago Susan B. Anthony had an amendment to the National Constitution drafted, and ever since, it has been known as the Susan B. Anthony amendment.

A great body of women who are anxious for the franchise have been working tirelessly for the Susan B. Anthony amendment. Others have voted their time principally to getting the franchise in the different States, believing that they had a much better opportunity to get the federal franchise after a number of States had done so in favor.

(Continued on page 38)



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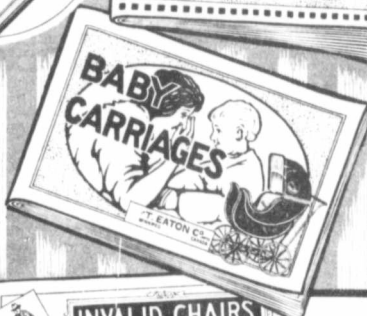
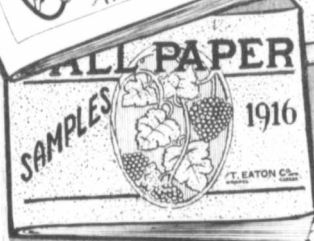
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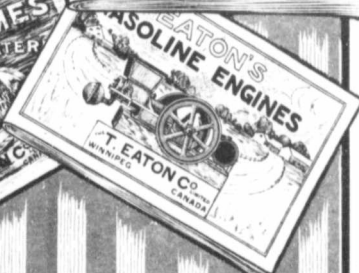


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WINNIPEG CANADA**

**Wilson and Hughes**

President Wilson has been approached time and again by the different suffrage organizations of women asking him to support the federal amendment. His answer has always been the same. He believes in State action. He even went so far as to vote for suffrage in his own state, but he shied away from the federal issue.

The Bull Moose party always favored the enfranchisement of women, and it was purely because of that, that Jane Addams so wholeheartedly supported that party. But the Bull Moose party was never strong enough to be a serious factor in a presidential election.

Then came the new Republican party with Hughes the new candidate and the women looked up his public speeches in the past, and they found that in them all he favored greater power for women. His wife is a progressive and advanced woman. This fact may not appear to belong here, but it does.

The great event happened when the Women's Roosevelt organization to assist Hughes, invited many of the progressive women of the city of New York to meet the Republican presidential candidate. Many were their doubts and fears as they donned their best clothes to go to that reception. Hughes had said but little, and presidential candidates have been known to talk a lot and say nothing; and they wondered whether Mr. Hughes would try to win their favor without binding himself to anything.

Mr. Hughes did not beat around the bush in the least. He knew what the women wished to know, and he told them. He told them that he realized that the enfranchisement of women was coming, and the longer it was delayed the more unpleasant it would occasion, and the longer it would prevent both men and women devoting their time to the other matters of the state to which they should be devoting their attention. This being his belief, he thought the women should be enfranchised as soon as possible, and the quickest way would be to pass a federal amendment.

The women could scarcely believe their ears. It seemed too good to be true that a presidential candidate of one of the great parties, should publicly favor the women. But such was the case, and the women of the United States, took such a step forward in a few minutes as has seldom been the privilege of the women of any nation.

President Wilson at the same time, in another place, gave the women more hope to believe he might favor the federal amendment than ever before. A cartoon in the St. Louis Post Dispatch shows the women holding out the suffrage baby toward Wilson, and telling him that Hughes kissed it.

**Prisoners in Germany**

From month to month I write of the boys who are prisoners in Germany. Their condition seems to me so much worse than any of the others who have left home and friends to serve their country. The boys in the trenches are among friends; the wounded who have been sent back are well cared for among those who love and admire them; but the boys who have been taken prisoner, have none of these things.

They listen all day to an alien tongue, they are surrounded by alien customs, they are fed on strange food, and they are among a people who hate them. They cannot even express their feelings in letters to friends, nor can they tell their needs.

A story is told here of a boy who wrote home, from Germany, and he addressed the letter to the home number, but the name he put on it was "Starving." Inside he did not mention the address, but the home folks understood the message.

Reports are received over and over again that the Russian prisoners are on half rations, and are dying like flies of starvation. The Canadian boys, when possible, share their parcels with those in greater need than themselves.

**The Hospital Question**

This month I would like to call particular attention to the question of hospitals. The people of Manitoba know that on a by-law submitted to the citizens of Winnipeg for a grant to the General hospital some years ago, the people voted "no." Thus they voted despite the fact that many medical students and doctors and nurses worked for it, and an attempt was made to canvass the city.

But the "no" of the citizens did not settle the matter. The General hospital was granted enough public money to go on with, and it is still going on, run by a Board not responsible to the people. The people pay for it, and pay well without the power to direct the policy.

The refusal of the people of the city to vote for the grant to the hospital, was not because the hospital has not done good work. It has done excellent

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**For the Cream of the Day**

**TWO A. M.**—inky dark—that's when Big Ben starts the milkman's day.

Out of bed like a boy going fishing—nudges Big Ben to a hush—takes up the tune as he whistles to work.

You've heard that patter of nibble feet—the clink of bottles in the wire tray—the rattle of boxes, of cans and ice—the gallop—the wheel—the merry tune—all unmingled the world at sleep. You've wondered.

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Big Ben is six times factory tested. At year end it's \$2.50 in the States, \$3.00 in Canada. Sent prepaid on receipt of price if your dealer doesn't stock him.

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**The Canadian Stover Gasoline Engine Co. Ltd.**  
BRANDON, MANITOBA



Visitor (at private hospital)—"Can I see Lieutenant Barker, please?"  
 Matron—"We do not allow ordinary visiting. May I ask if you are a relative?"  
 Visitor (boldly)—"O, yes! I'm his sister."  
 Matron—"Dear me! I'm very glad to meet you. I'm his mother!"

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work, and it did good work before the people were alive to the need of such an institution. But now they are alive and beginning to study the question, and they will in the near future make their wishes felt in this matter.

On this page to-day there is an article on the hospital question in Alberta. The petition being circulated in that province is given in part, and gives an idea of what the people there are aiming to do.

In Manitoba, it will not do to burn our bridges before we have put up better ones or drained the creek. We must have a policy, and one based on sound common sense and a knowledge of the best hospital systems before we try to go ahead.

It may be in place to say right here that the Saskatchewan legislature last session passed an act, allowing municipalities to join and build a hospital, the funds to be collected from a tax on the land.

**Thomas Mott Osborne**

Have you ever heard of him? Perhaps not, but many of the men in Sing Sing prison, love the sound of his name. He was warden of that institution, and he was one of the first men in that position to realize that the prisoner is a man, often a respectable man, and deserves the treatment of a man. He gave that treatment to the men there, and instituted such reforms that the old school of people who think that a man once in prison, is not exactly human, held up their hands in horror. But the thoughtful people of the country began to look with interest toward that institution, and social workers wrote for information in regard to what was being done there, and all the people interested in prison reform wanted to know just what was being done at Sing Sing, and how Mr. Osborne's experiments were panning out.

But Mr. Osborne in getting fair play and a chance for the men behind the bars, was interfering with a band of men, political thugs, who determined to put him out of business. He interfered with them because he refused to put in office the men suggested by this body. He refused to countenance graft in the prison management, and interfered with other vicious practices of those who see in every public institution merely another opportunity for personal gain. Because Mr. Osborne was objectionable to these thugs, they determined to put him out of the prison, and not only out of the prison but out of public life. They framed up a list of the most brutal indictments, which were filed against him. He was charged with mismanagement, perjury, and immorality.

He stepped out of office and his trial began. There was a network of lies framed up and a body of conscienceless graters waiting to give evidence against him, but the right prevailed. He has been fully vindicated, and his enemies are routed and discredited. The public saw at once that it was a political move, and refused to give up faith in the man who had done so much for prison reform, and time has proven the wisdom of that swift judgment.

**Killed by Idle Gossip**

In an English village a coroner's jury brought in the verdict, "Killed by idle gossip."

The victim was a young girl, sensitive, super-sensitive, and although she had done nothing to be ashamed of, the finger of scorn was turned her way, her character was blackened by people who talked of her in their idle moments. She began to feel that when she walked down the street every eye was turned her way in contempt, and that when she was not in view every group of people was talking about her.

She had no weapon with which to fight this horrid tide of slander, so she took the only way out known to her. She killed herself. It was then that the people who murdered her, were shocked, and opened their minds to the fact that there was nothing against the girl despite all their talk. There were men and women there who realized that they were the murderers of that girl, and at once an anti-gossip crusade was started.

A society has been organized and some of the rules are interesting and are likely to be effective.

There are many good reasons why the use of

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is quite general throughout every threshing community.

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One rule is that every member must take a vow, to avoid either starting or spreading any unkind remarks about anyone else, nor will they listen to a person who tries to tell them. To repeat what they have heard, even if they know it to be true, is equally as bad as to set the ball rolling. For the first ten breaches of this law, a fine is imposed, graduating from a shilling up to a maximum of ten shillings. After ten slips, the woman or man will be blackmailed as incurable. The motto of the anti-gossip crusade is that before making any statement about a person it should pass the three golden gates, "Is it true?" "Is it needful?" and "Is it kind?"

**Medical Inspection of Schools**  
In writing of the Homemakers' Club Convention in Saskatoon, I did not mention the action taken on the matter of Medical Inspection of Schools.  
Medical inspection of rural schools has been the cry of many intelligent farm women for years, but the average parent has not been deeply interested. In fact the average parent has cried, "Keep down the taxes," for already they had more than they seemed able to pay. But now it is coming home to us all that medical inspection does not add to the cost of living but reduces it, for in many cases it prevents doctor and hospital bills, and often keeps well and strong

children, that if neglected, would always be weak.  
Dr. Thompson, of Regina, one of the leading physicians of that province spoke to the women, and gave them an opportunity to question him, an opportunity of which they certainly took advantage. They questioned and questioned and then questioned some more, and still they had more to ask, but the doctor had to go. Not however before he had given information for which those women will always be thankful, and information that will lead the women to see that there is a better condition of affairs in that province so far as the health of the children is concerned.

# OUR YOUNG FOLK CONDUCTED BY Cousin Doris.

## Girls' Cosy Corner

### LISTEN!

By Mary Carolyn Davies

When the dawn's on the hill, and the woods are still,

And there's not a sound to break the hush, on the grass and the paths that pass,

Or the silence of the lake, I steal from sleep and vigil keep To hear the flowers wake—

The flowers that spring by the trail, and cling To our hands as on we go,

The flowers that see, complacently, Their mirrored forms below,

And, best of all, the little flowers Whose names we do not know.

They sleep through the hours, the friendly flowers,

When their work for the day is through,

Then all for our sake, at the dawn they wake

To serve our needs anew. —I hear!—What they say I cannot tell! You must come and listen, too!

## Boy Scout News

At 606 Balmoral street the 9th Winnipeg Troop met on their usual parade night (Monday) at Troop headquarters, and after the work of the evening had been completed, a social hour was enjoyed. The assistant provincial commissioner, A. T. Macintosh, was invited by the Court of Honour to be present and take part in the function of the evening, which was a presentation of a Gold Thank Badge to Mr. E. F. Mills, Scoutmaster of the 9th Winnipeg Troop. The presentation was made by the assistant provincial commissioner on behalf of the troop, and Mr. Mills suitably responded. Mr. Macintosh referred to the history of the troop, and recalled to the members of it the following data: The first and only troop to win the Merritt Cup, the

first and only troop to win the Butte Cup, and the first troop to win the Kilgour Ambulance Cup, the first troop to win a Gold Cord, and the only troop in District No. 2 that has been awarded a life saving medal. Mr. Mills recently enlisted in the Army Medical Corps, had added further honor to this distinguished troop in that he has been promoted from private to sergeant, and at the present time is acting as ward master at the Camp Hughes hospital, the largest hospital in the Dominion. The desire and hope was expressed by the troop that Mr. Mills would be spared to return to them at the completion of his war.

Provincial headquarters had an honored visitor a few days ago in the person of W. J. Black, Commissioner of Agriculture for the Dominion. Mr. Black, during his regime in this province, was very actively interested in our movement, and gave considerable assistance to the development of the work, especially in rural communities. He was one of the first members appointed on the provincial council, and his retirement from the membership was a distinct loss. Mr. Black, however, has not lost interest in the movement, as was evidenced by his visit to headquarters, and in his new sphere he is planning to maintain his interest in this organization. The scouts and officers of Manitoba wish Mr. Black every success in his new position as Commissioner of Agriculture for the Dominion.

### THE BEST GAME

By Captain F. Livingston-James, East Lancashire Regiment, Scoutmaster Second Fulwood and Sixth Blackburn Troops.

There's a joy in playing cricket on a sunny summer's day;

But you must desert the wicket and put bats and pads away.

When the stormy autumn weather of the leaves has taken toll

And you punt the bounding leather round the grimly guarded goal.

But there's just one game that gives points to all the rest,

Other games go out of season, Scouting never, that's one reason.

Why we love our Scouting better, and it's easily the best.

## FIVE ROSES FLOUR

FOR BREADS—CAKES PUDDINGS—PASTRIES

Other games may make you clever in some special sort of way, But no other games can ever teach a boy life's game to play. Every game however alluring, played too oft, is sure to pall (Only one holds joys enduring; that's why Scouting's king of all. For it never lacks its interest and zest. And there's always something new, something fine to learn and do. Something done to do still better, that's why Scouting is the best.

So we'll give three cheers for Scouting for we've tested well it's worth;

We have proved beyond all doubting.

It's the finest game on earth!

All who wear our badge are brothers, true to Flag and Motherland.

So we'll spread it o'er the Empire, then

East and West.

And while we're schoolboys still, and All we boys have grown to men,

We'll still play, and play still better, our own game that's still the best.

### SOMEWHERE IN FRANCE

By W. R. T.

He went out, not knowing whether he went—The Epistle to the Hebrews.

There are many to-day for whom these words, "somewhere in France," have a most poignant interest. And one feels that they express much of the wonder and tragedy, yes, and the glory of this tremendous experience that has come upon us as a nation. A year ago the phrase was unknown. Now there is hardly a child in the street who is not familiar with it, and who does not realize, in some measure, its great and tragic meaning. What a beating of the heart there is in every other home throughout the land when these words are spoken; and how swiftly thought flies to husband, brother, father, son or over at the war. Where is he? You cannot tell. He is "somewhere in France." It is the vaguest and most unsatisfactory of phrases. Yet it is the most gloriously definite. For to be "somewhere in France" is to be in the way of duty, as duty has been shown to us in this dark and critical hour. To be anywhere in France to-day is to be where a man may display the highest qualities of manhood.

The words suggest the wonderful

sacrifice that a soldier's life entails. He goes out not knowing whether he goes. That is always the case when anything great in life is presented to us. What a man's aims are mean and petty he knows quite well where he is going. That man walks by sight, for he has got his eye, as we say, on the main chance. When a man's ends are lofty and noble he walks by faith. Indeed, the life of faith always goes away to "somewhere in France." It takes the risks. It embarks on an adventure. It looks for a city. Great enterprises are always marked by putting self in the background, and being caught up by the greatness of the task that awaits us.

The soldier's life is a singular illustration of this. One day he is a man with an address like other men, with a fixed and definite place in the world. If you write to him, you say: Mr. So-and-so, Number So-and-so Street, in such and such a town. The next day you address your letter to "somewhere in France." What extraordinary change is this? This—the man has given himself to a great cause. He has been swept out on the mighty current of great enter-



FAULTY "SCOUTING"

Orderly Sergeant (who after dark has mistaken a barnful of sheep for his company's billet)—"Now don't let me have so much moving about when I'm reading Battalion Orders."

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prise. He is lost for the time being. "Gone, no address." Yes; but he that loathes his life finds it. He finds himself in the larger life of which he has heard the call. "No man that warreth, entrencheth himself with the affairs of this life, that he may please him who hath called him to be a soldier." How true that is of the soldier. He leaves his business of his profession, his home and kindred. He takes the minimum of baggage—just what he can carry on his back and shoulders. He casts aside every weight. And he goes out into the unknown to "somewhere in France." He no longer has the disposing of his own life, the making of his own plans, the control of his own time. He is ready to become nothing so that the great cause with which he has identified himself may triumph. We sum it all up by saying: He is "somewhere in France."

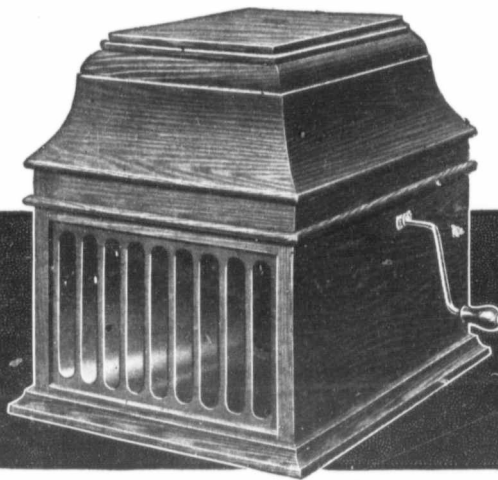
"Gone, no address." But, stay. You do not know where your friend is. You cannot go to him. He cannot come to you. Nevertheless, if you send him a letter or parcel it reaches him. You cannot address it, for you do not know the address. Yet it finds its destination. And the reason is that the organization of the army is so fine and complete that the individual is not lost in the crowd. The great mass of letters crosses the Channel. It is broken up into sections and conveyed by train and motor inland. At every cross roads messengers are posted and waiting, until at last the letters for each battalion are placed in the right hands. Then each company, each platoon gets its portion, and, finally, each man gets what he has been waiting for so anxiously.

It is a Christian message that we are not lost in the crowd of life. Perhaps Christianity is differentiated from all other religions by nothing more than by the assurance of that great fact. Some ancient exiles, somewhere in Babylon, felt that their God had lost sight of them. But a great spiritual teacher cried: Why sayest thou, My Way is hid from the Lord and my judgment passed over from my God? And Paul said that no man goes to war at his own charges. If a man gives himself to a big cause that cause does not desert him or fail him. And if there is a sense in which every true and faithful life has to go out not knowing whither it goes, it is also true that the world's greatest have gone out with this singing in their heart, "I will be with thee whithersoever thou goest."

We do not know, and we shall never know, what firmness of faith, what splendour of courage, what glory of comradeship have been displayed "somewhere in France." Our hearts glow as we read the lists of those who have won honours in the field. But thousands have deserved these who will never get them. A soldier said to a friend of the present writer, speaking of his chum who had fallen, "He won the V.C. six times over." And who will say of how many these proud words could be uttered? And who will label one of these acts of heroism and sacrifice, thus, "Gone, no address?" Who will venture to say that these acts have not enriched life for ever?

These words, "somewhere in France," will be for very many in our land—as indeed, alas! they have already become for many—very sacred words. There are men who sleep their last sleep, "somewhere in France." It has been possible to identify many who have fallen, and to mark their resting place, so that it may be visited in after days. But that has not always been possible; nor will it be. Some will be able to say: My friend lies in such-and-such a place in France.

But many will not be able even to say that. They will only be able to say: His resting place is "somewhere in France." That will not make it any the less sacred, or the rest any less peaceful and secure. The Bible says of Moses, "No man knoweth of his sepulchre unto this day." And then the Bible adds, in its simple, matchless way, "God buried him." And that is what many will be able to say when the quieter days come. At first, it will be a grievous thought that they cannot know the place where, "After life's fitful fever, he sleeps well." But a day will come when calmly, proudly, faithfully they will say: "God buried him 'somewhere in France.'"



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Think of it—a \$1.00 payment, and a few dollars a month to get this brand new style outfit—the Diamond Stylus reproducer, the musical quality—the same Diamond Amberol Records—all the musical results of the highest price outfits—yes, the greatest value for \$1.00 down, balance on **easiest monthly terms.** Convince yourself—free trial first! No money down C.O.D., not one cent to pay unless you choose to keep the instrument.

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Hear all the latest up-to-date song hits of the big cities. Laugh until the tears stream down your face from laughing at the funniest of minstrel shows. Entertain your family and your friends with everything from Grand Opera to Comic Vaudeville—then if you choose, send it back.

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#### A SMALL STORY OF A GREAT OPERA (Il Trovatore)

Grown up people have a tiresome habit of talking very wisely without taking time to explain to boys and girls what things mean. For instance, when we hear a charming bit of music, they say it is from Rigoletto, or Parsifal and that is all we know about it. Just settle yourselves where your feet will touch the floor and not get numb and make you fidgety, for we are going to talk about opera.

The word "opera" itself means "work." The libretto of the opera is the story, or framework upon which the composer hangs all of his wonderful music. Grand Opera is the serious kind. Romantic Opera has to do with love and lovers, and Opera Bouffe is comic opera, just bub-

bling over with fun, and hitting music. Our story to-day is of one of the old Grand Operas, Il Trovatore (eel tro-va-to-ray).

The title, "Il Trovatore" means "had restitution" or evil returned. In other words, tit for tat.

In Italy there lived a certain count. Grown up people talk about counts as if we ought to know what and who they are but half the time we do not. A count is a member of the nobility, of the third rank. The word count means "companion," and those to whom the title is given are supposed to be companions fit for a king. This man was the Count de Luna, and he had two sons. The younger son became ill and the Count de Luna had no better sense than to believe he was bewitched by a gypsy

woman, who was said to have an evil eye. The count had the gypsy tied to a stake and burned alive. Azucena, the gypsy's daughter, swore to avenge her mother's death. She rushed away to the palace and stole this puny younger son of the Count de Luna. Hurrying back to the stake where her mother was burning, she bore in her arms her own child and the stolen one. In her excitement, she threw her own child into the flames, instead of the son of Count de Luna, where it burned to death before her eyes. She fled to her tribe, taking the stolen child with her.

Verdi has tried to tell us in music of the hatred of Count de Luna, the agony of the burning gypsy woman, the remorse and despair of Azucena, who has

Continued on page 48

# OUR WOMEN FOLK

CONDUCTED BY  
PEARL RICHMOND HAMILTON

### AUTUMN ROAD

By Nancy Byrd Turner

The year has taken the old September trail,  
And it's led her by a way I used to pass,  
Where asters, starry-eyed, come crowding  
either side,  
And sunlight's yellow o' the dusty grass,  
There ranks of russet goldenrod are set,  
And milkweed's shimmering silver sails  
the air,  
While a ruddy ivy vine threads the  
fence, a scarlet line,  
And deep content is brooding everywhere  
In a peace that is a prayer.

I am thinking, when my summer days  
are done  
And the year that was my youth is turn-  
ing slow—  
Will there still be glints and gleams in  
the old desires and dreams,  
Will they take a brave new beauty as  
they go?  
With a rift of red and gold across the  
brown,  
And a grace of blue and silver, sud-  
denly—  
Oh, I pray my heart remembers the look  
of past Septembers,  
That my Autumn road of life at last  
may be  
A way like this for me!

### THE MENTAL MILLIONAIRE

Every human soul has the germ of some flowers within and they would open if they could only find free air and sunshine. The greatest need in a girl's life is sunshine. Make girls happy and you will arouse ambition in them. A letter on my desk asks this question: "What is the most serious problem in the average home?"

I think a very important one is lack of sympathetic understanding between parents and children. "My parents do not understand me," is the common excuse girls give me for running away from home.

This is especially true of girls in the teen age. In a sense I can understand them—both the parents and girls. The parents are anxious for their welfare and the daughters are headstrong—very. I was myself. I know more than my father and mother. Many a girl stumbles going up "Fool's Hill."

I have in mind the most important experiences during that period of my life. They appear silly to me now. But they were really important then. Now, in the first place, a girl at twenty-four really would not consider the man she imagines she loves at seventeen. Teen ideals are not permanent. If parents during this period would provide in the home plenty of reading matter, music and social evenings, the girls and boys in that home would be happy. It is the hungry longing for pleasure that weighs gloomily on the minds of the young. A happy atmosphere develops confidence and sympathy between parents and children.

Our agricultural colleges are accomplishing great good at present in this line of work. Boys and girls are learning in these institutions the value of their home environment.

Parents are realizing that home-making is the finest art in the world and demands intelligence. It is the parents who have not yet come to this realization whose children leave home in disgust. Girls who make confidantes of their mothers are usually on the safe road to lovely womanhood. In order to gain this confidence a mother must regard her daughter's little affairs as very important.



A REAL WOMAN

The little back-alley called Balcorno Street, in South Hackney, London, was honored on August 10th by a visit from Queen Mary, who is shown in our photograph placing a little bunch of flowers at the foot of the Roll of Honor placed here, as in other streets of the crowded East End, to record the names of local men who have joined the Army or the Navy. Her Majesty was greeted with the keen enthusiasm which her constant and unwearied kindness invariably calls forth. To one mother, who has four sons at the front, the Queen said: "Keep a brave heart!" and shook hands with her. Her Majesty's visit was punctuated by such touching and womanly incidents. In one case, a woman said to the Queen: "You know how mothers feel." "I know," replied the Queen, "and that is why I am here."

## The Art Of Giving

pleasure is the beginning and the end of all art. The royal road to a complete mastery of its last secret will be found in the

### New Dingwall Catalogue

of fine jewellery, silverware, cut glass, cutlery, watches, etc. This catalogue will be ready for mailing within a few weeks and our lists are now being prepared. Send for free copy and your last difficulty will vanish, whether it means the expenditure of a franc or a fortune on a gift to your friend.

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DIAMOND MERCHANTS AND JEWELLERS  
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A girl of sixteen told me that the most bitter memory she had of her mother was when, after telling her all about her love affair, her mother remarked: "Your affair is very silly and I don't care for you to tell me any more nonsense. Now that girl's affair might have changed her whole life. Was it not important?"

So many girls say to me: "I want to tell you something but I am afraid you will think I am foolish." I always answer "My girl, any affair that bothers you is worth my consideration. I am interested."

The Home Economics Society is doing a great work for our girls in rural Manitoba. This month Winnipeg is launching out a movement known as the Big Brother and Big Sister Movement. The idea is to find a big brother for every lad who needs attention and a woman who will be a big sister to every girl who is inclined to be wayward or who needs a friend. I think our H. E. S. women have done splendid work along these lines. I know girls are very trying at times and in my own home I lose patience with my help. Some girls regard so little the rights of a mistress and forget that little children have hearts—and we feel like saying we will spend no more time, money and energy to help them—but that is the wrong attitude. We must forgive and forget and act the Big Sister. A girl of my acquaintance was taken into a good home in Manitoba. When they made her one of the family I wondered if she would appreciate their sacrifice in so doing. It is a short time she "cut loose" again and they were forced to bring her in. They on down into the cell again she went—all because she wanted to have a swing at life as she saw it. "Does it pay?" I asked as she turned to go back into the cell again. "Oh Mrs. Hamilton!" she exclaimed, sobbing, "the easy way is so full of fearful Niagaras." I ventured to say that nine girls and women out of ten who are arrested are there because they did not want to work. They had a wrong sense of values.

Then there is the meanest girl I know—she is the home wrecker. Perhaps she is in an office or with two or three companions living in a suite—or perhaps she waits on men at the restaurant. I know her in all three places, and when a wife breathes to me the story of her broken home, I ask myself "What can be done to develop a revolution in the souls of these girls—that they may realize the sacred value of home life?"

All this fills me with the serious determination to hold high the standard of pure womanhood and impress upon the mind of every girl and woman that patriotism is pure vision—it is not soul slaughter—for soul slaughter is a million times worse than bodily slaughter.

There are so many beautiful girls who come to me that I feel they really are in the great majority. Only yesterday a girl more than twenty told me that she is saving her money to go to college; she is now in domestic service. I receive many letters from girls who ask me how they may improve their education. These letters always please me. One with the desire to progress is in harmony with Western Canadian environment.

If we feel blue and discouraged, let us just step over to Europe, in our minds and look back at ourselves and our opportunities and our obligations to the world.

There will always be something in the way to prevent our progress if we do not rise above it. Look ahead fifty years. What influence have I set in motion? The only pleasures that cannot be

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taken from us are mind pleasures. That is why there is joy in growing in mind and character.

I look at my library and feel grateful for the treasures great men and women have willed us for a few cents for our best books are inexpensive. How can I be lonely when I have the opportunity to communicate with great minds. One farmer's wife hesitated to lend her "Vision of Sir Lauriat" because she had read it so much while she churned that it was greasy. I need not add that this woman eventually started a woman's club.

In a family far out on a homestead was a beautiful girl. Before her birth her mother read and re-read many times that lovely poem of Scott's "The Lady of the Lake."

All that develops mind and character is worth while for it stamps the gentleman wherever you meet her. Face-wardly the impress of thoughts. This incident of a Dakota club woman illustrates the ideal gentle woman. You know women like her in Western Canada as well I.

In our midst, long ago, we had a dear little woman who forgot herself in the temperance cause. She was to represent our county at the state convention. She only had one best dress to her name, but she had lived with great minds all her life. We felt awfully sorry to see her go in that old dress, but with clean lace in sleeves and neck and brushed as clean as clean could be, she looked very neat, and the light in her face made her beautiful. She was to take a leading part in the programs, and, as a state officer sat on the platform. When it came her time to address that large audience, she stepped forward so calmly and spoke with such force and power in such beautiful language, we were lost to everything else but the thoughts she voiced, and they transformed her. We were proud of her, she had put our county 'on the map,' as it were, and ever after that we knew that really great people can live in sod shanties, wear old clothes and work hard, for they do not need to pretend anything. Those who are really great do not need to 'show off' or 'put on style'—their greatness is self-evident to those who live in the same atmosphere—are of kindred minds.

"We can have that same thought life any place, nothing can prevent us, and the country home is the ideal place to live in. Let us put aside material things long enough to attend to our thought life and help others to do it also. The farm women can easily have all the advantages, and more, that their town sisters have, if they only will."

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More Bread and Better Bread

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There is an enthusiasm about  
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that makes you want to bake.  
The results are always so reliable and good. Use it in your difficult recipes.

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**Our Customers have made it famous**

**Mother's Corner**

**THE LITTLE PRAYER**

W. Livingston Larned

A little prayer was born, one night,  
Within a moonlit nursery;  
The first new message took its flight  
To Heaven, from a mother's knee,  
And all the perfumed room was sweet  
With what the little lips had said,  
And all the star-eyes down that street  
Sought out a certain trundle-bed.

The little prayer went with the wind,  
Past casement, garden-wall, until,  
Caught by a moonbeam of the mind,  
It whirled o'er the snow-white hill,  
On, on, through countless miles of space,  
The little prayer was swept along;  
Now swiftly, in a merry chase,  
Now softly, like a cradle-song,  
Fair angels, winging up on high,  
Caught echoes of the little prayer,  
And stopped to hark, and wonder why  
So sweet a word should greet them there,  
St-dawn, when skies were gold and pink,  
The gates o' paradise swung clear;  
A little prayer crept in, I think  
To spend itself in God's own ear.

**BABY'S STOMACH**

A mother is very anxious about her babe during the warm months. If the milk is not kept in a cool place there is grave disturbance in the little one's stomach. When diarrhoea first occurs, give the child a teaspoon of castor oil. If this does not clean the bowels, if possible, call a physician. It is a great pity that some physicians pay so little attention to this trouble. Last summer our little two-year-old was taken ill. The milk we had been feeding her was poor. I think the milkman will have something to answer for in the little lives he has sickened because of his carelessness.

When our little one was taken ill the doctor seemed indifferent or ignorant of bowel trouble for had we not changed doctors I fear we would have lost her. Here are a few things I learned from her illness. Do not allow diarrhoea to run. As soon as it begins, give the child a spoonful of castor oil—if necessary, two. Discontinue milk until the child is well, give the child a little rice water for food, also gruel.

Recipe for rice water—Two table-spoons of rice in a pint of cold water. Let simmer in a double boiler for four hours. Strain through cheesecloth and put in a cool place.

Gruel—One-half cup oatmeal in a quart

of water—let simmer four hours—strain through cheesecloth.

Rare beef juice is very strengthening. Cut small half inch pieces from steak, put in glass jar in cold place over night. A teaspoon of this juice in a small cup of rice water or gruel is good food. These of course are given regularly.

Our doctor prescribed another food help for a child with diarrhoea. This is excellent. Take a bowl of wheat flour, put it in a cheesecloth rag and tie, then place bag in boiling water and boil ten

hours as you would a pudding. Then a crust will be formed around the flour.

Break through the crust and shave from the center a spoonful of the flour and put this in a glassful of the rice water or gruel. Use a spoonful of this flour several times in the food. I have known him to prescribe this for grown people. It is very healing to the bowels. Keep a woollen binder around the stomach. The stomach and feet must be kept warm and the child must be kept very quiet.

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Styles for the coming winter have now been established, and with a little change your furs of past seasons may be made to do service for another year.

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modern languages has any justification it is during these years. Memory for words, whether disconnected or ideally combined into great masterpieces of literature, is at its highest and best. And what is more interesting and significant, the power to memorize is to a large extent independent of the power to understand. The child feels keenly that the word has a tonal individuality quite apart from its meaning. Consequently, it is not strange that this is the age when not only slang is being most rapidly developed, but the age of gibberish, "hog Latin," and other linguistic monstrosities.

"Dexterity in piano and violin playing is learned easily if its foundations are laid at this period. If it is begun later, arrears have to be made up that involve more or less of a handicap. Just as it is hard for a person to learn the command of a foreign tongue as completely as his own after this period, so for the highest degree of virtuosity with musical instruments, it is desirable to begin at this stage of life. Indeed, it is generally recognized that all forms of industry which require exceptional control or development of muscular power are best begun at this age.

"Again, this is far and away the golden stage of mechanical memorization. Both reason and understanding are relatively undeveloped; the child is docile, recognizes and submits to authority. Moreover, whatever is thoroughly implanted so that it has become automatic can never be entirely lost. The child's mind receives peculiar impressions at this time. Drill, habituation, tables, even dates, and to some extent statistics and vocabularies that are essential, can be indelibly stamped on the mind, so that when the child later comes to years of maturer intelligence, it will rejoice to find itself already in secure possession of fundamental acquisitions that are indispensable for the conduct of its life. Lack of appreciation and utilization of these capacities at this age is perhaps the chief weakness of education in this country."

### TOY MAKING IN CANADA

When you buy toys for the little ones this year, be patriotic, ask where they are made.

In a bulletin published by authority of Sir George E. Foster, K.C.M.G., Minister of Trade and Commerce, I find this information from the address he delivered at The Canadian Toy Exhibition in Toronto.

In his opening address Sir George Foster said: "Before the war Germany and Austria-Hungary were the largest producers of toys. The exports of toys from Germany and Austria-Hungary in the fiscal year 1913-14 amounted to about \$26,000,000. It is a pretty respectable industry that will make and send out \$26,000,000 worth of such cheap articles, if you sent out that value in gold bricks not much freight capacity would be represented, but sending out that value of goods in articles that sell anywhere from ten cents to a dollar each, an enormous industry is represented."

Then quoting statistics of the toy industry in different countries, Sir George Foster continued: "Here we have a country (Canada) with a population of eight millions or thereabouts. There are lots of children and they like toys as well as the children of other countries, and the grown people like to see that the children get their usual supply of toys. In our country we have all the essentials necessary for the manufacture of toys of all kinds for our own use, and for export abroad in sufficient volume to cause us to organize and get ready for the greatest possible production of these things in Canada.

"I may say frankly that when I walked into the Exhibition yesterday I was surprised and delighted. I had no idea that Canada was making such a variety of toys, nor that I would see toys of such splendid quality and finish. I think the toy industry (and this includes products that are not restricted narrowly, but include articles of practical utility and for the physical development of children) is one of the most pleasant industries to engage in. Every one likes children, and all who engage

# OUR Closing-Out Sale

Means **Sweeping Bargains** in the Underrated Pianos and Player Pianos. Better instruments are not and cannot be made than these representative numbers of the famous Canadian Manufacturing House, the

## KARN-MORRIS CO.

The Underrated are new, or almost new and are in the pink of condition. Under any test or comparison, we guarantee **Perfect Satisfaction** with regard to character and tone of the instrument and the value is probably not approached by anything else of the kind in piano bargains now being offered.



### THE KARN-MORRIS PIANO & ORGAN CO. LIMITED

is retiring from the retail business—hence this clearance—and we **must** clear quickly regardless of price. These sale figures show a huge cut from the original prices, and besides this, we will allow a big discount for all cash payment on any piano we have:—

#### ALMOST NEW

Style A, fumed oak. Regular \$350. Now.....	Regular \$285	2 large Karn Players. Regular \$750. Now.....	\$590
Style B, walnut. Regular \$400. Now.....	Regular \$315	Karn Cottage Player. Regular \$700. Now.....	\$550
Style D, mission. Regular \$500. Now.....	Regular \$325	Morris Player. Regular \$650. Now.....	\$550

#### USED PIANOS

Karn Player. Regular \$750. Now.....	This is an excellent Bargain. \$550	Style Louis, Morris Piano. Regular \$400. Now.....	\$275
2 Morris Players. Regular \$650. Now.....	\$475	Style D, Karn Piano. Regular \$500. Now.....	\$275
1 Morris Player. Regular \$650. Now.....	\$475	Style 15, Morris. Regular \$450. Now.....	\$275
Style 5, Morris Piano. Fumed oak, as good as new. Regular \$350. Now.....	\$250	Style B, Karn. Regular \$400. Now.....	\$250

**ACT PROMPTLY TO SECURE YOUR CHOICE**

New House and Church Organs at Almost Half Price

## KARN-MORRIS PIANO & ORGAN CO. LIMITED

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WINNIPEG, MAN.

in it, V can be someth instructi during and yo and he tion hav say it impress for yo things t this cou not bar here in out. In looking them su dure the for arti may be efficient. "I had in Nelson he had there. ested an indust system helping t skill of t The men be the n If we or business instructi we want and com things th and the t rest. Yo all that t The Toy Make it a I was su ginity, i toys exhib make is the school There is t turing th We have dustry sho profitable when outd In the Pr have so I know who long winte made a li for old pe such an in there is th able sold opportunity their limits As a res ferent wor the follow are sending organization Whereas, classed of materialy "Made in t of toys; an Whereas, women's or assembled. I the Canada toys who I Fair" have "Made in C dolls and t may be ass the articles Be it th respectfuly Trade and t of Canada t knowledge as as possible fions, clubs, nals; feeling of Canadian all in their adian made c that if there required by made in thi to purchase o from and m nations. Resolved, t bers of w Toronto fur make the fol Canadian ma toys:—

in it, whether manually or in designing, can be conscious that they are doing something to make child-life happy and instructed, and also are aiding in producing from that child-life, young men and young women with healthy minds and healthy bodies. No other occupation has that human side. That is the way it impresses me and must, I think, impress others. While doing good things for yourselves, you are doing great things towards making the child-life of this country what we would have it, and not barren and profitless. I do not believe in toy monstrosities. Leave those out. In real life we have plenty of ugly looking men and we can afford to let them suffice, and not endeavor to reproduce them in toys. There is a fine field for artistic and instructive toys. This may be made one of the finest and most efficient branches of educational system.

I had a letter from a school teacher in Nelson, British Columbia, saying that he had introduced the toy industry there. The children are greatly interested and are doing splendid work. This industry connected with the school system will do a great deal of good in helping the artistic sense and technical skill of the children as they grow older. The men who make the "big strike" will be the men who get close to child-life. If we can have something in the toy business in Canada that is interesting, instructive and amusing, that is what we want. The Department of Trade and Commerce has gotten together the things that you see in the Exhibition, and the toy manufacturers must do the rest. You should be organized, even if all that is done is to form a committee. The Toy Fair should be held every year. Make it an annual event. I repeat that I was surprised and struck by the ingenuity, adaptability and finish of the toys exhibited. I think a wise move to make is to get into co-operation with the school teachers throughout Canada. There is much of the work of manufacturing that can be done in the homes. We have long winters, and such an industry should be gladly received for its profitable occupation during periods when outdoor amusements are restricted. In the Province of Quebec, where they have so many children, they do not know what to do with them and nice long winters, the toy industry should be made a home industry. In the homes for old people how blessed would be such an interesting employment. Then there is the utilization of returned disabled soldiers. They will receive the opportunity to profitably make use of their limited manual ability."

As a result of this exhibition the different women's organizations adopted the following resolutions which they are sending out to all of the women's organizations in Canada:

Whereas, women, being the chief purchasers of toys, have it in their power materially to assist or hamper the "Made in Canada" principle in respect of toys; and

Whereas, the representatives of the women's organizations of Toronto here assembled learn with satisfaction that the Canadian manufacturers of dolls and toys who have exhibited at the "Toy Fair" have agreed to make use of a "Made in Canada" stamp on all their dolls and toys, so that the purchaser may be assured of the genuineness of the articles bought;

Be it therefore resolved, that we respectfully urge the Department of Trade and Commerce of the Dominion of Canada to bring this matter to the knowledge of as many Canadian women as possible through women's associations, clubs, institutes, and to individuals; feeling as we do that the majority of Canadian women will be glad to do all in their power to foster the Canadian-made doll and toy industry, and that if there are other kinds of toys required by them that are not as yet made in this country they will desire to purchase only those that are imported from and manufactured by the allied nations."

Resolved, that this meeting of members of women's organizations of Toronto further suggest to the Canadian manufacturers of dolls and toys:



## New Prices August 1, 1916

The following prices for Ford cars will be effective on and after August 1st, 1916

Chassis . . . . .	\$45000
Runabout . . . . .	47500
Touring Car . . . . .	49500
Coupelet . . . . .	69500
Town Car . . . . .	78000
Sedan . . . . .	89000

f. o. b. Ford, Ontario

These prices are positively guaranteed against any reduction before August 1st, 1917, but there is no guarantee against an advance in price at any time.

**Ford Motor Company of Canada**  
 Limited  
 Ford, Ontario

Assembly and Service Branches at St. John, N.B.; Montreal, Que.; Toronto, Ont.; London, Ont.; Winnipeg, Man.; Saskatoon, Sask.; Calgary, Alta.; and Vancouver, B.C.

1st. That the said manufacturers give wide publicity to the fact that "Made in Canada" toys are procurable, as many people are still unaware of the fact.

2nd. That the said toys be legibly and prominently stamped "Made in Canada."

3rd. That the toys be durable, artistic, and otherwise satisfactory to child nature.

4th. That there be an annual "Toy Fair" at the time of the Canadian National Exhibition, and at similar exhibitions in other parts of Canada.

5th. That Canadian artists be employed in the work of designing Canadian toys.

Resolved, that this meeting suggest that women in all parts of Canada, as they are the chief purchasers of toys, in consideration of the great expense involved in the equipment of the necessary factories and machinery for the making of toys, be willing to support the said industries after the close of the war, as well as during the present crisis, and also be willing to pay the necessary small increase in the cost of toys due to the fact that in this country child labor is not made use of as has been the case in the making of toys procured from Germany.

Resolved, that this meeting respectfully suggest to the retail merchants that there be a special department

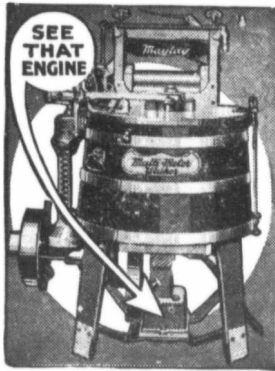
where toys are sold marked "Made in Canada."

Resolved, that this meeting request the importers of toys from the countries of the Allies to purchase only those toys that are used in the respective countries, not those made there especially in accordance with the ideas prevailing there as to what foreign trade demands.

Resolved, that this meeting respectfully requests the Department of Trade and Commerce of the Dominion, if endorsing the above resolutions to send copies to all the nationally organized associations of women in Canada, and to as many other associations as can be reached.

## Here Is The Most Practical Washing Machine Made

Exactly What You Have Always Wanted



### Maytag Multi-Motor Washer

It is equipped with a light, powerful, compact little engine that does all the hard work of washing and wringing, and does a bigger, better and cleaner washing in an hour or two than you can possibly do with a wash board and tub in a day's time.

This washer takes up no more room than an ordinary wash tub and can be used in the kitchen, laundry, dining room, on the porch or out in the yard. It requires no belts, chains or pulleys, no electricity or water power, and no waiting for the man to bring his engine from the barn.

Besides running the washer and wringer, the machine is equipped with pulleys so you can operate other small machinery such as churn, sewing machine, food chopper or anything else that does not require more than one-half horse power.

THE MAYTAG MULTI-MOTOR WASHER is splendidly made of the best materials and is guaranteed against defects for a period of THREE YEARS and this warranty covers the washer, wringer and engine. This is not an ordinary washing machine, but something new, with exclusive patented features that no other washer has or can have.

WASH-DAY, and that is WORK-DAY, changed into PLAY-DAY.

Goodbye backache, headache, nerve wreck. No woman need bend over the wash tub as her grandmother did, nor turn the old-styled washer as her mother did, if she has a MAYTAG MULTI-MOTOR.

Nearly FIVE HUNDRED of the wide awake, up-to-date, progressive hardware and implement dealers in Manitoba, Saskatchewan and Alberta are selling this machine. If YOUR dealer is not, drop us a card and we will mail you a copy of THE MAYTAG LAUNDRY MANUEL (48 pages). Even if you do not buy a washer, it will be a great help to you as it contains many valuable formulas and receipts that can be used to advantage in any home. It IS FREE.

ADDRESS

*The Maytag Company Limited*

WINNIPEG, MAN.

### WHAT COUNTS?

A young and famous actress was speaking the other day of another actress, still more famous but no longer young.

"She has retired," said the young actress, "a victim of melancholia. She says that her life has been a failure."

"A failure!" exclaimed the listener, "After her marvelous life—her classic art—her fame—her applause!"

The young actress nodded. "I know what she means. She is fifty and she has had no children."

"But think of the joy she has given the world! Think what she has given of herself to the public! Her name will never die, just as Siddons's hasn't."

The young actress shook her head. "Women know what counts. Can a shelf of books, or a painted portrait, or the memory of applause salutes a woman of fifty? You know and I know, as she knows, that there is just one thing that gives a woman knowledge that she has sounded the ultimate depths of living—that she has done her share. Even if her children die, or turn out badly, she has the satisfaction of knowing that at least she did her utmost to hand on the torch. The most that can be got out of acting, if the actor dares to be honest, is the pleasure won by honest hard work and pride of craftsmanship."

A manner of world repute spoke for the first time. "If that is the way women feel about children," he asked eagerly, "why is it so many young mothers act like martyrs or like prisoners?"

"Because," replied the young actress, "they don't see that theirs is the opportunity for the finest kind of pride of craftsmanship. They are prisoners, and so they have no sense of values. It's only we childless ones that know."

And the manager looked puzzled but the woman listener, who was childless, understood.

### WONDERFUL DAYS ARE THESE

Have you ever been hungry for trees? I was this summer. I wanted to go away under trees and listen to the leaves whisper messages of God's overpowering presence in "times like these." I had that privilege last month and one day, while drinking in the sweet intoxicating tonic from nature's quiet store, I read this beautiful paragraph from The Ladies' Home Journal:

It is a wonderful time of the year for folks in deep distress or sorrow: a time when we can go to nature in time of stress. Many of us turn to hard work when we are sorrowed, and the relief there found is not to be made light of. But there is a solace in nature that is beyond words! The sunshine may be a little too bright; the song of the bird may be a little too cheerful. But a tree!

"A tree that looks at God all day. And lifts her leafy arms to pray," as John Masefield says. The difference between going through overwhelming trouble in a room and going through overwhelming trouble outdoors is the difference between unbearable and bearable. Not nature alone, oh no! But nature with religion and work. These react on one another, and what we have to bear we can bear with their help. "And look through nature up to nature's God."

### HINTS IN HOUSEKEEPING LEARNED FROM A BACHELOR

It was my privilege to spend a few days in a cottage owned by a bachelor, and I learned some valuable ideas in housekeeping from his neatly arranged home. My first impression was this: "A place for everything and everything in its place."

Above the range he had a steel frame that had been made to order at the hardware store. This frame was fitted with hooks for covers, spoons and cooking utensils. It was fastened within reach above the stove, and the necessary cooking furnishings were high and dry, and could be reached without taking useless steps. Around the stove were brass

hooks of all kinds for the rest of the cooking necessities. I noticed hooks in wooden handles made to hang up.

At another place hung the broom and dustpan. He had screwed a hook at the end of the broom and one on the wall for the broom to hang on. Then immediately under the broom was the dustpan. The water was piped from the pump to the house and a gasoline engine pumped the water.

Over the pump-house a room was screened on the four sides. This made a cool sleeping room for summer. It was like a nest among the trees and made a most inviting place for sewing or reading in the afternoon. The kitchen door opened out into a room screened in on all sides and overhead. This will be covered by a vine, and it is an ideal place for dining. I found it just the place to prepare the meals—it was cool and near the kitchen.

The cottage was neat and clean in every corner with conveniences few women think of, and I enjoyed "keeping house" for the week. I wonder if you women realize the value of little conveniences that we might have with little effort. I came away from this cottage with this thought: we women may learn a great deal from bachelor house-keepers.

### Father's Corner

By P. R. H.

What beautiful satisfaction is created by a child's confidence in his father. The mother's example in the home-life is largely responsible for the respect or disrespect of a child towards his father. If a daughter and her father are companionable, there is very little danger of that daughter wandering far from the right, for the father, as a rule, knows safe and desirable companions and places. He is a good judge of human nature.

I have in mind a mother who resorted to various falsehoods to get money from the father for clothing and luxuries. She

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**Used for making hard and soft soap, for softening water, for cleaning, disinfecting and for over 500 other purposes.**

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TORONTO, ONT. CANADA

and the children worked together in creating schemes. These children had little respect for their father, and their mother hungered for the sympathy of his children. A son who was just at his reckless age spent his earnings in places that would eventually wreck him physically, mentally and morally. The father realized this and determined to charge him for his board and room. The mother was furious. No amount of persuasion could convince that mother that her son was not perfect. Mothers are afflicted more with parental blindness than are fathers. When the lad became twenty, the father informed him of a nice bank account. Unknown to the boy and his mother, the father had deposited to

"QUALITY First, but at a Competing Price"

## "Gold Drop"

is based on quality first, but is sold at the same price at which many inferior brands are offered. Our spot-cash method of doing business allows us to offer this dependable flour at a reasonable profit.

Ask for "Gold Drop" the Flour that is Always Good



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the son's account every cent of his board and room money for four years. That young man, in later years, said to me: "What I am, I owe largely to my father. At the critical time in my life he prevented me from going my own way." Firmness more than indulgence saved him.

The other day a twelve-year-old girl impudently called her father down because he bought something that she did not like. Evidently she had heard her mother criticize the purchase. This spirit developed in the child until she has absolutely no respect for her father, and he is a splendid man. I fancy he is sensitive to this abuse from his daughter but is too proud to speak of it.

We have been laying practically all the responsibilities and glories and duties and rewards into the mothers' hands and have neglected the child's "father." This is an injustice; for in so doing we deprive the child of perhaps the most helpful and broadest influence that could come into his life.

A child who is robbed of his rightful love and respect for his father, and of his helpful companionship, and the strength and inspiration which a wise and understanding father can give, is not only cheated and impoverished, but is weakened and harmed beyond the power of future years to mend. Neglect of father and exaltation of the mother is a national fault. The influence of both is most valuable, and when the father and mother are united in perfect harmony, a strength of character is developed in the child that can never be broken, no matter what the future may offer.

Last year I read a letter from a son to his father. The son is one of our brave soldier heroes. I shall never forget that letter. I read it over and over again. The tears came to my eyes. The letter was not long, but I read between the lines evidence of a splendid companionship between father and son. Little expressions of affection indicated a tone of love that had existed from early boyhood. I have never read a letter like it, so full of love, confidence and respect did that son have for his father. As I put the letter back into the envelope, I thought: "Young man, your father need spend no time worrying over temptations you may be called on to face. Your companionship with him has made you strong and manly with ambition only for the great and good and mighty." Then it came to me as never before what that father sacrificed when he said: "Go, my son; your country needs you!" I need not add that the son felt the call before his father spoke. There is a certain steadiness and power in the influence of conscientious fathers, and something quieting and enlarging that comes to a child with their companionship, that this association creates manly heroism in boys and womanly loveliness in girls.

**CAMPING WITH DAD**

By Bertha Gerneaux Woods  
I always feel so gay and glad  
When I go camping out with Dad.  
He's just as full of jolly tricks  
As any boy. We gather sticks  
And make a fire that blazes high,  
To cook our supper—Dad and I.

It's queer how good it all does taste,  
And not a single crumb we waste,  
Why, just brown bread seems good as  
cake.

And when our sunfish from the lake  
Are nicely fried, I say "Oh, Dad!  
This is the finest meal we've had!"

**A "FATHER'S DAY" PREDICTED**

Will those interested in this new corner write letters? We want a splendid department in this venture, and look to the "fathers" and those who respect and honor their fathers, to help us. Anything that will be a tribute to "fathers" will be gratefully accepted.

"A boy's love for his mother may be the most sublime and beautiful theme of poet and preacher, but his love and esteem for his dad are strategic in the making of character."

Such was an interesting statement in

# McClary's Kootenay makes good cooks



I

Is it the proper thing to ask a woman to tinker with a range? Is there any reason why she should have to juggle things about the oven to keep them from burning; or "coax up" a slow oven; or why she should struggle with cranky grates? And yet how many women have to work against such odds!!

There are any number of women who *think* they can't cook when the whole trouble lies in the poor ranges they are trying to use.

Let the same women have a Kootenay,—let them get rid of the mechanics of running cantankerous ranges,—and they will cook as well as the next woman.

## Do you know enough about Ranges?



Our illustrated booklet explains clearly the features of fuel economy, of durability, and convenience, that have made the Kootenay famous. Mail the coupon to the factory. Just as a reminder to get your copy, tear out the coupon now.

## McClary's

London Toronto Montreal  
Winnipeg Vancouver  
St. John Hamilton  
Calgary Saskatoon  
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**Tear off this Coupon**

Kindly send me a copy of your booklet about the Kootenay Range.

Name.....

Address.....

the course of a popular sermon delivered by the Rev. W. J. Hindley, in Central Congregational Church; in his answer to "What's the Matter with Father?" that question once raised in jest and ribaldry.

"I want to see father come into his own," continued Mr. Hindley, "for his own sake and for his home, but more than all for the sake of the world, where the great problems of our times can never be solved without father. But the father must merit this appreciation, must win that right. I hold no brief for this sturdy member of the sterner sex; he has many faults and failings, some of them so serious that they threaten the very permanency and security of our civilization. I merely suggest that a possible explanation might be found in the attitude of many homes and families who never seem to expect father to be anything more than a provider of the family meal ticket.

**Where Dad Comes In**

"Honor thy father and thy mother," the speaker remarked, is a commandment of dual obligations. Mother is always honored, having proved herself worthy of this reverence and homage, but dad can only come in for his rightful share when he shows that he should be similarly respected. There shall be no double standards for him, no special privileges, but community moral laws.

"There is no greater waste in the world to-day than the waste of the fathers' brains and hearts in their homes," contended Mr. Hindley. "Hitherto, it has been the mother who has cared for the educational and religious training of the children while father earned the daily bread or has been too busy with politics. But the day of this division in the home is passed, and father must assume his responsibility for ideals and share with the mother the

moral and ethical education of the family.

"The Bible is emphatically a man's book. Over 95 per cent of its characters are men, who were heads of their own households and priests in their own families; when God revealed Himself to the world He did so in the form of a man, and when that wonderful Man gave us the model prayer it was prefaced with the two great words, 'Our Father.'"

**Fathers' Day Predicted**

Mr. Hindley said that the day will come when every church calendar will include a Fathers' Day; when literature and song will be enriched with its tributes to a father's strength and lofty ideals, as to-day it is with a mother's love and sacrifice; and the problems of the world will be solved when father and mother, sister and brother, are an undivided family in the golden bonds of Christian faith and service.

Story of a Great Opera

Cont'd from page 41

lost her mother and burned her own baby, and when you listen to Il Trovatore, you are listening to this story.

The stolen child lived with the gypsies and grew to be an honorable man and was named Manrico. He was a troubadour. Who were the troubadours? They were just some wandering fellows who could sing and write poetry. They frequently attached themselves to the courts of kings and nobles, whom they praised or scolded in their songs, just as they happened to feel. Sometimes they selected a beautiful lady and addressed all their love songs to her.

When Manrico was grown to manhood, his father, the Count de Luna, had died, and his elder brother had taken the title. Manrico appeared at the palace of Count de Luna, during a tournament, and was crowned victor by the Duchess Leonora, a beautiful lady. Manrico and Leonora fell deeply in love with each other, and he sang many songs under her window. One night the elder brother (now the Count de Luna), while out in the gardens, was surprised to hear the voice of the singing troubadour, little dreaming that this wandering singer was his own brother. The Duchess Leonora came in from the palace, and mistaking the count for the troubadour, hastened to him. Manrico saw this and became jealous. He and the Count de Luna fought a duel. Manrico was not injured in the duel, but he immediately joined the army. One terrible day, Manrico was wounded and left on the battle field. Azucena, his foster mother, found him and removed him to her home in the mountains and nursed him back to health. He was about to take up his wanderings as a troubadour again, when he learned that the lady Leonora was mourning him as dead and was about to go into a convent. Manrico set out in great haste and overtook her just in time to save her. He conveyed her to Castelbor and that place was besieged by the Count de Luna. Manrico and Leonora were preparing for their speedy marriage, when word was received by them that Azucena, the gypsy woman, who was supposed by Count de Luna to be Manrico's mother, was about to be executed as a spy. Manrico hastened to her rescue but was taken prisoner. The Count de Luna then named the day when Manrico and Azucena should be executed. The evening before the day set for the execution, Leonora appeared before the Count de Luna and offered to marry him if he would give Manrico his life and liberty. The count was so glad to have Leonora for his bride on any terms whatever, that he gladly granted her request. Leonora begged to be permitted to enter the prison and release Manrico, and she was allowed to do so, but on her way she took poison rather than marry the man she did not love. Manrico, who had doubted Leonora, now saw that she was faithful even to death, and took her in his arms, just as Count de Luna entered the prison. The count was furious and ordered Manrico executed at once, and during the execution, he dragged the gypsy woman, Azucena to the window to witness what he supposed was the death of her son. At that moment Azucena revealed her secret in a frenzied scream, crying aloud: "Mother, my tortured mother, and my poor, burned baby, I have avenged you. Count de Luna, Manrico is your own brother."

In this opera Verdi tells a story of love and faithfulness and hatred and revenge in the beautiful language of music. The famous Naxos Chorus is supposed to have taken place in the camp of the gypsies, where Manrico spent his boyhood days.

THE HOUSEWIFE AND HER STREET

When a housewife sets her indoor realm in order, she finds a sense of satisfaction in seeing that order preserved throughout the day. If she lives on a clean, well paved street, bordered with strips of grass, concrete walks, curbs and gutters, her house-cleaning drudgery will be reduced to a minimum because the children, who will play in the street despite all commands to the contrary, will not be so likely to track up the floors and rugs with muddy feet.

Street paving, therefore, has a direct relation to house-cleaning - to the cleanliness of the home.

Under the old order of things the housewife gave but little attention to the problems involved in building and maintaining a clean, permanently paved street; that was a matter for the town council; and the town council, being more or less of a political machine, gave little consideration to the interest of the housewife. The fact that her window curtains were heavily laden with grime, blown in with every passing breeze from a dirty and poorly cleaned street, was never a matter of sufficient importance to bring even the most glib town councilman to his feet in her defence, so accustomed had the town council grown to look upon street paving and street cleaning as being wholly foreign to the indoor realm over which the good housewife so graciously and lovingly rules.

But that old order is changing. When changing the day the queenly housewife put on her gloves and went out to take a hand in the election of school directors. Coming home it appears to have dawned upon her consciousness that she had some rights involved in the manner in which her street was being maintained. Her inborn desire for comfort and cleanliness went beyond her front gate, and she began to demand more attention to elegance and permanence in the construction of the thoroughfare upon which she lived. She came to realize that her street was her front door park, over which the truck driver was allowed to transport his load as a matter of communitary custom and as a means of rendering community service one to another.

Concrete is the modern paving material for the modern street. From beginning to end the concrete street is built for permanence. The housewife is not annoyed with the presence of street repair gangs periodically tinkering with holes in the street. Her husband, who pays for its construction, pays for it once only. Being smooth and non-absorbent it is more easily cleaned than any other type of street paving material. Rubbish does not collect so readily on a concrete street, and every passing shower washes the surface, making the street clean and sanitary.

Concrete pavement is the housewife's ally in reducing house-cleaning drudgery to a minimum, and because of its elegance and permanence it adds to the stability of the real estate value of her home. As in every other use to which it is intelligently applied, concrete on the housewife's street will pay for itself in reduced labor, giving her more time for instructive play with her children and more time for her social hours with her neighbors.

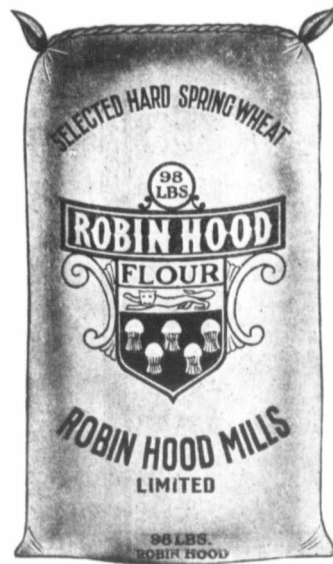
A GREAT PIANO AT HALF PRICE

To get one of the very finest pianos made or marketed in Canada at something like half price, must be a matter of more than ordinary "news value" to many readers of The Canadian Thresherman and Farmer. That this can be done while the limited number of pianos to be disposed of remain unsold, is guaranteed by this paper, and the guarantee is without qualification as per clearly defined statement on editorial page.

Here is the reason why this advantage can be obtained from one of the leading firms in the Dominion, a manufacturing house that need never resort to any unusual measure or blandishment to force a sale at its regular and very reasonable prices.

As is well known, the Karn-Morris is a manufacturing house, and therefore is expected to market its products by the wholesale method. But like many other musical instrument houses, it has for years sought to reach Western buyers by establishing retail branches at distant points from the factory, where the householder or impresario could purchase a Karn-Morris piano really at first hand.

For some time, however, the impression has obtained that the marketing of the pianos to the public should be left in the hands of the retailer, particularly



The ROBIN HOOD brand on your sack of flour is your insurance against poor bread on baking day. Read the "policy" below:



Have you secured one of the highly-prized ROBIN HOOD Cook Books? Ask your dealer to give you full information.



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in the conduct of branch establishments. This in fact, has now become the conviction of the General Manager, Mr. E. C. Thornton, and as the outcome of a recent visit to Winnipeg, he arranged for the discontinuance of the retail branch at that point.

Apart from the ethics of the matter, Mr. Thornton states that the wholesale business of the house has increased so rapidly of late, it has become practically impossible to get sufficient men to turn out the increased production. For this reason, and in keeping with the company's policy of specialization, the steps we have referred to are being taken, it would seem no less in the interests of the home-purchaser, as in that of the trading representatives of the big manufacturing house.

Arrangements are now being made for the disposal of a fine representative collection of the Karn-Morris instruments at Winnipeg, particulars of which will be found on another page. The sale of these extremely fine pianos and player pianos will be conducted by Mr. E. J. Merrell, who for many years has represented the Karn-Morris people in the West. He is a well known and much respected personality in musical circles, and from our personal experience of him, and of the splendid record of the "Karn-Morris," we can say that the occasion offered is one of a really exceptional character.

There are many other pianos, of course, but there is not a better piano made in Canada than a Karn-Morris, and at the prices named we urge any interested reader to seize the opportunity while it can be taken advantage of.

**A GREAT CANADIAN PRODUCT FROM SHEET METAL**

Not in many moons have we had presented to us so fine a catalogue of anything in domestic art as the new catalogue of the Winnipeg Ceiling and Roofing Company, Limited, of Winnipeg. It contains 170 pages of finely illustrated details in raw material, finished effects and impressive structures of one kind and another, all of paramount interest to the farmer to the man who desires to build, from a hog-pen to a palace.

Starting with many thousands of tons of raw material in galvanized and black sheet metal, tin plate, terne plate, Canada plate, copper, zinc, etc., this company long ago "brought home" its character to the farmers and home-builders of Western Canada as one of the largest, most complete and most thoroughly satisfactory houses of the kind to have any business relations with.

The catalogue before us starts with a wonderful display of ceiling designs, corn pieces, side wall, and panel effects, friezes, cornices, etc. The art work in these is of a type that is far away from the ordinary, and is a revelation when compared with the heavy and depressing lines that are still to be seen in many old time interior decorations of the kind.

Corrugated roofing adapted to all manner of buildings is next in order, but the Winnipeg Ceiling and Roofing Company score particularly with their own splendid ideas in "Winnipeg" shingles, Spanish tiles and continuous sheets for houses, verandas, mansards, garages, etc.

It is not possible in a brief space to do anything like justice to the exceptional quality and style in evidence in every phase of this company's product. Of special interest to our readers are the celebrated portable corrugated granaries which have been referred to again and again in these pages, and are now familiar figures everywhere in our Western landscape.

Their model modern barn is alone "a trick to confound with," and we reproduce (page 14) one of these recently completed. There are no posts or cross ties inside the loft. These are unnecessary as the roof is self supporting. It represents a half circle without any breaks and is, therefore, of equal strength in all parts. The details of this barn are alone worth a great deal if only as a demonstration of real genius applied to a barn structure that is at once inexpensive, strong and having an appearance and points of convenience far ahead of most modern barns now in use. The Winnipeg Ceiling and Roofing Company will be glad to send these particulars and costs free to any interested enquirer.

Readers of all Western farm journals are familiar with the MAN brand of this company's farm specialties. "MAN" means maximum value in lines that have been specially designed and made to meet Western needs. The "Max" lines include such details as the granary already referred to, stock watering troughs in various designs and in all convenient sizes, wagon tanks, etc., made of best quality 20-gauge galvanized steel. These troughs are practically everlasting, and anything extra over the price of almost any other idea in watering troughs is quite inconsiderable.

The "Max" stock trough heater is something quite away from anything else of the kind in use up to this date. It is light, easy to handle, takes up no unnecessary room in the tank, and can be removed from the tank and replaced again when necessary with little effort.

Another member of the rapidly increasing "Max" family, is the shipping storage and half-barrels which we have illustrated and described in this magazine more than once. Finally, there are few things if there is anything that can be made from sheet metal that is not represented in this really fine work. It is not intended for general distribution, but if any reader has an itching to know something more than we have given on any specific line mentioned, he has only to drop a card to our friends.

Our salvation is not in sacrifice, but in production.—David Gibson.



Cleans churns, hygienically —purifies every part and leaves no greasy films.

**Old Dutch**



**Gold Standard**  
Guaranteed-the-Best **TEA**



Especially beneficial to elderly people. Pure and stimulating, with no after effect.

Gold Standard  
Mfg. Co.  
WINNIPEG

**YOU GET THE BEST HEATING SYSTEM ON THE MARKET WHEN YOU BUY THE**



**HECLA**  
WARM AIR  
**FURNACE**

It is a saving and a satisfaction. It saves one ton of coal in every seven used.

**If You Are Interested**

in Hot Water or Steam Heating, ask for our Catalogues telling you in detail about our "Adanac" and "Imperial" boilers and Hydro-Thermic (Steel) Radiators.

**CLARE BROS. WESTERN LTD.**

Dept. I WINNIPEG, MAN.

Tear off

Coupon **CLARE BROS. WESTERN LTD., Dept. I, WINNIPEG, MAN.** Please send me "COMFORT and HEALTH"—Catalogue of "ADANAC" and "IMPERIAL" BOILERS and "HYDRO-THERMIC (Steel) RADIATORS." Mark which publication you would like to receive.

Name \_\_\_\_\_ Address \_\_\_\_\_



"E spends all e's time between 'oppin up to 'eaven and droppin' dahn on e's knees, sir."  
"Very well; get another and give this one — with my compliments — to the chaplain."

**22-inch Switch  
\$1.98 Special**

**Switches  
Hair Goods**

Ladies, send us your combings. We make them up into switches at 50¢ per ounce. We will add new hair as desired to combings at from \$2.00 upwards.

Satisfaction Guaranteed

**Elite Hairdressing  
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**FOR SALE AND EXCHANGE**

Handbowed for the benefit of Dealers, Farmmen and Farmers who have anything to sell or exchange. Five cents a word for each insertion.

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The new invention to save Gasoline—i.e., 1½¢ of GASO-TONIC mixed with Gasoline will increase your mileage from 25% to 40% if used in a car. In addition it will clean all carbon and keep the engine clean, and easy to start. GASO-TONIC has the same effect if used in Gasoline and Kerosene Tractors. Be sure and get your fall supply and save gasoline and engine troubles. Trial Can, \$3.00. Agents wanted. Address VOGTS Ltd., Neville, Sask. Sole agents.

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SHORT STORIES AND PHOTO-PLAYS AT HOME in Spare Hours. Our Courses are thorough and practical. You earn while you learn. We market your product. Ours is an all Canadian School. Our Instructors are Canadian authors well known to you. Write for our Preliminary Test Examination, or better still, send us something you have written, for free criticism.

**FOR SALE.**  
Second hand rebuilt machinery at our Winnipeg Branch, consisting of:  
Steam engines of all sizes, both traction and portable;  
Gas and oil engines, also  
Second hand rebuilt separators.  
If you are looking for second hand machinery, it will pay you to get in touch with us. We can save you money. Our machinery is rebuilt in our own shops by competent workmen. We have a bargain for you. For particulars, address:  
**J. I. CASE THRESHING MACHINE CO.,**  
Princess and James Streets,  
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**WILL TRADE GOOD QUARTER** near Moose Jaw for gas or oil plowing rig. Give complete description of rig in first letter. Curtis Baldwin, Sparta, Mich., U.S.A.

**STATIONARY GAS ENGINES—**Have six splendid new, water-cooled engines in perfect order, running from 1½ to 6 h.p. at prices from \$40 to \$198. Must realize within a few days and am offering at less than makers' cost. R. S. Ewing, 200 Union Trust Bldg., Winnipeg.

**KITCHENER AND THE GREAT WAR.** Thrilling story of conflict on land and sea including Canadian heroism and achievement. New. Profusely illustrated. Tremendous sale. Unusual opportunity for money making. Extra terms. Freight paid. Credit given. Sample book and full instructions free. Winston Co., Toronto.

**"GEISER" PORTABLE ENGINES,** single cylinder, 20 and 22 h.p., one new and two rebuilt. Liquidator offers these at knock-down prices to effect an immediate clearance. Write for particulars. This is a record opportunity to get the best power machinery made, at less than cost. R. S. Ewing, 200 Union Trust Bldg., Winnipeg.

**The Arts & Letters School**  
1 East Adelaide Street  
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**TWO 45 H.P. GASOLINE TRACTORS,** one new and one rebuilt, \$2,200 and \$1,700 respectively. These prices are far below what the material would cost at present date. This is a rare opportunity. R. S. Ewing, 200 Union Trust Bldg., Winnipeg.

**O.A.C. No. 72 OATS—**The great new oats introduced by Ontario Agricultural College. The greatest oats for yield and quality ever introduced into the West. We have the genuine article grown from registered. Price 75¢ per bushel. Eureka Pedigreed Seed Farm, Melita, Man.

**GAS TRACTOR, BARGAIN!**—Rebuilt Pioneer '30," good as new. Address C. T., Box 2184, Winnipeg.

**YOUNG MAN** wants job as engineer on threshing machine. Have never run an engine but have fired three seasons. State wages. Address J. Erickson, Otto P.O., Man.

**TWO YOUNG MEN,** experienced mechanics, would like position to operate gasoline or steam tractor harvesting and plowing outfit. Have built both gasoline and steam tractors. Are willing to make repairs whenever necessary. Write, stating wages and location. Will come at once if satisfactory. Alired Coleman, Y.M.C.A., Hamilton, Ont.

**The Baby**  
A Guide for Mothers

Savory & Moore Ltd.  
115 St. James Street  
Winnipeg, Manitoba

**Prompt Service on Plow Shares**

12-inch	\$2.10	15-inch	\$2.70
13-inch	2.40	16-inch	2.70
14-inch	2.40	18-inch	3.00

**WRITE FOR NEW CATALOGUE**

Complete line of Wood Goods, Pumps, Harrows, Packers, Steel Truck Wheels, etc.  
**THE JOHN F. MCGEE CO. 74 Henry Ave. E. WINNIPEG**

**SAVORY & MOORE'S BOOK**

Messrs. Savory & Moore, Chemists to The King, and makers of the well-known Infants' Food, issue a little Book entitled "The Baby," which gives a great deal of useful information on the Care and Management of Infants.

**A USEFUL GUIDE**

The book contains hints on Feeding, Teething, Development, Infant Ailments, and such matters as Sleep, Exercise and Fresh Air, which are so important for baby's well-being. It also contains a chart for recording baby's weight, a dietary for older children, and recipes for simple nourishing dishes. It forms, in fact, a useful mother's guide, which should find a place in every home. It is not intended to take the place of medical advice, when such is needed, but it will often serve to allay needless anxiety, and indicate the right course to be pursued.

**FREE TO MOTHERS**

Those who are genuinely interested in the subject may obtain a Free copy of the Book by sending name and address on a postcard to Savory & Moore, P.O. Box 1601, Montreal.

**TO CLOSE OUT**  
LAST OF THE SEASON

**Hettrick Endless Canvas  
Stitched Thresher Belts**

**SIZES IN STOCK:**

150 feet	8-inch	5-ply	\$55.00
150 feet	8-inch	6-ply	75.00
120 feet	8-inch	5-ply	45.00
100 feet	8-inch	5-ply	38.00
100 feet	8-inch	4-ply	31.00

These belts are No. 1 stock, and at the prices will not last long. Cash must accompany order

**Power Supply Co. Rear 328 Hargrave Street  
WINNIPEG**

**Myers Tank Pumps**

**ARE EASIEST TO OPERATE**

The Patented Cog Gear Head on Myers Tank Pumps, saves one-third of the operating power. They will be appreciated by threshing men, for using one of the old style pumps is tiresome work. The valves are located under removable, individual caps, where they can be easily reached. Water ways are large, allowing for the passage of the water. Valves at the top of the poppet pattern with brass seats.

Write for booklet, the Myers Tank Pump, F. E. Myers & Bro. Ashland, Ohio.  
Ashland Pump & Hay Tool Works

**BOOK ON DOG DISEASES**  
And How to Feed

Mailed Free to any address.

**H. CLAY GLOVER, JR.**  
115 West 31st Street, Toronto

**RIDER AGENTS WANTED**

In every locality to ride and exhibit a 1910 bicycle. Every bicycle dealer who is not exhibiting this year will be given a special inducement. We will mail Free, Postpaid, a beautiful ART Folder, showing the latest styles of bicycles, and a list of agents. Write today. HYSLOP BROTHERS, Limited, Dept. 21 Toronto, Ont.

**STOVEL COMPANY Limited.**

High class Engravers  
WINNIPEG  
PHONE G. 1600.

**SYNOPSIS OF CANADIAN NORTHWEST LAND REGULATIONS.**

THE sole head of a family, or any other person, who has been cultivating the land in each of the following Provinces, Saskatchewan or Manitoba, Saskatchewan or Manitoba, Applicant must appear in person at Dominion Lands Agency or Sub-Agency in the District. Entry by proxy made at any Dominion Lands Agency (not Sub-Agency), on certain conditions.

**Duties—**Six months residence upon cultivation of the land in each of the above Provinces. A homesteader may live on some miles of his homestead on a full 160 acres extra cultivation. A habitable house is required except where residence is performed in the vicinity.

In certain districts a homesteader's good standing may pre-empt a quarter-section along his homestead. Price per acre.

**Duties—**Six months residence in each of three years after ceasing homestead upon 160 acres extra cultivation. Pre-emption patent may be obtained on homestead patent, on certain conditions.

A settler who has exhausted his homestead right may take a purchased homestead in certain districts. Price \$100 per acre. Duties—Must reside six months each of three years, cultivate 50 acres, erect a house worth \$200.

The area of cultivation is subject to re-tuction in case of rough, scrubby ground. Live stock may be substituted for cultivation under certain conditions.

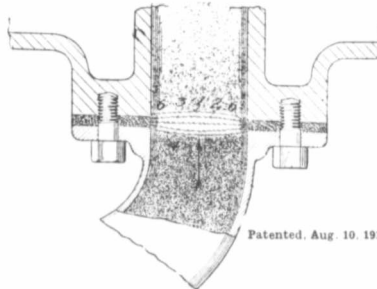
**W. W. CORY, C.S.**  
Deputy of the Minister of the Interior, N.B.—Unauthorized publication of advertisement will not be paid for.

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is the Result of  
Using a

For Automobiles  
**\$5.00**  
Tractors and Stationary Engines  
**\$15.00**  
POST PREPAID

## Crouch



## Vaporizer

Easily Attached in 5 Minutes  
by Anyone

On Gasoline or Kerosene  
Tractors, Automobiles and  
Stationary Engines

HERE ARE A FEW OF THE THINGS IT WILL POSITIVELY DO FOR YOU:

- 1—It will save from 16 to 20 per cent fuel consumption.
- 2—It will increase the horse power.
- 3—It will practically eliminate carbon deposit.
- 4—It will help the ignition system to do its work properly.
- 5—It will aid greatly in cold weather by bringing about more perfect vaporization of the fuel.
- 6—It will cause your engine to run much more smoothly.

### READ WHAT A FEW USERS THINK ABOUT THE CROUCH VAPORIZER

Crouch Vaporizer, City 6th April, 1915  
Gentlemen,—I installed a Crouch Vaporizer on my 1914 Model Ford Car, and after a test of about one week from every standpoint, I do not hesitate to recommend it highly for Ford Cars, and I think that the same would apply to any other make.

Messrs. T. C. Crouch & Co., 405-6 Canada Building, Saskatoon, Sask., July 19, 1915  
Gentlemen,—I take pleasure in advising you that in running trials on the Exhibition Track to-day I secured the following results with your Vaporizer:  
Without the Vaporizer, 18.2 miles per gallon.  
With the Vaporizer, 21.5 miles per gallon.

After this test thoroughly worked out, I fully believe a saving of 15 per cent can be had on gasoline, and much more power, outside of engine running with apparent ease.  
Yours very truly,  
GEO. O. FULLER, Mgr. Reliance Lumber Co.

The gasoline was in a special one-gallon can connected direct to the carburetor, independent of the gasoline tank, therefore there can be no question as to the measurement, which was the same in both cases; also, I found while driving that the engine responded more quickly, and I had evidently more power when using the Vaporizer.  
Yours truly, E. HANSON, City Electrical Engineer, Saskatoon, Sask.

### READ THIS AFFIDAVIT OF ONE WHO HAS TRIED THE CROUCH VAPORIZER WITH KEROSENE

Form No. 369—STATUTORY DECLARATION—1-11-14. CANADA PROVINCE OF ALBERTA

To Wit:  
I, CHARLES HOUCHEUR, of the Town of Caer, in the Province of Alberta, farmer, do solemnly declare:  
1. That I have owned and operated a T. Eaton 4-horsepower gasoline engine for a period of 4 years.  
2. That on or about the month of May, 1914, I purchased from Thomas Crouch one of his Vaporizers for an internal combustion engine and had it placed on my said 4-horsepower T. Eaton gasoline engine.  
3. That after placing the said vaporizer on my said engine I noted the following results:  
(a) That whereas the engine formerly had scarcely sufficient power to operate a crusher with a 4-inch plate, after putting on the vaporizer the power was so much increased that I purchased a crusher with an 8-inch plate, and the engine now operates the crusher with the 8-inch plate better than it formerly operated the crusher with the 4-inch plate.  
(b) That I also noted that in sawing wood the power of the engine was very much increased.  
(c) That there also was a substantial reduction in the amount of fuel consumed.  
(d) That whereas I could formerly use only gasoline in the said engine, with the vaporizer on it operates equally well if not better with kerosene or other low grade oils.  
And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of "The Canada Evidence Act."  
C. HOUCHEUR

Declared before me at the Town of Caer in the Province of Alberta, on the 26th day of February, A. D. 1915.  
W. A. GILCHRIST, A Notary Public.

### Tried. Tested and Endorsed

BY A. R. GREIG, PROFESSOR OF AGRICULTURAL ENGINEERING, UNIVERSITY OF SASKATCHEWAN, SASKATOON, AND OTHER EXPERTS

## The CROUCH VAPORIZER Will Save Its Cost Many Times Over The First Month You Have It

GUARANTEED FOR LIFE OF ENGINE. MONEY BACK IF NOT SATISFACTORY AFTER 20 DAYS' TRIAL

### Every "Crouch Vaporizer" Sold with this Guarantee

### WARRANTY CERTIFICATE

The Crouch Vaporizer is hereby sold to you under a guarantee to perform the functions for which it has been attached to your engine, for the life of the engine. It will be replaced with a new one at any time, free of charge, by our duly authorized Agent upon request and upon surrender of same to our Agent for return to factory.  
If any time within twenty days after this Crouch Vaporizer has been installed on your engine you are not satisfied, you may return same to us with Warranty Certificate and we will return you your purchase price immediately.

The Saskatchewan Distributing Co. Sole Agents and Manufacturers Regina, Sask

DEALERS WANTED—The Crouch Vaporizer will sell to every car and engine owner. Write for particulars.

## THE SASKATCHEWAN DISTRIBUTING COMPANY


SOLE AGENTS AND MANUFACTURERS  
MASONIC TEMPLE BUILDING CORNWALL STREET  
REGINA SASKATCHEWAN

### HERE IS ANOTHER SATISFIED CUSTOMER. READ THE FACTS

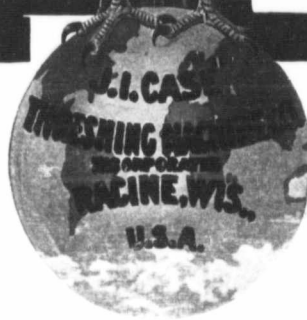
CANADA PROVINCE OF ALBERTA To Wit:  
I, JOHN LONG, of the Town of Caer, in the Province of Alberta, do solemnly declare that:  
1. That I have owned and operated an I.H.C. 8-H.P. gasoline engine for a period of 4 years.  
2. That on or about the month of June, I purchased from Thomas Crouch one of his vaporizers for an internal combustion engine and had it placed on my said International Harvester gasoline engine.  
3. That after placing the said vaporizer on my said engine I noted the following results:  
(a) That in grinding the power of the engine was very much increased.  
(b) That there also was a substantial reduction in the amount of fuel consumed.  
(c) That whereas I could formerly use only gasoline in the said engine, with the vaporizer on, it operates equally well if not better with kerosene or other low grade oils.  
And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of "The Canada Evidence Act."  
JOHN LONG  
DECLARED before me in the Province of Alberta, this eleventh day of March, A. D. 1915.  
W. A. GILCHRIST, A Notary Public.

### Cut This Out—Mail To-day

Saskatchewan Distributing Co., Masonic Temple Building, Regina, Saskatchewan.  
Enclosed find \$\_\_\_\_\_ in full payment for one Crouch Vaporizer with the understanding that you guarantee it for life of engine, and will refund my full deposit if I return your Vaporizer to you collect within twenty days.  
I use \_\_\_\_\_ size carburetor. Name of engine or car \_\_\_\_\_ model \_\_\_\_\_ year \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
I recommend as a good dealer \_\_\_\_\_ of \_\_\_\_\_

An eagle with a white head and neck and dark body is perched on a globe. The globe shows the Americas and has text on it. The word "CASE" is printed in large, bold, black letters across the middle of the page, with the eagle's feet resting on the letter 'S'.

**CASE**



**F** **G**

**S** **U**

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