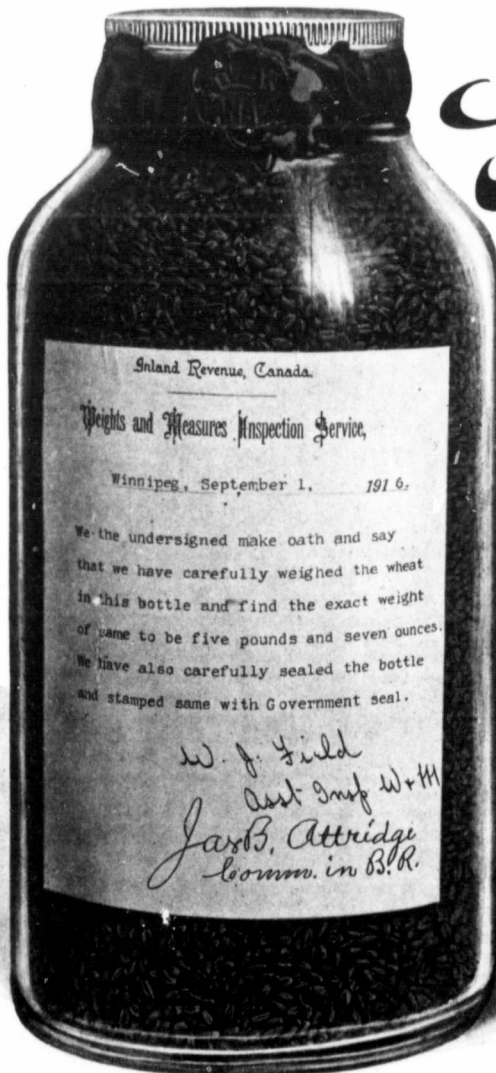


# The CANADIAN THRESHERMAN AND FARMER

WINNIPEG CANADA  
NOVEMBER  
NINETEEN SIXTEEN

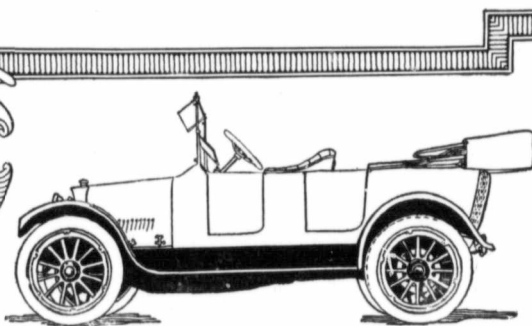
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BETTER FARMING — BIGGER CROPS — BETTER PRICES



*How many  
Kernels  
in  
5 Pounds  
7 Ounces  
of No 1-  
Northern  
Wheat?*

Published Monthly by E. H. HEATH CO. LIMITED — Our Fourteenth Year



The New Reo the Fifth, "The Incomparable Four,"  
\$1225, duty paid, f. o. b. Lansing, Mich.

## Here's the Secret of Reo Reliability

**DOUBTLESS YOU'VE WONDERED**—knowing as you do, how absolutely dependable are Reo cars—how free from troubles and how low in upkeep cost:

**YOU'VE WONDERED** wherein lay the secret of that reliability that is Reo.

**WELL, WE'LL TELL YOU.** And then you'll wonder at its ridiculous simplicity.

**YOU READ, IN THE ADS,** how this engineer or that inventor has revolutionized the science of engineering and produced a wonder-working car.

**YOU READ THAT** every year—only this year it's another engineer. That revolutionary stunt of last year has been forgotten.

**IT WAS AS IMPOTENT** as a South American revolution—it didn't!

**SO THE SECRET ISN'T** to be found in any such feat or invention.

**REO PERFORMANCE**—reliability, dependability, uniformity of performance of all Reos, of whatever model or price—is the result of one taking of infinite pains in the designing, the making and the inspection of the Reo product.

**IT'S THE LITTLE THINGS** that count—not the big ones.

**ANYONE—A BOY EVEN**—can make a motor that will be "different." Or an axle, a transmission or a set of springs that might impress the tyro as new and wonderful.

**BUT TO MAKE ANY** of these vital units better—that is the task—that should be the aim. It has always been the Reo aim.

**INFINITE CARE** in the fabrication and then in the inspection, and finally in the testing of the assembled whole—that is the secret of Reo success in making, not the most but the best, automobiles.

**IF THERE ARE 2000 PARTS** in a motor car; and if there's an average of four machining operations on a part—that's 8000 chances for something to go wrong!

**AND ONE DEFECTIVE PART**—one, however small or seemingly insignificant—that does not fit absolutely, and you'd have a car that would be less than a Reo in performance—more than a Reo in cost of upkeep.

**INFINITE PAINS, WE SAID:** Perhaps that's too big a term. But if you could know how great is the task—how unremitting the care—to guard against even one little error creeping into any one of these 8000 places—you'd grant us the word "infinite."

**"THOSE PESKY LITTLE TROUBLES** that are always happening with other cars, are unknown to the Reo owner," says one Reo dealer, "and that's why the demand for Reos is so great."

**WHEN YOU STOP TO THINK** about it, the troubles you've had with other cars were not big troubles. Your motor didn't drop out of your car or your transmission strip or your frame break in two.

**IT WAS THE LITTLE THINGS** that pestered your motoring life—parts shaking loose or getting out of adjustment. Dust in bearings—oil leaks—everywhere. Squeaks and creaks and rattles.

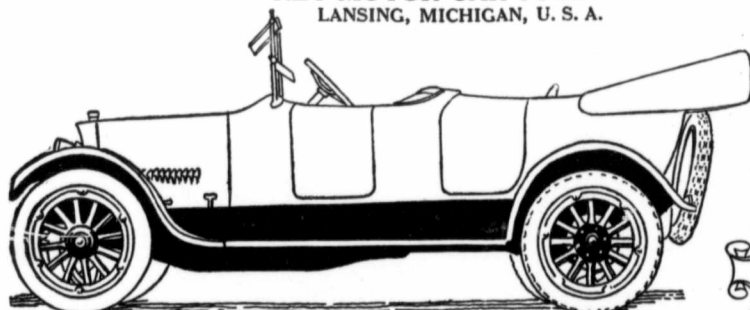
**ALWAYS THE DREAD WHEN STARTING** out that you might not return. Always the fear when in a hurry that some pesky little trouble resulting from some pesky little defect, of which you were cognizant, might delay you. Wasn't there?

**WELL, THEREIN LIES** the big difference between Reos and other cars—the big difference is in attention to the little things.

**IT IS NOT UNCOMMON**—in fact—it is the rule—for a new Reo owner to drive his car thousands of miles—a year, two years—without even seeing the inside of a garage or lifting the bonnet to make an adjustment or repair.

**HONOUR AND FAITH** and a Good Intent—these and the attention to little things they dictate—result in Reo Reliability as it is known the world over, "The Gold Standard of Values" in automobiles and motor trucks.

**REO MOTOR CAR COMPANY**  
LANSING, MICHIGAN, U. S. A.



The New 7-passenger Reo Six Touring Car, \$1000, duty paid, f. o. b. Lansing, Mich.





\$12.00

**A new KODAK in a new size**

The 2c Autographic Jr.

Just as surely as the 3A (post card size) picture displaced the 4 x 5, this 2c, for pictures 2 1/2 x 4 1/4 inches, will displace the 3 1/4 x 4 1/4. The elongated shape, used horizontally is better for landscapes—it doesn't waste film on sky and foreground. It is better for portraits when used vertically, for it gives the high, narrow picture. It gives more picture for the area than is usually possible in a square—and the shape of the picture is far more pleasing. And this elongated shape in the picture makes possible a slim, thin, easily pocketed camera. The 2c Autographic Kodak Jr. has a capacity of ten exposures without re-loading. It has the Kodak flash bearing shutter with cable release, working at speeds of 1-25, 1-50 and 1-100 of a second and of course the usual "bulb" and time actions. The camera has brilliant reversible finder, two tripod sockets, black leather covering, covered with fine grain leather, is well made and beautifully finished.

No. 2C Autographic Kodak Jr. - \$12.00  
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 All Dealers.

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 606 King St., W. - - Toronto

**CONTEST NOTES**

The man who wins a Ford calls it MY CAR.  
 The man who does not own one calls them

- Rattlers,
- Tin Lizzies,
- Little Henrys,
- Flivers,
- Mechanical Cockroaches.

Anything he thinks of.

Let them joke the Ford as they will, it must be a mighty good car to carry all the wheezes that are crowded on to it. YOU can become the owner of a splendid 1917 Model Ford by entering our Wheat Estimating Contest now. Turn to page 17 of this issue, where you will get particulars of the biggest automobile contest ever featured by any farm paper in Western Canada.

A contestant writes: "What kind of wheat have I to estimate on? Is it Marquis, Red Fife, or what kind?" For the information of our readers we would say that the wheat used in this contest is Marquis wheat, grown in Southern Saskatchewan. The sample weighs 64 pounds to the bushel, and is exactly the same quality and grade of wheat as we used in our last competition.

Every contestant will receive an acknowledgment of his subscription and estimates direct from the office. If you have not received a letter acknowledging your entry, write us immediately. This acts as a double check on the figures you send in and obviates possible errors.

Do not forget Frank Snyder, of Elkhorn, Manitoba, won the last competition with an estimate of 47,038 kernels. The correct number in the bottle was 47,037. The wheat used on that occasion was 3/4 pounds of No. 1 Northern.

Be sure to write your name and address on the coupon when forwarding your estimates. Several of our readers have neglected to do this, and we have, therefore, no means of knowing who the contestants are.

Another contestant writes: "My subscription is already paid in advance for one year, but I am sending you another \$1.50 and seven estimates on your present competition. I hope I will win a car because I need one badly." We wish him luck.

Even the boys and girls are enthusiastic. One little girl states: "I am only twelve years of age, but I want to win a car for daddy. He does not know that I have tried to win one and I hope I will be lucky. I got the money for the subscription from brother Fred; address the paper to him."

Here is appreciation: "I am enclosing my fifteen estimates allowed on a four years' subscription. I don't know how you can afford to give away three cars, but I know it must be O.K. Thanking you for your journal's help in farming matters, I remain."

No doubt you would like very much to win one of the cars we are giving away. Then why not increase your chance of winning by sending in more estimates. All you have to do is to donate, say five subscriptions to five of your friends, using the additional estimates obtained in this manner yourself. You may not wish to donate five, however; well, donate three, two or one, if you wish, but send them all in to us in one envelope.

Now is the time to enter the contest. You have just as much chance of winning as anyone else. There are a good many kernels in five pounds and seven ounces of wheat, so do not think that all the correct answers are in.

Frank Snyder's estimate did not reach us until the very last day the last contest closed, but, of course, as we have already stated, this contest will be conducted as all of them have been in the past—with records open for the inspection of every legitimate contestant. But besides this, in order that every contestant may consider the final results authentic and absolutely correct, three well known people will act as judges of the final returns—to verify the records and announce the winners.

Edwin Thomas, of Riding Mountain, says: "To make my promise good, I beg to enclose \$1.00 to pay my subscription, and thank you kindly for not marking me off when past due, as I did not want to miss a copy. You see, it is like this—I have been a reader and subscriber nearly as long as The Canadian Thresherman and Farmer has been printed, and being a farmer and thresherman and steam plow man all the time, you could hardly expect me willingly to miss a copy, could you? Now, be frank, and you will say, "Certainly not." Thank you, and my best wishes are for your success, and I trust I may live to read, mark and learn from your magazine for years to come, as I have in years gone by. I am sending you a little estimate on your Wheat Guessing Contest. Of course, it is only a guess, and nothing is expected from it. Blessed are they that expect nothing, it saves disappointment. But if such a thing did happen that you informed me that I was the lucky boy, wouldn't I be tickled to death. It would serve me just right, because I need one, and don't feel safe to buy, as there are so many things to be paid for. Thanking you for all past favors, I remain."

A Deloraine, Manitoba, contestant writes: "In your last letter you said if I got more subscribers I could win more estimates in your Automobile Contest, so I have gone all over this district and everybody takes your paper, so I can't get any more subscribers. They all seem very well pleased with it, and read it regularly. I like reading the Gas Engine notes, and I look forward to each issue. Wishing you every success."



**SYNOPSIS OF CANADIAN NORTHWEST LAND REGULATIONS.**

The sole head of a family, or any male over 18 years of age, may homestead a quarter-section of available Dominion land in Manitoba, Saskatchewan or Alberta. Applicant must reside in person at the Dominion Lands Agency or Sub-Agency for the District. Entry by proxy may be made at any Dominion Lands Agency (but not Sub-Agency), on certain conditions.

Duties—Six months residence upon cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres, on certain conditions. A habitable house is required except where residence is performed in the vicinity.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$3.00 per acre.

Duties—Six months residence in each of three years after gaining homestead patent; also 50 acres extra cultivation. Pre-emption patent may be obtained as soon as homestead patent, on certain conditions.

A settler who has exhausted his homestead right may take a purchased homestead in certain districts. Price \$3.00 per acre. Duties—Must reside six months in each of three years, cultivate 50 acres and erect a house worth \$300.

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

W. W. CORY, C.M.G.,  
 Deputy of the Minister of the Interior.  
 N.B.—Unauthorized publication of this advertisement will not be paid for.—4222.

**Get a Farm of Your Own**

TAKE 20 YEARS TO PAY

The land will support you and pay for itself. An immense area of the most fertile land in Western Canada for sale at low prices and easy terms, ranging from \$11 to \$30 for farm lands with ample rainfall—irrigated lands from \$25. Terms—One-twentieth down, balance within twenty years. In irrigation districts, loan for farm buildings, etc., up to \$3,000, also repayable in twenty years at interest only 5 per cent. Privilege of paying in full at any time. Here is your opportunity to increase your farm holdings by getting adjoining land, or secure your friends as neighbors. For literature and particulars apply to

ALLAN CAMERON, General Supt. of Lands,  
 Desk 17, Dept. of Natural Resources, C.P.R.,  
 CALGARY, ALTA.

**LUMBER**

**Direct from our Mills at Wholesale Mill Prices**

If you are going to build a house, barn or out-buildings, our price list will be most important to you. It will tell you the **WHOLESALE MILL PRICES** on every size of lumber, delivered, **FREIGHT PAID**, to your station. We will ship direct from our mills, mixed car lots of dimensions, boards, shiplap, siding, ceiling, flooring, finish, mouldings, shingles, lath, windows and doors; in fact, everything in lumber and mill work you would require for your building at the **LOWEST WHOLESALE MILL PRICES**, and you save for yourself dealers' cost of handling and profits. Remember our prices are always at the bottom, and you will be assured of the **LOWEST WHOLESALE MILL PRICES** prevailing any time you are ready to order.

Write for Price List To-day  
**WE WHOLESALE TO A NATION INSTEAD OF RETAIL TO A NEIGHBORHOOD**

**Consumers' Lumber Co.**  
 Vancouver, B. C.

**What a Price to Pay for the Lack of Safe Roofing**

**ANOTHER BARN BURNED**

OUTSIDE FOR THE NORTH WEST PROVINCES  
 THE PEDLAR'S SHINGLES

THE PEDLAR'S SHINGLES ARE THE ONLY SHINGLES THAT ARE GUARANTEED TO PROTECT YOUR BARN FROM FIRE. THEY ARE MADE OF A SPECIAL MIXTURE OF ASPHALTUM AND LIME, WHICH MAKES THEM IMPERMEABLE TO WATER AND FIRE. THEY ARE EASY TO PUT ON, AND LAST FOR YEARS.

**PEDLAR'S GEORGE SHINGLES**

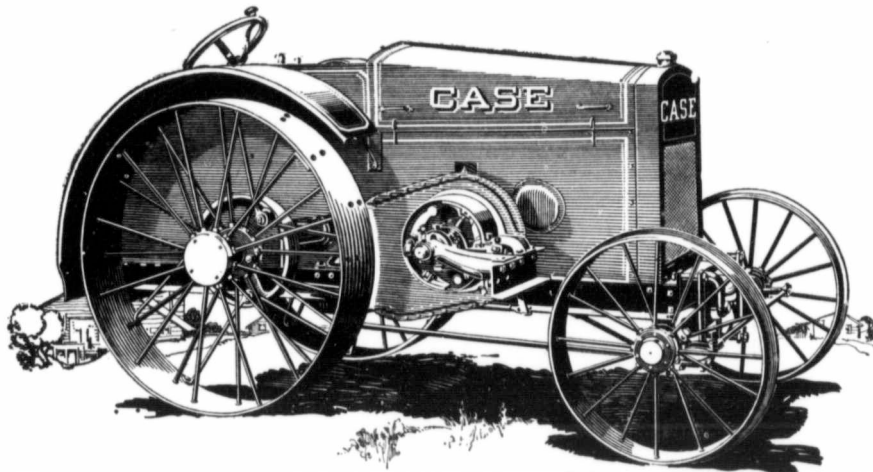
EVER think how often you no have barely escaped a similar disaster—or how soon destructive flames may at any moment envelop all you possess and hold dear?

Real protection insulates that you roof your barns and home with inflammable material—Pedlar's "GEORGE" Shingles. Thus you rob lightning and fire of their power to destroy, and, what's more, obtain the base rate of insurance.

Pedlar Shingles are also proof against wind, rain, rot and rust. Easy to put on. Keep your barn sound for generations. Write for the "Right Roof" Book C.T.

**THE PEDLAR PEOPLE**  
 LIMITED  
 (Established 1861)  
 80 Lombard St.  
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Twelve Months of this Magazine for \$1.00



## Case Announces a Fifth Size Tractor

In addition to the four master tractors offered last season, Case now introduces the 9-18. This smaller size follows Case principles, and is built in the same honest and careful manner as the 10-20, 12-25, 20-40 and 30-60. All are made complete at the Case plant by Case workmen. The 9-18, though designed for smaller farms, is not too light, too small nor too cheap.

At the tractor demonstrations this summer the 9-18 created a profound sensation. Orders for hundreds were received from farm owners and dealers.

All know that Case Tractors have been approved after long and severe tests. Owners have the insurance that comes with owning a *proved* tractor, not an experimental one.

### ANNOUNCING A SMALL THRESHER

Another announcement of widespread interest is that Case now offers small, light threshing machines suitable for use with tractors. While these have all the well-known perfections of the larger Case Threshers, their capacity and price make it possible for each farmer to own his own thresher.

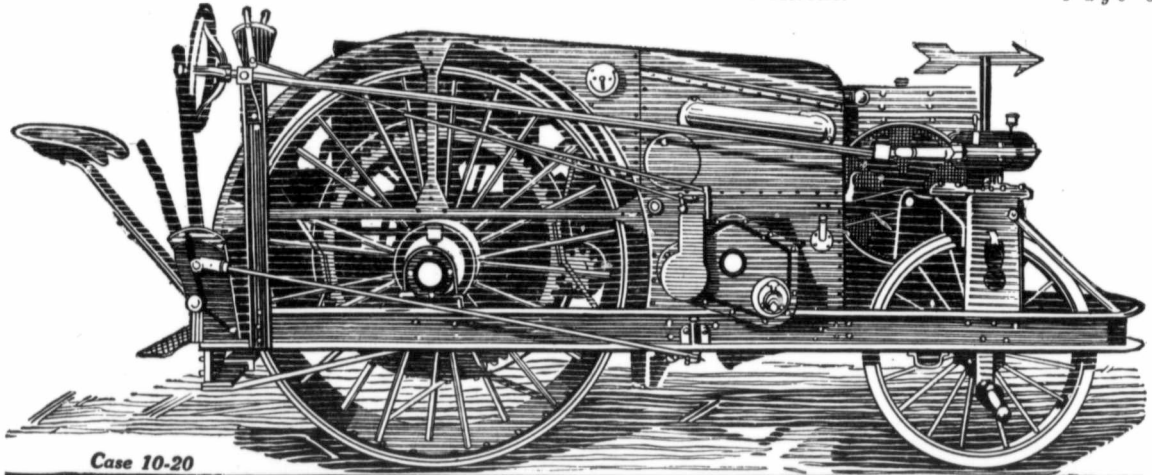
We have just prepared a new 1917 Case album in colors in commemoration of our 75th anniversary, which we think is the finest yet produced in the agricultural world. It is a book so replete with information of value to every farmer that no one can afford to be without a copy.

This catalog describes Case kerosene and gas tractors, Case steam engines, Case threshing machines, Case road machinery, Case automobiles, and every Case product. Write today for your copy. It is free.

**J. I. CASE T. M. COMPANY, Inc. 792 Liberty St. RACINE, WIS.**







Case 10-20

## For Men Who Want a Quality Tractor

As farmers study and buy tractors more and more, the merits of Case Tractors are better appreciated. Quality is the first thing to consider, advise authorities. Wise men heed it. For quality means performance.

Careful farmers are more inclined than ever to turn to an old-established concern which has a record behind it, one that can afford to include construction superiorities. That was evident at the demonstrations.

From grandfather to father and son (this is our 75th anniversary) has passed the word that Case machinery may be depended upon. It is almost a farm proverb. This has decided hundreds to choose Case Tractors. Few can content themselves with lesser quality.

With 24 years of gas engine experience, Case has set the pace in the farm world for kerosene and gasoline tractors, of the higher grade, as it did in the steam engine field years ago, where it still dominates.

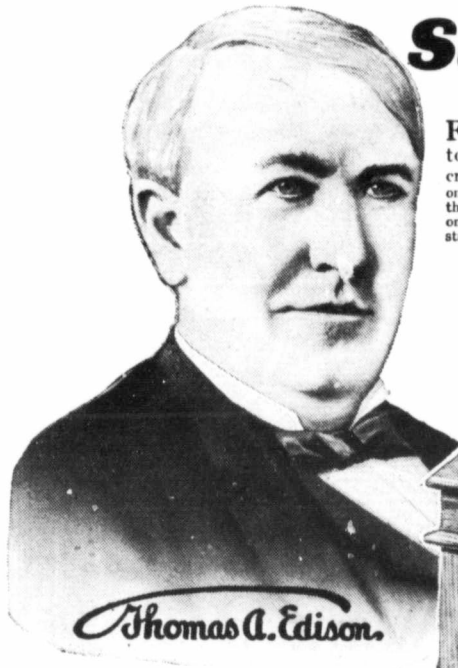
### FARMERS CONCEDE CASE LEADERSHIP

This preference for Case was proved last winter, when over 15,000 farmers wrote to us to inquire about these farm labor-savers. Hundreds of testimonials have come in from all over the country from satisfied, enthusiastic users. At the demonstrations, farmers saw for themselves the superiorities which Case can afford to put in its machinery, and made comparisons. Farm paper and agricultural college experts praise the performance and simplicity of Case tractors.

**J. I. CASE T. M. COMPANY, Inc. 792 Liberty St. RACINE, WIS.**

# CASE





# Success for Mr. Edison

## Life-Like Music At Last!

For years, the world's greatest inventor worked night and day to make the music of the phonograph true to life. At last he has been crowned with success. Just as he was the first to invent the phonograph, so is he the only one who has made phonograph music life-like. And now we make this great, rock-bottom offer on the genuine New Edison, the phonograph invented by Thomas A. Edison. Now that you can get the best on this wonderful offer, you need no longer be satisfied with anything less than Mr. Edison's great instrument. Just read below how easily you may have the genuine New Edison in your home.



Only  
\$1<sup>00</sup>

and after trial!

Yes, we will send you the New Edison, the product of the world's greatest inventor's genius, the phonograph with the wonderful diamond stylus reproducer and your choice of the latest Diamond Amberol Records on *free trial without a penny down*. On this offer, you can now have the genuine Edison, the instrument which gives you real, life-like music, the finest and best of all phonographs at a small fraction of the price asked for imitations of Mr. Edison's great instrument. *Seize this opportunity.* Send the coupon now for free catalog.

### A Happy Home

Happiness is life—and real happiness is found only in a real home. And by a *real home* I do not mean a house with a yard or farm around it. Oh, no! A *real home* is the place where the happy and united family gather together for mutual enjoyment and recreation. And the Edison raises this possibility, for it stands supreme as the greatest home entertainer. It will mean more than entertainment and merriment, more than an hour of amusement, yes, it will mean genuine pleasure of the lasting sort—helpful entertainment and culture of the most beneficial kind. It will mean the family united—a *new home*.



## Rock-Bottom Direct Offer—

If, after free trial, you decide to keep Mr. Edison's superb new instrument, send us only \$1. Pay the balance on easiest kind of monthly payments. Think of it—a \$1 payment, and a few dollars a month to get this wonderful new style outfit—Mr. Edison's great phonograph with the Diamond Stylus reproducer, all the musical results of the highest price outfits—the same Diamond Amberol Records—yes, the greatest value for \$1 down, balance on easiest monthly terms. Convince yourself—free trial first. No money down, no C.O.D., not one cent to pay unless you choose to keep the instrument. Send coupon.

### COUPON

F. K. BABSON, Edison Phonograph Distributors  
355 Portage Ave. Dept. 378 Winnipeg, Man.

Gentlemen:—Please send me your New Edison Catalog and full particulars of your free trial offer on the new model Edison Phonograph.

Name.....

Address.....

## Our New Edison Catalog Sent Free

Your name and address on a postal or in a letter (or just the coupon) is enough. No obligations in asking for the catalog. Get this offer—*while this offer lasts.* Fill out the coupon today.

F. K. Babson, Edison Phonograph Distributors  
355 Portage Ave., Dept. 378, Winnipeg, Man.  
U.S. Offices: Edison Block, Chicago

### Entertain Your Friends

Get the New Edison in your home on free trial. Entertain your family and friends with the latest up-to-date song hits of the big cities. Laugh until your sides ache at the funniest of funny minstrel shows. Hear the grand old church hymns. Hear the crashing brass bands, the waltzes, the two-steps, the solos, the duets and quartettes. You will sit a-we-stricken at the wonderful grand operas as sung by the world's greatest singers. You will be moved by the tender, sweet harmony of quartets singing those old melodies that you have heard all your life. Take your choice of any kind of entertainment. All on free trial. Then, after the trial, send the outfit back at our expense if you choose. Or keep it on our great rock-bottom offer. Send the coupon today.



Vol. XXI

WINNIPEG, CANADA, NOVEMBER, 1916

No. 11

THREE years ago I wrote an article for The Canadian Thresherman and Farmer on the subject "Large or Small Tractors?" In that article the point brought out was that for the rightly organized farm area the large tractor was more economical than the small one. We have had three years of experience with tractors since that

## THE LIGHT TRACTOR

By E. R. Wiggins

mechanical contrivance of the present time. Because the small tractor is so practical for farm work, it is coming into use very

ly none larger than 12-25 even if some are so rated. Tractors range in power down from this to 5-12 and 4-9 h.p. The last is the

tractor had been developed. Every large tractor concern in the business to-day built the large 30-60 gas tractors first. It must not be understood that the small tractor developed from the large tractor, because it did not. Many of the small machines are radically different in design and principle from the large tractors built by the same companies. For



The Light Tractor has been made to serve a very useful purpose in the hay field. Heat and Hurry have no terrors for the "iron horse."

article was written, three years being a high percentage of the total time the tractor has been in use, and to-day we know a great deal more about the tractor in general. We know that while it can be proved theoretically that the large tractor is the more economical, practically it is not. Because of this fact and due to its adaptability to many more kinds of work, the small tractor is having a wonderful success. It is

the machine that is attracting more attention than any other



extensively. This year alone over 50,000 tractors will be built and a majority of these will be of the small variety.

Before proceeding further, let us define "small tractor." For purposes of discussion, the small tractor will be one with a brake horse power of 25 and under. In rating tractors, the general rule is to say the draw bar horse power is one-half the brake horse power. In this article the largest sized small tractor will be the 12-25.

I find several makers of tractors rating their three-plov sizes as follows: 13-25, 15-25, etc., but we will assume conservative-

rating of motor cultivators that are used also for pulling one plow. We can divide the small tractor class into two main sections—two and three-plov sizes. In general, it takes four draw horse power to pull a plow, so that we can call the two-plov tractor the 8-16 and the three-plov the 12-25. As there are such a few one-plov tractors, and up to now no special interest has been shown by farmer or manufacturer in one-plov machines, we will confine our discussion to two and three-plov sizes.

The development of the small gas tractor is of especial interest because it came after the large

this reason and because the large machines came first, they differ from all others.

On the other hand, steam tractors were small and, as time passed, large steamers were brought out. The first plows were small and then increased in size and number; the first grain binders were small. In all these cases the designs for both sizes were practically the same. The first large gas tractors were practically all alike in general design, that





is to say had slow speed motors and were the conventional two rear drive wheel machines with transmission somewhat after steam tractor fashion. But nearly all the companies have changed their designs when it has come to the two and three-plow sizes and convention in design of the small tractor is thrown to the "four winds." This has happened because more thought has been given by every one concerned to producing for the farmer something to meet his needs. The large tractor has its field, but it does not economically reach the man who has a farm smaller than a section, upon which crops of many kinds are raised.

In 1913 a man from Cozad, Nebraska, wrote to me saying: "The tractor will never replace the horse on the farm to any extent until it can be used for all work. The successful tractor must be light and supple rather than heavy. I am only waiting for the day when the true tractor comes on to the market." He did not have to wait long because the day is here when he can buy exactly what he wants—and the size that will fill his requirements is the two or three-plow machine.

The small tractor is being developed and built, also, because of the great demand of all the farmers. One writer has said this demand is "so strong, so determined, so well defined, that it will not be denied." The interest the farmer is showing in the small tractor is greater than has ever been shown in any subject. The demonstrations in the past summer have illustrated this, and at each show the small tractor has been given more attention than

the large machines. Not only has this interest been shown by small farmers but by men with farms over 400 acres in size. Mr. Frank I. Mann, of Illinois, is a very conservative and careful farmer on such a farm who purchased last year a 12-25 tractor. He writes that it has proved a great saving for him because he has been able to accomplish more by its use. It has given him the extra power required to carry over the "peak loads" of the farm, such as plowing and harvesting. Says Mr. Mann, "I am well satisfied with my 12-25 and though this is but the second year, I hardly know how to farm without it. We are now plowing for

my spring's work so well as I did this year. I had plenty of power because I had three horses more than I have ever had before to do the work. We have no trouble getting our crops in if we have all the power we need. Next year I shall sell those extra horses and one more and buy a small tractor because I need one."

The small tractor then is the outcome of an economic demand. It has not been developed as a fad or because it has been widely advertised. It has been advertised, but the farmer has urged that it be; and the farmer has, in return, shown his interest to an almost incredible extent. The small tractor, as we have it to-

The tractor plowing demonstration is the "show me" part of the tractor game. If you are from "Missouri" you had better follow these affairs closely.

Unquestionably, however, the light tractor advocates have been carried away by their own enthusiasm. They have too much of the automobile and too little of the tractor in their machines. That has already been pretty thoroughly demonstrated. The evidence is apparent this year, when you find most of the experienced tractor designers either bringing out or preparing to bring out tractors combining both the heavy type and the light type of construction.

The arguments for this welding of design are compromise arguments—an acknowledgment of the good points of both designs. But even these compromise types have not followed any standard. Some producers of the heavy type merely cut down size and weight by using better materials where greater strength was necessary and applying anti-friction bearings where the loads were heaviest. Builders of "too-light" designs followed the opposite course, building up and strengthening adding more power units to the motor.

The logical future development of the tractor will undoubtedly be along the line of combining the knowledge and experience of the agricultural engineer, the automobile engineer and the tractor engineer. Each class has much to learn.

Simply because a tractor is a new design need not necessarily condemn it; but if it is simply a design fathered by a haphazard idea and you buy it, the chances



In some sections the light 2-plow Tractor is a popular machine.

wheat with it and the ground is so hard and dry it would not be possible to plow with horses. If it continues dry we will be able to plow over 100 acres of clover ground with the tractor this fall, which would not be possible with horses until so late we might not get its full value next season in corn."

A Wisconsin farmer said to me recently, "I never got through

day, speaks for itself, but there is still much room for development.



TRACTOIRETTES

The tractor never was designed to take the place of the horse, anymore than man was destined to live alone.



A horse that goes without reins day and night, if necessary. Kerosene, water and lubricative oil are all it requires.



are all in favor of your paying a very heavy tax to prove or disprove the worth of that tractor.

Ever since the big gas tractor was tried for field work on the large farms of the newly settled sections of the Northwest, there has been considerable discussion as to the minimum size of farm on which a tractor will be practicable and economical.

Whether a tractor will be a profitable investment on any given farm is purely a question in farm management and must be worked out for each farm individually. Numerous influencing factors must be considered, although size of farm is the most important, perhaps not so much from the standpoint of the tractor itself as in connection with the farm business as a whole.

The demand for power for belt work on farms is to-day much greater than it was a few years ago. Aside from threshing, which usually requires an engine of greater power than most farms can economically use at other work, there are numerous jobs, such as silo filling, feed grinding, breeding, baling and so on which require only a moderate amount of power, yet more than can be developed by the small stationary engines commonly used for pumping water and for other light work.

The medium sized tractor is admirably adapted to such jobs as these. In not a few cases tractors are bought principally for such work, with field operations a secondary consideration. It is often of great value to a farmer to have available on his own farm the power necessary to operate certain machinery. When he is

dependent upon a hired outfit, expensive delays are common, because he must often wait until a neighbor's work is finished.

It has been the history of all modern farm implements that their general adoption has been comparatively slow. Many of the purchasers of the first models are unsuccessful with them, and the majority of farmers prefer to wait until the merits of a machine have been demonstrated to their entire satisfaction before investing money in it.

When the gas tractor was first introduced, it was the common claim of manufacturers and agents that "any boy can run a

plow drawn by a tractor will ordinarily cover a little more land in a day than one drawn by horses. This refers, of course, to an ordinary working day of ten net hours in the field and a plowing depth of about six inches. Most tractors travel about two miles an hour when plowing; some makes run faster than this and some slower. Barring accidents, therefore, a tractor should cover about twenty miles a day

proximately two inches to the right of the land side in a right-hand plow. In a three-bottom gang, therefore, the centre line of draft would pass through the centre of draft of the middle bottom.



For cultivating, the light tractor is the real thing.

tractor, its operation is so simple." Such claims are not made by the older and experienced manufacturers to-day. On the other hand, they have in many cases provided schools for their customers, where they are taught how to operate and care properly for the outfit.

While it has never been definitely established, it is usually assumed that the centre of draft of a plow bottom is at a point ap-

of ten hours. This means that each fourteen-inch plow pulled will have covered about three acres. In other words, a two-plow tractor should cover about six acres a day, a three-plow tractor nine acres, and so on.

The desirability of having plowing done at the right time has been emphasized frequently by agriculturists and it is the experience of the majority of tractor owners that the tractor's

ability to hurry the work, furnishing a large amount of tireless power when needed, is its most valuable feature.



That small tractors, capable of pulling only one plow, are of economical size for even small farms is decidedly questionable. They are not large enough to reduce the man labor required in plowing—in fact, they require more man labor than an ordinary horse-drawn gang plow, and man labor is exactly what an improved farm implement should reduce. Furthermore, a machine of this size will not furnish sufficient power to perform the belt work required on many farms, even aside from threshing.

As to size, the farmer who purchases a tractor should be careful to get one with power enough to do all his work without overloading it.

The tractor ought to be run under a cover. Every part should be covered with paint or grease. If possible, every valve should be sealed. This can be done by loosening the cam shaft. It pays well to give a tractor good care.

*The leading article in this issue on the light tractor is one of a series of six on this topic. The growing interest in this particular form of implement in Western Canada has led us to believe that a series of articles on the light tractor would be very much appreciated by our readers. The remaining five articles will appear in succeeding issues.—Ed.*



Tough sod and a long straight furrow make a combination that causes horse flesh to wilt. The light tractor negotiates it nicely.

**THE CANADIAN THRESHERMAN AND FARMER**  
CANADA'S LEADING AGRICULTURAL MAGAZINE

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E. W. HAMILTON  
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Nov.

≡ TEN YEARS' HENCE ≡

1916

**OUR GUARANTEE**

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

**W**HAT'S that got to do with me, do you say? It has nothing to do with the "me" who is just filling in the existence of a ground-hog, but if the little pronoun represents the only type of manhood or womanhood who has a right to live, then it has everything to do with "me," and with us, for the destiny of ten years hence is in our keeping. What we or what our offspring will be ten years hence will be tremendously influenced by the act of the living present. This, of course, is the merest school-boy-copy-book philosophy, but then, just like the mere overgrown schoolboys that we are, we manage to forget it and go blundering along in the old rut of habit, heads down most of the time, grubbing for bait-worms or the no less coarse gratification of the moment.

Not long since a friend of ours was advertised to deliver an address to a mixed meeting of fathers and mothers of the farm home. He was billed around the neighborhood to speak on some such subject as: "Gold for the Digging on Every Quarter Section." Of course a title like that was

bound to inflame the curiosity, if not the cupidity, of many soil miners, as well as bona fide farmers who had proprietary rights in one or more quarter sections of Western Canada. It turned out, however, that the "gold" or the unexplored wealth that had been employed to bait the meeting had nothing to do with mineral product of any sort, but with the bodies and souls of the growing crop of children of the farm.

It looked like a mean sort of advertising trick, but really no one seemed to consider it a "sell." Whatever glittering expectations had been hovering in the minds of those people as the result of the bill-board announcements, no one grumbled or asked to have "his money back." The speaker was by no means an eloquent person. He might even be said to be a rank failure as a public orator; his method of expression got seriously involved at times, but for all that he was listened to and understood. Those intent faces under the canopy of stable lanterns indicated, moreover, that the hearts and the brains belonging to them were assimilating to some purpose. It could be seen and felt that the fellow's heart was right—his soul aflame with downright sympathetic concern for the young folks.

There's a "statesmanship" in dealing with child life that takes precedence of all the diplomacy and statecraft of the cabinet minister, of which the cabinet minister has no knowledge, unless he happens to be a father to whom the feelings of his boyhood is an ever-green memory. The father who is

working now at the making or breaking of the men and women of ten years hence has more to do with any "post-bellum problem" than all the diplomats and political geni of Europe or America. The greatest job on earth is the "job" of being a father who is also a teacher; that is, a father who loves his children with that love which throws itself body, soul and spirit into the lives of his little ones. That type of father cannot be trained by any set of rules or exercises. His natural heart simply gushes out like a hill-side torrent. He positively cannot hold himself.

The whole burden of our "gold for the digging" friend's appeal was that a man's children were the finest investment he had or ever would have on his farm or homestead. Nothing will ever produce such a "dividend on capital invested" in grain, livestock, or mineral prospects as a man will surely reap who has wooed and won the hearts of his offspring, and made their dearest interests the first concern of his life. We know of hundreds who have proved it, and our lecturer friend had proved it up to the hilt. Boys and girls are the keenest detectives on earth. They scent out the humbug of the dual life quicker than the smartest man from Pinkerton's. They have wonderful memories for kicks or kindness, and they sometimes present us with a mighty big rate of interest in return for either.

Now, most fathers are fathers, but many still left are the vilest hogs who were born to walk on two legs. Quite a few, however, who are not hogs are a kind of weak tea in the family circle—they don't half rise to the full enjoyment of the privilege of fatherhood. But even the hog variety has its redeeming spot. Probably nothing of the kind was ever wholly devoid of affection—the hoggishness only developing when the man's head finally disappeared in the muck of selfishness; or to put it less brutally, when "sheer thoughtlessness" grabbed the best that was in him.

The sin of the age is thoughtlessness. Men are not naturally vile. The men we have in mind who are freezing out their young people are like the soldier hailed before the colonel for drunkenness. "Man," said the colonel, "you are a disgrace to the regiment, and you could be a credit to the whole army. You're a prince to your 'pals' but a pauper to your family. I'd like to have your chance to bring heaven home to the brightest bairns God ever gave a man. I'll let you try it again. Go away and play the man."

**SUBSCRIPTION RATES**

Postage prepaid, Canada and Great Britain, \$1.00 Per Year. Single copies 15 cents. Postage prepaid, United States and Foreign Countries, \$1.50 Per Year.

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There is a combined experience of eighty years back of Advance-Rumely machinery, and every year has been a year of progress in the perfecting of agricultural machinery that means satisfaction with the "guess work" out.

Many's the family that boasts of three generations of Advance-Rumely machinery owners. That's not the result of sentiment—it's just plain horse sense in recognizing *absolute dependability* and sticking to it.

That same dependability and satisfaction are "built in" every machine carrying the Advance-Rumely name.

Moreover, Advance-Rumely Service counts for the thresherman and grain grower—"service no farther away than the nearest telephone." Our distributing warehouses and branch offices are conveniently located and equipped to give *full* service in machinery and repairs at all times.

Our catalog of Advance-Rumely 1917 line is now on the press—ask our nearest branch to put you down for a copy.

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## : : : COMPARISONS IN TRACTOR ENGINES : : :

**T**HE subject, "Tractor Engines," is one of great importance to the agricultural industry, not only of this country, but of the whole world.

The increasing demand for food, the scarcity of labor, the failing productiveness of the soil due to inadequate cultivation, the disastrous European war, all combine in creating problems involving the use of motor power that must be carefully considered. More rapid and efficient means must be developed for tilling the different kinds of soils in their respective localities and the basic element of this new development is motor power. Available animal power will soon be entirely insufficient for this purpose and a substitute must be provided.

During the last few years, great efforts have been made to introduce substitutes for animal power, but in the majority of cases the endeavor to develop a prosperous commercial enterprise without giving the proper consideration to mechanical requirements, has brought disastrous results. However, these enterprises have been promoted and developed to such an extent that they have established the feasibility of the general application of motor power to agricultural work. For several years different kinds of motor power have been used with varying success for operating certain classes of agricultural machinery, but as yet no type of motor engine has been accepted as a standard.

The steam engine, by reason of its earlier development, was the first to enter the motor field. It first appeared as a portable engine which comprised an ordinary type of stationary engine, mounted on four wheels so that it could be moved from place to place with animal power. It was soon discovered that the power required to move this type of engine and its machinery was equal to the power that it could develop, so that there was but little saving in its use.

The next step was to provide this portable outfit with suitable gearings and traction wheels so that it could move itself and also pull some of its machinery. This combination was called a traction engine or tractor. Before time had elapsed for the material improvement of the steam tractor, it was discovered that the gas engine had prospects of great commercial possibilities for a variety of uses. These possibilities interested the different classes of engineers, who began to co-operate

in improving and refining the different parts, such as carbureters, lubricators, igniters, etc., with the result that the gas engine very rapidly developed and soon appeared on a tractor.

This gas tractor created so much interest that the steam tractor was left in its undeveloped condition and we do not yet know its possibilities. It will not be at all surprising to see a revival in the development of the steam tractor, and it may even become a strong rival of the gas tractor. However, this will depend somewhat on the nature of our fuels available in the near future.

The first gas engines used on tractors were of the slow speed stationary type, but as soon as the light weight, high speed automobile engine was developed to where it was accepted as a success it was incorporated in a new type of tractor. We then had the slow speed stationary type of tractor engine and the high speed automobile type. Neither of these types was universally accepted by the manufacturers. The result

was that several modifications of each have been brought out, and also that some designs in the two-cycle marine engine have been developed for tractor work.

Among the different types of engines that have been applied to tractors are as follows: Single-cylinder horizontal, two-cylinder opposed, four-cylinder opposed, six-cylinder vertical, two-cylinder twin, four-cylinder parallel, four-cylinder vertical.

Each of these types has its advantages and disadvantages, depending somewhat upon the type of tractor to which it is adapted.

The horizontal single-cylinder type has the advantage of being simple in construction and operation. It can be constructed so as to be very accessible. The parts are few in number and therefore are easier to take care of and less expensive to repair. The simple type of single-cylinder ignition can be used, therefore a simple type of carbureter can be used, easily adapted to the use of low grades of fuel. Its disadvantages are that

it is heavy in weight for the power developed, it cannot be well balanced mechanically and, on account of its low impulse frequencies and long stroke, it requires extra heavy flywheels to keep the speed regulation within the required limits, and it is difficult to devise satisfactory transmission for its tractor work.

The two-cylinder twin is somewhat lighter for its power than the single-cylinder, and like the single-cylinder, can be made so that the connecting rods and other moving parts are quite accessible. In ordinary sizes the cylinder can be cast en bloc, which simplifies and cheapens the construction. One carbureter can be situated close to and in the same relation to both cylinders so that the gas distribution is simplified, which makes it more easily adapted to the use of low grade fuels. The disadvantages are that it is impossible to get both a good mechanical and a good power balance. If the crank pins are concentric, it is practically impossible to counterbalance so as to reduce the vibration. If the crank pins are at 180 degrees, the power balance is disturbed so as to give an even torque and an uneven suction on the carbureter, which latter is very undesirable, especially when using low grades of fuel. It is also difficult to devise a suitable transmission and keep the proper width with the weight properly distributed in the tractor.

The four-cylinder parallel can be made very accessible. Its center of gravity is low, and by reason of its high and even impulse frequencies, gives a very good torque and power balance. It is well balanced mechanically so that it sets up but little vibration. Among the undesirable features are its extra width and the difficulty encountered in providing a satisfactory dust proof transmission within the required limits of width for a practical tractor. The multiple cylinder gas manifold and carbureter make the use of low grades of fuel much more difficult.

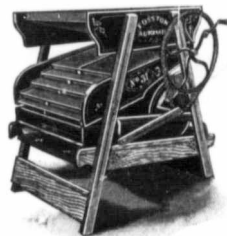
The two-cylinder opposed has a good power and mechanical balance. It is a desirable shape for certain classes of tractors and is cheap to build for the power developed. On account of its long manifold it is hard to carburete, especially with low grade fuels. In some cases, two carbureters have been used, but this adds complications so that there is but little advantage. Owing to the rotary motion of the crank and connect-

*"As a man soweth so shall he also reap."*

*As a man cleaneth and gradeth his grain so shall he also profit.*

### Good Crops

cannot grow from poor, shrunken, dirty and weedy seed grain. It requires good kernels to produce healthy stalks.



Foston Automatic Cleaner

## The Foston Automatic Cleaner

is built in sizes to suit any farmer, standard 24 and 31-inch shoes, for which we can supply power attachments. Our No. 48 Cleaner is a regularly equipped Power Mill.

**It pays big to grade your seed with a Foston Automatic Cleaner**



The Reindeer (Registered) Sleigh

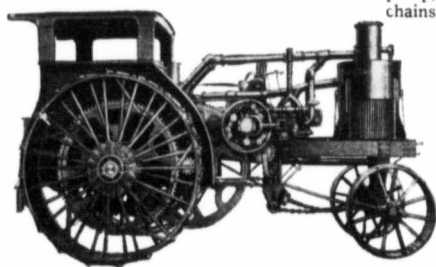
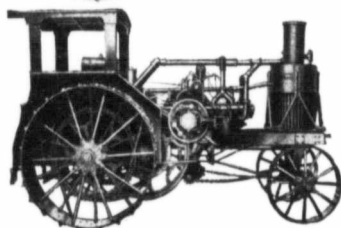
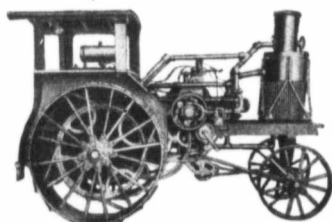
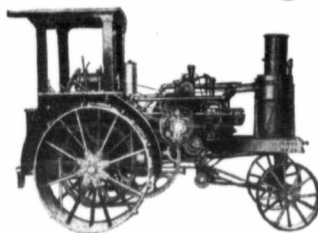
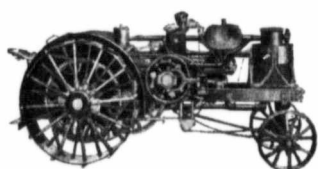
## The Reindeer (REGISTERED) Farm Sleigh

is built exclusively for us, in all sizes, with either steel or cast shoes. Quality and Workmanship. Made of straight grained hardwood lumber and put together in smooth workmanlike manner neatly painted.

### JOHN DEERE PLOW CO., LIMITED

Winnipeg Regina Calgary Saskatoon





## Five Sizes—One Design

### A Standardized Line

Look over this Avery Tractor line-up. FIVE sizes of tractors. Only ONE design. One style of motor, one style frame, one style transmission, one style radiator, one style clutch and one style of every other part.

Look over the line-up of other tractor companies. Most companies building two or more sizes are building them of different designs. Some building four or five sizes have as many different designs as they have sizes.

### What These Facts Mean

When a company builds various styles of tractors, building each new size different from their previous machines, isn't it an indirect admission that their previous designs were not a success? And as far as any new design is concerned, the best that can be said of any new size of a different design is that it is an experiment.

But when the Avery Company builds one size tractor and after thoroughly proving it out, builds another size and then another and another until they have five sizes all of one design, isn't it direct proof of the success of that design? If the Avery design were not a success, the Avery Company could not have been so successful. The success of the Avery Company is proof of the success of the Avery Tractor design. Leave out all detailed arguments and comparisons between Avery Tractors and others, this one big fact is enough to prove the success of the Avery Tractor design—that the Avery Company is the only company building five sizes of tractors all of one design.

### Why the Avery Design is so Successful

These are some of the reasons for the great success of Avery Tractors—opposed special tractor motors which run at low speeds and have crankshafts one half or more in diameter than the diameter of the cylinders; renewable inner cylinder walls; only one clutch; sliding frame transmission which eliminates the intermediate gear, shaft and bearings and is the reason why an Avery Tractor has the least gears, the least shafting and the least bearings of any two-speed, double-drive tractors built; no fan, no water pump, no fuel pump, no governor belt, no fan belt, no sprocket chains.

### Get All The Facts

You can't afford not to get them. Call on any Avery Agent or Branch House, or write for literature, and get all the facts about the Standardized Avery Line of Tractors—a size for every size farm.

**AVERY COMPANY** Canadian Avery Co. Ltd.  
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Western Canadian Distributors WINNIPEG, REGINA

# AVERY

ing rods the lubrication of the cylinders at different speeds becomes a difficult matter and it is also a difficult matter to provide adjustable crank shaft bearings.

The four-cylinder opposed has the advantage of being very compact, has a good torque and is well balanced. It is light in weight and cheap to manufacture and can be made readily accessible. It has the same difficulties of carburetion and lubrication as the two-cylinder opposed, and it is hard to construct a satisfactory adjustable main bearing for the crank shaft.

The four-cylinder vertical, which is one of the most popular types, is well balanced mechanically, especially with reference to horizontal movements. It is easy to lubricate and one in which the splash system can be used most satisfactorily. The most serious objection to this type of engine for tractor work is that the bearings are not accessible and the pistons are hard to remove for cleaning and inspection.

The two-cycle engine has some very desirable features. It gives twice the number of impulses per cylinder as the four-cycle for the same speed, which makes it easy to balance and gives a very even torque. So far this type has not been developed generally to the point where its reliability and fuel consumption are satisfactory for tractor work.

The two-cylinder opposed is used most extensively on two-plow tractors, and the four-cylinder on all larger sizes, with the exception of a few six-cylinders on the extra large types. The principal reason for this is that the four-cylinder suitable for a tractor of two plows will have a rather small cylinder of approximately  $3\frac{3}{4} \times 5$  and must be run at a fairly high speed of approximately 1,200 revolutions to give proper efficiency. The two-cylinder opposed, of about the same power, will have cylinders of approximately  $5\frac{1}{4} \times 7$  and will run at a speed of approximately 675 r.p.m. Inasmuch as speeds of 1,000 r.p.m. or over, have been considered undesirable, it has made the slower speeds of two-cylinder more popular for the small-size machine. For tractors of more than two plows the one and two-cylinder motors are large and heavy, and for this and other reasons are not so desirable as the other types. The four-cylinder engine with a bore of  $4\frac{1}{2}$  or over and a speed of 900 r.p.m. or less is very satisfactory for tractors of more than two plows.

There has been considerable discussion with reference to the merits of a vertical and a horizontal type of engine for tractor use. Some of the objections have been made to the horizontal type on the

theory that the pistons, due to their weight, would rapidly wear the lower part of the cylinder so that it would soon become elliptical but the pressure due to the height of the pistons is so small compared to the angular pressure from the connecting rods that it is hardly worth considering. Another theory is that the horizontal valves will soon wear the lower sides of their stems and guides so that they will not properly seat, but if the spring and operating mechanism are properly designed the weight of the valve will have no effect on its wearing; in fact, either the horizontal or vertical valves will rapidly wear their stems and burn out seats, if the springs and lifters are not properly designed.

There is also some question as to whether the "valve in the head" motor has any advantage over the other types, such as the "L" and "T" heads. There appears to be no question but that the "valve in the head" type, due to its more symmetrical combustion chamber and relatively less water jacket, is the more efficient when the valves are properly adjusted, but as the valve mechanism is more complicated and more liable to get out of adjustment, that fact offsets its other advantages so that in practice there is but little difference in their efficiencies.

The poppet valve with a conical seat is more generally used for four-cycle tractor engines at the present time, but there is a possibility of the sleeve valve, such as the Knight, being developed for this class of work. The advantages of the sleeve valve is that it will give approximately 25 per cent more power than the poppet valve and practically eliminate carbon trouble. The engine with these valves also shows a high efficiency due to spherical shaped combustion chamber and to the perfect action of the valves.

One matter of great importance in tractor engines is the lubrication.

Successful lubrication depends upon the proper kind of oil being used and adequate methods for supplying it to the bearings. The method of lubrication commonly used is the splash system, in which the oil is carried in the crank case and distributed to the bearings by means of the connecting rods dipping into troughs, which are kept filled by a small pump. This system is satisfactory when using gasoline or high grades of distillate as fuel, but does not work so well for the lower grades of distillate and kerosene.

The objection to this system is that the oil, after being used for some time, becomes fouled with dirt and residue from the cylinders and soon heats up to where it loses its viscosity and other lubricating qualities. With engines using heavy fuels such as kerosene, or low grades of distillate, there is a residue which works past the pistons into the crank case, which seriously interferes with the lubrication if allowed to mix with the oil. For engines using these fuels it is desirable to use a system in which a definite amount of fresh oil is delivered to the cylinders and bearings by a multiple force-feed lubricator; in fact, this is undoubtedly the best system for all gas engines if it can be installed without too much complication.

The most serviceable type of bearing is one in which the walls of the bearing housing are first tinned and the bearing metal cast in place so that it forms a metallic contact. The objection to this bearing, however, is that it is hard to replace. The best type of replaceable bearing is the one in which a bronze shell is made to fit the bearing housing and then lined with a suitable bearing metal.

A very practical construction, especially for connecting rod bearings, is one in which the bearing housings are machined to re-

ceive a replaceable bearing and then lined with a bearing metal cast in place. The advantage of this construction is that it gives the service of the cast lining and in case it is necessary to make an emergency repair, the lining may easily be removed and the shell bearing substituted.

Engines for tractor use should have a very conservative power rating so that they can actually develop their rated horsepower under unfavorable conditions. One of the most confusing things at the present time is the understanding of tractor horsepower. Tractor horsepower is determined by multiplying the drawbar pull by the speed and reducing the product to standard horsepower of 33,000 foot-pounds.

For instance, a tractor that will pull 2,250 pounds at a speed of  $2\frac{1}{2}$  miles per hour is rated 15 horsepower and is capable of hauling four 14-inch plows, under favorable conditions, whereas ten horses could do the same work under the same conditions. This tractor would have an engine rated between 25 and 30 horsepower. Now the user cannot understand why he has to buy a 30 horsepower engine to do the work of 10 horses, and as yet no one has offered a satisfactory explanation. The government has recently been considering the matter and it is possible that it will provide some means of testing the different tractors and advising how they should be rated. However, the matter should be cleared up for the benefit of the manufacturers as well as for the users, by establishing a new standard that cannot be confused with animal horsepower.

In considering the requirements necessary to meet the conditions in power farming, we find that a successful tractor engine must have the following qualifications regardless of its type:

1. It must be so constructed that it can develop its maximum horsepower continuously without self destruction. The element of limited overload must be eliminated because it cannot be controlled.

2. It must start and operate without undue loss of time and must do a season's work with ordinary care and without the services of an expert. Instructions advising that the user must spend considerable time each day in doing expert work in order to keep it going must be discarded from the instruction books because time is too valuable during that period and such advice will be ignored.

3. It must develop its rated power economically and operate successfully with the kinds of fuel common in the locality where it is to be used.



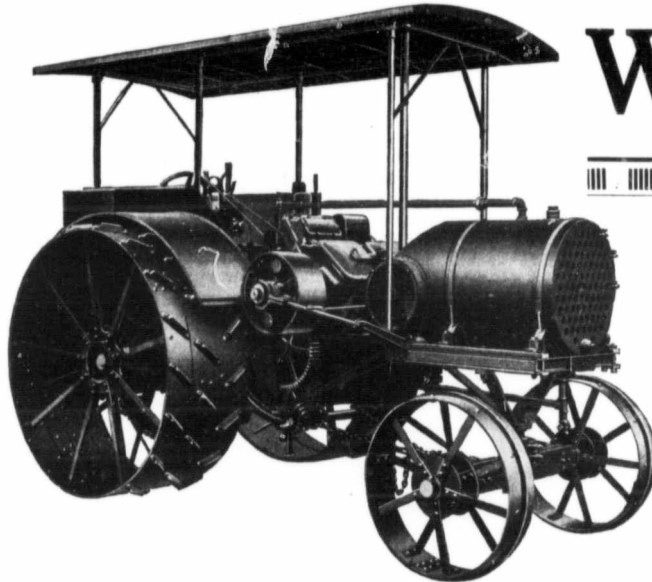
TOMMY THE OMNIPOTENT

Tommy (having collared the contents of a dug-out): "Now you've got to sprint over this open ground with me, see! And I'll tell you what I'll do. Whichever of ye gets there first can 'ave the iron cross off this little chap."

# AULTMAN-TAYLOR POWER

## For FALL WORK

Built in  
Three Sizes  
18-36  
25-50  
and  
30-60  
H.P.



Use  
Kerosene  
For Fuel  
At All Loads

Use Aultman-Taylor power to do your fall work. You will save time and money by so doing. In one of the three sizes of Aultman-Taylor Gasoline-Kerosene Tractors you will find the proper power to do your work. Let the tractor do your fall plowing, plowing as deep as you like. Use it for baling, shredding, corn shelling, saw milling, etc. Put it to work building good roads. An Aultman-Taylor Tractor works well wherever hitched. You will find many uses for it. It will work for you nearly every day the year 'round.

### NOT A ONE-YEAR TRACTOR

Aultman-Taylor Tractors are not so constructed that after one year's use they are ready for the junk man. They are good for years and years of the hardest usage. Most power users know that Aultman and Taylor have always built for durability, and especially in the building of their tractors have they looked after the durability end. You can buy an Aultman-Taylor Tractor with the absolute assurance that it will give you lasting service. The absence of vibration by reason of our specially built horizontal motor; the moderate speed at which the motor runs; the straight spur gear transmission; the locomotive truss frame and numerous other noteworthy features all contribute to the life of Aultman-Taylor Tractors.

### POWER TO SPARE

That's what you have in an Aultman-Taylor Tractor. It always has been the policy of this company to give its customers more, rather than less, than they bargained for, and especially does this hold good with its tractors. Every Aultman-Taylor Tractor has a surplus of power over and above its maximum rating. While we rate them at a certain horse power, yet they will develop considerably more than their rating. This surplus, or reserve power as we call it, will help you out of many a tight "squeeze." Have

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Just at this time it is particularly important that you not only know the tractor, but know the firm behind it as well. Wise tractor buyers are devoting just as much time to sifting down the responsibility of the maker as they are to the study of the construction of the tractor. You want to be absolutely sure that the company from whom you purchase your tractor is sufficiently responsible to make good on every claim—every promise. Take into consideration the number of years of experience they have had along this line and what the possibilities are for their being in business three or four years hence; what kind of a service organization they have in operation to take care of you in case you need repairs or expert service. Every prospective buyer should know these things—they mean so much to the owner.

Back of every Aultman-Taylor Tractor is an old reliable organization with branch houses and repair distributing depots scattered throughout the United States and Canada, and amply able to care for its customers in a satisfactory manner. Our past record of 51 years of success is your future guarantee of satisfaction. Whether you are in the market to-day, to-morrow, or two years hence, it will pay you to write us for full particulars about our tractors. CATALOG AND FULL INFORMATION YOURS FOR THE ASKING.

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## The Highway, The Farmer And The Thresherman

**T**HERE is much in common between the farmer and the thresherman when the subject of good roads is up for consideration. One is a servant of the other and communication must be easy and sure if the best of service is to be rendered. In direct proportion to the amount of grain raised, is the farmer's threshing bill, and in just this same proportion, taking the farmers collectively, is the size of the thresherman's run and his opportunities for money making. Entering into this and greatly effecting its value comes the good road. Its smooth surface and solid wheel bed makes the transportation of marketable products easy, thereby adding to their value and from the thresherman's standpoint they enable him to move his outfit quickly and safely, thus adding to his profit.

To the farmer the good road is the connecting link which binds him to the outside world. It is the sidetrack from his farm factory to the main line of the world's highway—the railway. It adds value to his realty; it increases his wealth and comfort and brands his farm as an integral part of the whole community as a good place to live upon.

In the case of highways, the farmer is both a manufacturer and a consumer. He builds up, uses and tears down and as he builds so is the usefulness of that which he manufactures to him. It should always be his aim in making roads to establish the easiest, shortest and most economical line of travel. It is, therefore, desirable that the roads be firm, smooth, comparatively level and fit for use at all seasons of the year; that they should be properly located so that their grades shall be such that loaded vehicles may be drawn over them without great loss of energy; that they should be properly constructed, the roadbed graded, shaped and rolled; and that they should be surfaced with the best available material suited to their needs.

This matter of grades is one of prime importance. They do not affect matters so much in a country like Western Canada, but should nevertheless be watched carefully. "A chain is no stronger than its weakest link," and the load must always be governed by the steepest grade. An authority states that if a horse can pull on a level 1,000 pounds, on a rise of one foot in

100 he draws....	900 pounds
50 he draws....	810 pounds
44 he draws....	750 pounds
40 he draws....	720 pounds
30 he draws....	640 pounds
25 he draws....	540 pounds
24 he draws....	500 pounds
20 he draws....	400 pounds
10 he draws....	250 pounds

It is therefore seen that when grades are 1 foot in 44 or 120 feet to the mile, a horse can draw only three-quarters as much as he can on the level; where the grade is 1 foot in 24 feet, or 220 feet to the mile, he can draw only half as much, and on a 10 per cent grade or 520 feet to the mile, he is able to draw only one-quarter as much as on a level road. The cost of haulage is, therefore, necessarily increased in proportion to the roughness of the surface or steepness of the grade. It costs one and one-half times as much to haul over a road having a 5 p.c. grade and three times as much over one having a 10 per cent grade as on a level road. As a perfectly level road can seldom be had, it is well to know the steepest allow-

able grade. If the hill be one of great length, it is sometimes best to have the lowest part steepest, upon which the horse is capable of exerting his full strength, and to make the slope more gentle toward the summit, to correspond with the continually decreasing strength of the fatigued animal.

So far as descent is concerned, a road should not be so steep that the wagons and carriages can not be drawn down it with perfect ease and safety. Sir Henry Parnell considered that when the grade was no greater than 1 foot in 35 feet, vehicles could be drawn down it at a speed of 12 miles an hour with perfect safety. Gillespie says:

"It has been ascertained that a horse can for a short time double his usual exertion; also, that on the best roads he exerts a pressure against his collar of about one thirty-fifth of the load. If he can double his exertion for a time, he can pull one thirty-fifth more and the slope which would force him to lift that proportion would be, as seen from the above table,

one of 1 in 35, or about 3 per cent grade. On this slope, however, he would be compelled to double his ordinary exertion to draw a full load, and it would therefore be the maximum grade.

Every farmer knows the import and truth of the above. When loading his wheat for the elevator or in arranging for the hauling of any other product to market, the first consideration is the steepest grade, and in bad weather this consideration becomes so serious that he must needs oftentimes stop marketing entirely. Apart from this, the extra draw upon horse flesh is no small item. Every bushel of oats that is required extra is just so much money taken from the farmer's pocket, to say nothing about the decrease in the value of his horses, due to the extra work done. There is also an unwarranted amount of wear upon harness, wagons, buggies, etc., that add to the farmer's depreciation and expense bill.

The farmer is dependent in every way upon the public highway. Unlike the city man, he must use it not from choice but of necessity. No matter how poor the road may be, he must travel over it in the course of his business. It is not a question with him of taking a ride in a light buggy, it is a question of pulling heavy loads over such a road meaning tremendous wear on the wagons, harnesses and on the horses. Of frequent occurrence is the road so bad that farmers are unable to haul their produce to market, with the result that they either lose the market advantages or see their produce spoil for want of proper disposal. Business for the time being stagnates and the mutual relationship that should exist between merchant and farmer is injured for the time being.

In a recent issue of a local paper we noticed the following headlines:

Goods Roads and Good Weather Make Easy Market. Eggs are Brisk; Butter Has Upward Trend—Produce is Plentiful and Wheat is Strong.

It shows plainly the interest the townspeople take in good roads, and their immediate effect upon the market in necessities. The prices of necessities depends not so much upon supply and demand as they do upon the regularity with which the supply meets the demand.

To be continued next issue.

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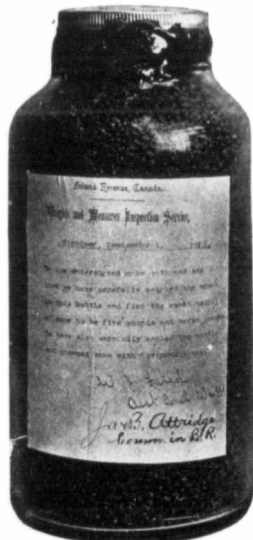
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The subscription price of *The Canadian Thresherman and Farmer* is the one royal road to securing one of these cars FREE. If you are not the fortunate one, you have still more than the dollar's worth in a year's course of the best farm literature in Western Canada, so you cannot lose. Do not overlook your renewal. Send it in along with your estimates to-day. Enter the contest now.

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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 3½ 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, Marquis.

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.

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## Evolution of the Threshing Machine

*From the Flail of Ancient Egypt to the Modern Thresher of To-day—(from "Farm Engineering")*

**W**HEAT growing is as old as the historical world, probably older. Even the Stone Age tribes of western Europe, judging from the fragments of information available, were familiar with the culture of wheat and barley. Chinese records establish the fact that as far back as 3000 B.C. wheat was regarded as one of the important crops.

**The Flail**

Just when and how primitive peoples acquired their first knowledge of cereals, is lost in the misty traditions of antiquity. It is surmised, however, that travellers in their rambles about central Asia discovered the worth of cereals and introduced them into their native countries. Be that as it may, so firmly established was the cultivation of wheat and barley when history begins (2500 B.C.) that distinctive methods of planting, harvesting, and threshing were known and practiced.

Invention—the re-arranging of established principles—is an exclusive characteristic of the human race. Studies into the habits of primitive peoples prove that even among such tribes as inhabited the earth in the days when metals were unknown, time and labor-saving ways of doing things were being devised. The shelling of cereals by hand would, naturally, weary even the most patient aborigine and set him searching for an easier way of doing the work. Methods of beating or tramping out the grain would manifestly be thought of first—so self-apparent to the primitive mind would be the utility of such a means. It is quite probable that among the earliest tribes this work devolved upon the women and children—not a very exacting task when one considers the very limited output of those times.

The Egyptians were probably the first to practice a systematic method of tramping out grain on a large scale. Hieroglyphic and sculptured records on ancient monuments give quite a clear idea of how it was done. The grain was scattered over a hard earth area 100 or more feet across, and oxen would then be driven back and forth and across until the grain was separated from the straw. Later the mixture of grain, chaff, and dirt would be tossed on sheets in the wind until quite clean.

But waste occasioned by the tramping out process no doubt

set the primitive inventors at work to discover a better method. After the lapse of many centuries the threshing sledge appeared—the first machine, if such it may be called, for separating grain from its straw. This in its crudest form consisted of a heavy wooden frame with cleats fastened to the under side. It was operated by dragging it across the spread-out sheaves in such a way as to scatter the grain. The motive power was probably oxen, though slaves were sometimes used for this purpose. Eventually some observing person thought of easing its draught by fastening rollers underneath; and still later some still more observing individual added teeth, thus greatly increasing its efficiency.

In the dry, crisp atmosphere of Egypt the threshing sledge did its work quite satisfactorily, and no doubt by the people of that day was pronounced the acme of threshing invention. It eventually found its way into neighboring countries and achieved great favor. Greek and Roman writers refer frequently to it—an evidence that it was used in those countries; and the Hebrews certainly became acquainted with it during their four centuries of bondage and introduced it into Palestine when they overran that land. Strangely its use still prevails in western Asia and northern Africa.



Ancient Threshing Sledge

The flail, the simplest of all threshing devices, next to beating or tramping out, seems to have appeared in all lands as soon as cereals began to be cultivated. Some peoples, particularly those of northern Europe, for many centuries were entirely content with it, due probably, to their unsettled habits and slight interest in agriculture. Like all other worth-while inventions, it has through additions and improvements deviated very much from its earliest patterns. At first it probably consisted of a bushy young tree stripped of its leaves and small twigs and used as a pounder with which to beat out the grain. Such a tool was doubtless heavy, and it is not to be wondered at that it soon gave way to the switch flail—a bundle of tough switches tied together at the butts, and used on the sheaves much in the same manner as a carpet beater is used on a

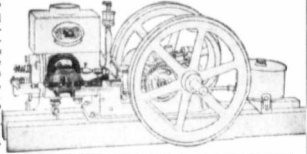
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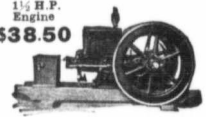
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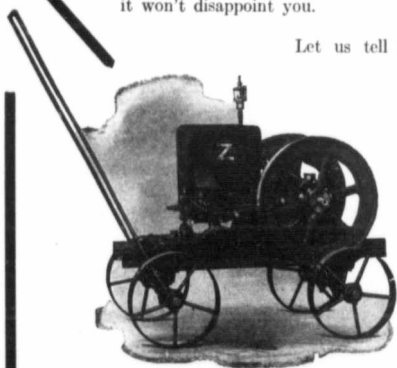
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rug. In its present form it is a two-piece affair, one part, the hand-staff, being used as a handle, and the other part, the swiple, as a striker. The workman swings the latter vigorously in the air and strikes the sheath a stinging blow, causing the kernels to rattle out.

Flailing is still practiced in many parts of the world. In out-of-way parts of Russia and Scandinavia the peasants store their sheathed grain in barns usually until mid-winter, when it is flailed out. Until within only a few decades the rice producing nations of Asia threshed their millions of bushels of that cereal entirely by flails and similar contrivances. In the United States as late as fifty years ago the flail was in common use; and even now it is still in evidence, being used largely to thresh out beans and peas. If the grain is very ripe and dry, a flail in the hands of an experienced user is quite an effective tool; in these days of immense acreages and large yields, however, it would be entirely inadequate. As will be shown in the next paragraph, a recognition of this inadequacy was the influence that hastened the invention of the modern threshing machines.

It is an established law of progress that discoveries and inven-

tions do not, as a rule, "just happen," but develop in response to some urgent need or demand. The inventor may not always be aware that he works under the guidance of the law; but a little retrospection and circumspection usually uncovers the cause that set his inventive faculties in action along the specified lines.

To illustrate the point: Submarines are a reply to the demand for something to check the seemingly impregnable dreadnoughts; wireless telegraphy is a result of the urgent need of constant communication with vessels at sea—something necessary in this busy commercial age; and the aeroplane has been perfected very largely because of its need in modern warfare. Accidental discoveries, it is true, often point the way to possibilities; but the effective development of progress does not rest on anything so flimsy, being the result of the law of requirement.

The evolution of the threshing machine, as we have it to-day, illustrates the law splendidly. The eighteenth century brought great changes in the world's habits. New lands were being opened to settlement, and mankind began to look about him with wondering, curious eyes, cities began to grow and com-

merce to extend; governments took on more stable forms, population began to increase wonderfully, and agricultural practices assumed a definiteness previously unknown. These changes meant that inventive wits must work harder to provide adequately for the new conditions. Out of the inventive thought that developed as a result, agriculture, because of its importance in the feeding of the world, came in for a share. The marked increase in population set far-sighted men thinking, and made them realize that wheat areas of that day would have to

be doubled, even quadrupled, if the food demands of the world were to be met. It was also realized that more efficient agricultural implements would have to be devised if this increased production was to be attained.

The demand for better farming tools began to be answered. Larger and more efficient plows were devised. Toothed harrows took the place of hand rakes and drags. The grain cradle displaced the sickle, thus making it possible for one laborer to harvest as much grain as ten could formerly. Everywhere there were

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signs that agriculture was getting ready to meet the increased demands the world was making. The production of wheat multiplied rapidly as a result of these better conditions.

Along with other realizations came the knowledge that the flail was a very slow threshing machine. Inventors saw the need and began to plan something that would do the work more rapidly. Various devices were brought forward and tried out, but without success. In 1787, however, Andrew Meikle, an ingenious Scotchman, perfected a machine that worked perfectly. The distinctive feature of Meikle's invention consisted of two fluted rollers that drew the grain through in such a manner as to expose it to the action of beaters which pounded out the kernels. A succession of tossing tables and sifters completed the process of separation. Meikle seems to have anticipated and provided for all the main difficulties of grain and straw separation—in fact, the modern threshing machine differs from this first invention only in size, number and character of minor parts, and rapidity of work. The first machines, of course, were small, and when doing their best probably could not thresh more than 100 bushels per day; nevertheless, they were such decided improvements upon former methods that their appearance generally was hailed with joy.

The matter of efficient motive power was the next consideration. Wind, the power so universally used in the Netherlands, was tried but proved too variable to be depended upon. Water power for similar reasons was found impractical. Steam was too new an experiment to be much considered. In their dilemma the early thresherman turned to animal power. Some mechanic devised the sweep—a long pole fastened securely to an iron or wooden drum which rotated as the pole was pulled around by oxen or horses—the motion in turn being communicated by means of a shaft or tumbling rod to the separator. In one way and another such power continued to be used until about the middle of the nineteenth century.

Inventors and manufacturers were not yet satisfied that maximum efficiency in threshing machinery had been reached. Self-propelling engines were devised—engines that pulled the entire outfit also. A little later straw carriers were added, thus doing away with the dirty and despised task of stacking straw directly from the "tail end" of the separator. Any one who has ever done such work will appreciate what a relief was felt in a neighborhood

when some progressive thresherman added a circle stacker to his outfit.

The last decade and a half have brought many desirable improvements in the threshing machine—improvements that have made for rapidity, safety, and thoroughness. Nowadays the "wind" stacker does practically all the work of caring for the straw; band-cutters and self-feeders never get "tired" or injured; self-measurers and weighers do their work very

efficiently. Unless the job be a very large one the thresherman and his crew seldom remain but a few hours—a great relief to the women folks and a great saving in the farm finances.

It is a far cry indeed from the flailing process of a thousand years ago to the perfect work of a modern threshing machine. Has maximum efficiency been attained? Outwardly, it would seem so. But let us wait to see.

## Greatest of Fodder Crops

Perhaps, says an American writer, no greater boon has ever come to the farmers of America than the introduction of alfalfa. This wonderful-working fodder plant promises to play a prominent part in putting agriculture on a sounder basis. It is more than a mortgage lifter; it has transformed lands which had been considered almost worthless into paying properties. It is said that in California twenty acres of alfalfa will support twenty cows the year round, if properly handled, and a larger acreage in the same proportion.

It is a curious fact that the plant was introduced into the op-

posite ends of the United States from two different sources. It was brought to New York before the beginning of the last century and then, about 1854, alfalfa found its way into the west from Chili, and its coming marked a new era for the agriculturalist of the western states. Its spread was exceedingly rapid after its merits had been recognized. In Kansas, for example, in 1891 but 34,824 acres were reported. In 1906 there were 640,813 acres; two counties had a combined acreage of nearly 70,000.

**Five Tons a Normal Yield**  
A normal yield of alfalfa is about five tons, but it often runs

more. Six to nine cuttings are not unusual in California, and in Oklahoma, without irrigation, as many as nine cuttings have been made in a season. Such fodder crops were never known before the advent of alfalfa, and heavy cuttings like this are a wonderful thing for sheep and cattle growers. Sheep, cows, horses and poultry thrive on it. An Illinois farmer recently built a mammoth sheep barn right in the midst of the Elgin dairy district and has made the centre of the building from the ground up a huge storage bin for alfalfa hay. The bin has a capacity of 600 tons and the sheep occupy broad runways around it.

Alfalfa hay has come to be such an important factor in live stock raising that it is shipped extensively in bales to markets as far away as Hawaii and Alaska. Much more of the hay is ground into meal or cut into small pieces, for then it is economically transported and easily handled in small lots. It is made large use of in feeding poultry, as well as for balancing the rations of cattle and horses. In some sections the weather conditions are not favorable for curing the first and last cuttings and they make excellent ensilage.

**Once Started, It Stays**  
It should not be understood though, that alfalfa is a crop that can be grown without careful preparation. Quite the contrary is true. It is a tender plant for the first year or two and easily killed out by the competition of grass and weeds. The soil must be worked well and given repeated cultivation. In many sections of the east an application of lime is necessary. Once established, though, a field of alfalfa is worth all the trouble and expense necessary in order to get it properly started.

**The Oldest of Fodder Crops**  
It is an interesting fact that alfalfa is by no means a new fodder crop. In point of fact, it has been known and valued for at least 2,000 years, although it comes to many American farmers even to-day as something of a novelty. It has been cultivated for many centuries in Europe and is well known in South America, where it was probably introduced from Mexico, having been taken to that country by the early Spanish discoverers or settlers. It came to the American farmers, however, at a time when it was greatly needed. It has played a wonderful part in the upbuilding of western agriculture and promises to make possible the continued production of milk in the east at a price which is not prohibitive to people with little means.

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335 CANDLE POWER GASOLINE & KEROSENE  
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**RADIANT WORLD**  
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**BLAZING INCANDESCENT GASOLINE** Lighter known as "gasoline" is the most powerful lamp on the market today. The burning gas is given in a steady, bright, yet soft, ray, and is not at all dim. It is a lamp of high efficiency, and burns 8 hours for 1 cent. It is a lamp of high efficiency, and burns 8 hours for 1 cent.

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Put your money into good material, honest construction, working convenience and practical safety---the items that really count in the selection of a good traction engine.

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Practical Talks To Threshermen

LESSON CXVIII.

**T**HE carburetor problem in an engine that works under constant conditions of air pressure, temperature, speed and load is very simple. An ordinary mixing valve will perform the functions of carburetion as well as one of the more expensive and complicated devices. But in engines that do not work under constant conditions a mixing valve will not give good results. It will not give a uniformly constant mixture and the motor will

In the first group the quality of the mixture is automatically controlled through hydrostatic pressure. All carburetors of the well and submerged types belong in this class.

In the second class, moving parts like spring valves, gravity valves and ball valves are utilized to automatically control the quality of the mixture.

In the third class the quality of the mixture is controlled by hand adjustment. The throttle opening is fixed by hand adjustment and is depended upon to provide the proper proportions of the fuel and air.

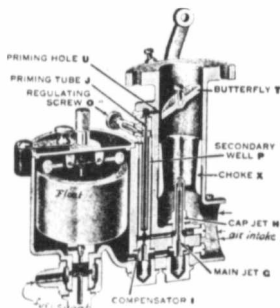


Fig. 1—Zenith Carburetor of Well Type

not run either economically or with certainty. Varying conditions require a carburetor of more complex design that will adjust itself automatically to the changing conditions. Carburetion is more difficult and complex than ignition or valve action.

The basic principles of carburetion are simple enough. It consists merely in vaporizing the fuel and adding enough of this vapor to a given volume of air to make a readily combustible mixture. The difficulty of performing this operation lies largely in the characteristics of the fuel itself. In order to obtain complete vaporization it is necessary to pulverize or atomize the fuel thoroughly first and then supply enough heat with the air to vaporize the fuel. Vaporization can only be accomplished with heat. If the natural air contains enough, as it generally does in the summer time, the problem is easy but if there is not enough heat in the air then it must be supplied from some external source. Usually the entering air is heated by heat from the exhaust gases and sometimes by a water jacket around the carburetor connected with the jacket water of the engine.

The carburetors used on automobiles and other high speed motors appear to vary widely in design and in some respects they do, but after all they may be all divided into three principal groups.

Figure 1 illustrates a carburetor of the first named group and Figure 2 a sectional or spread out view of the same carburetor, the better to explain the working of the different members. A feature of design that has occupied the attention of designers of late years is to devise a carburetor that will make easy engine starting. In most cases this is accomplished by the use of an auxiliary jet. In some carburetors this jet comes into action when the throttle is entirely closed and in others when only partly closed. In whichever manner the jet is used a small air duct causes heavy suction on the fuel in the auxiliary jet and results in a rich mixture which is essential for easy starting.

The small letters are used to represent the same member in

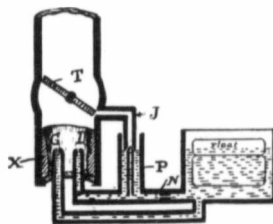


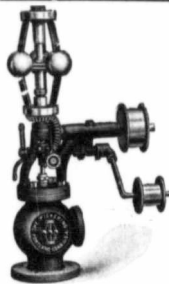
Fig. 2—Spread out view of Carburetor

both figures, to make the reading of the diagrams easier. This carburetor is provided with a main jet G, and a compensator jet I, besides a well P, and a small jet J. These are the features that differentiate it from most other carburetors. It has in addition the usual float chamber with float which automatically shuts off gasoline from the reservoir when the gas rises high enough to lift the float to its highest position, but the double jets and the well are the distinguishing features.

It is a well known fact that as the suction increases with increase of speed of the motor, the flow of gasoline increases faster

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than the flow of air. The result is that there is a tendency toward an over rich mixture unless something is done to counteract this tendency. In some carburetors, which will be described at the proper time, auxiliary spring controlled valves are employed. In this particular type of carburetor which we have illustrated the control is effected with two jets and a well.

The main jet G would give a mixture that is too rich at high speeds if it were made large enough to supply the necessary fuel for slow speeds; consequently, it is made a little too small for any speed if used alone. The jet I is fed from the well P and it in turn is supplied through a pipe with a restricted opening N. When the engine stands idle for a moment the well P fills. Then

when it starts up fuel is admitted through both jets G and I. This results in a very rich mixture which is necessary for starting. After a few revolutions of the motor the well is drained and then only a small amount of fuel, merely what can find its way through opening N, can be supplied through the jet I.

As the speed of the engine increases, the amount available through jet I for each charge becomes less and less because it is not affected by suction while on the other hand the flow through G steadily increases. The fact must not be lost sight of that while the flow of fuel through G increases with the suction there is no such increase through I because tube N opens into an open well. It is not therefore affected by suction in the least, it responds only to the action of gravity and there is a fixed flow of gas into the well P which can not vary with any change in engine speed.

It will be noticed that when the throttle is only partly opened, so that only a very small volume of air can pass through, it uncovers the jet J. This permits gas to flow from the well P up through J and enables the motor to be started easily and run idle on practically closed throttle.

The only adjustments needed with this carburetor are the throttle and air adjustments for slow speed by means of screw O. Screwing this in restricts the flow of air to the well P and this increases the pumping effect at the tip of the tube I and results in a richer mixture for slow speeds and idling.

### HORSE AND TRACTOR

Endurance is the horse's weakest point, and flexibility in limited range his strongest. From six to eight hours work a day is as much as any horse can endure and keep his weight and health. A pull of thirteen to fifteen miles per day over average roads taxes a horse's strength about to the safety limit. A good gas tractor on the other hand can work continuously in the rush season, plowing twenty-four hours a day

with a change of crew, and do seventeen miles of furrow within ten hours as a regular day's work.—G. E. Walsh.

### ERROR

In details of plowing demonstration at Brandon, given in our August issue, the Case Threshing Machine Company's tractors were wrongly described. Instead of 12-25 tractor pulling 3 plows, this should read **10-20** h.p. and instead of 20-40 pulling 4 plows, the correct h.p. is **12-25**. We regret this mistake, for which we are entirely to blame.—Ed.

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 Army 7 shot carbine \$2.50; rifle, 150 each  
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### DOES IT PAY TO SHIP CREAM?

By R. Thomson, Delisle, Sask.

Does it pay the average farmer to ship cream? Is sweet cream a condition of the cream when it arrives at the creamery or does it depend on the supply? The answer to the first question is in the negative. Undoubtedly bigger returns may be got from cream shipped than from that which is marketed at home, but it would not pay the average farmer to keep a man and pony to make the trips to the station, nor may he himself neglect his farming and make the trips himself. As a general rule not more than two or three cows are kept on a farm, just sufficient to keep the household in milk, cream and butter with perhaps a little to sell. Until the farmer is financially in a position to build good barns, he should leave the shipping of cream alone because the sanitary inspector requires the barn to be thoroughly sanitary in its draining, lighting and cleanliness of its walls. Nearness to a station need not be absolutely necessary to the shipping of cream, but it is an economic factor that may not be lost sight of as the time occupied on the journey must be charged to the profits on the cream.

The knowledge at the disposal of the writer points to the fact that the grading of cream depends on the quantity rather than the quality. A neighboring farmer ships cream. The cows are in pasture all day and all night and are taken in night and morning only to be milked. The cream is separated, cooled and put into a shipping can which is placed in the watering trough—an iron tank holding 10 to 12 barrels of water. Watering about 40 head of stock daily ensures fresh, cool water being in the tank all the time. Milking vessels and separator parts are thoroughly scalded and cleansed after being used. On hot days the cream can is covered with a blanket to protect it on the two-mile drive to the station. The cream invariably grades sweet, giving 35 per cent butter fat and is paid for at the rate of \$35.00 per hundred pounds. Another neighboring

farmer treats his cows similarly, except that unless windy or dusty, the cows are milked in the open. Scrupulous cleanliness is exercised in the care and handling of the milk and cream, the latter being placed in the inhouse immediately it is cooled, and conveyed the four miles to the station by automobile. The cream grades as sour and is paid for as 20 per cent butter fat. What is this explanation? Both farmers ship to the same creamery. A third farmer wished to ship cream and wrote asking prices. He was informed that the creamery company had all the cream they could handle and that they could in that event only pay him for sour cream.

No. 1 farmer has had several visits from the sanitary inspector and the government veterinary. No. 2 has never seen or heard of either.

Personally, I have never shipped milk, utilizing it all on the farm. So long as butter sells for not less than 25 cents, the cream is made into butter, but should the price become lower, this milk is made into cheese for home consumption. Few are aware that cheese can economically be made on the farm, and many carry cheese home from the stores, adding to the cost of their living when a good palatable article can be made at home.

The method adopted is very simple and might be looked on by experts as primitive. The apparatus is inexpensive and within the reach of all. The new milk is strained and put into a pot with one tablespoonful rennet added to 10 to 12 quarts of milk. Stir the rennet in, and when the milk coagulates, break it up with a big knife or spoon, then allow it to settle, when a curd will form. Drain the curds and keep in a cool place until sufficient has been gathered to fill the mould. Then break it all up evenly and salt to taste.

A serviceable mould can be made from a shallow candy pail, about 5 or 6 inches deep, obtainable at the stores for about 10 cents. Take it to the blacksmith to put on two iron hoops and bore holes around the side and at bottom to permit the whey to run off. Get a cover made to fit inside the mould so that the cheese may be properly pressed.

## The Real Test



is the test of CONTINUITY. Any sprinter can take an odd medal, but the real winner is he who is ALWAYS on the prize list. The CONTINUITY of its service, its simple character and the scientific precision of its work in extracting butter-fat from milk has made the

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the most popular dairy utensil all over the Dominion of Canada.

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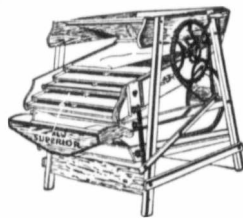
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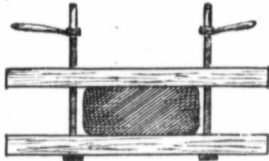
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The press may be made from two pieces of plank twelve inches wide or more and three inches thick and two feet long. The bottom part of my own is made from an old railway tie, as the heavy weight serves to keep it in place when tightening the press. Get the blacksmith to



Home Made Cheese Press

make two bolts two feet long of one-inch rod and tap far enough down to allow the planks to come

close. The "nuts" must be in the nature of a lever with a handle to give the operator power to tighten without using wrench.

Here you have the whole apparatus complete at a cost of approximately one dollar. A trial or two will soon make the novice an adept and the home-made article will replace what has been "brought home in a basket." The cheese need not be kept long in the press, 48 hours at most, but see that the whey has been thoroughly pressed out. The subsequent storage of the cheese, damp, dry, hot or cold will all have a very material bearing on the flavor and "strength" of the finished article and must be settled by the task of the consumers.

## Raising The Dairy Calf

It is now fairly well understood that calves properly raised on skim milk are equally as growthy, thrifty and vigorous as those raised upon whole milk or those allowed to run with their dams. In fact, the skim milk calf will oftentimes show a more rugged framework than a calf raised on whole milk. It is usual, however, for the whole milk calf to appear smoother and more plump, due to the fact that it lays on a greater amount of body fat than the calf fed skim milk.

Except for the fat that has been removed, skim milk is identical in composition with whole milk. When whole milk is taken into the calf's body, the fat of the milk is used to produce heat to keep the calf warm and also to form body fat. This same function can be performed very much more cheaply by starchy grains, such as corn and oats.

The protein of milk, which is the constituent most concerned in muscular growth and the building up of the vital organs, is equally as abundant in skim milk as in whole milk.

### Taking the Calf from the Cow

It matters little whether the calf is taken from the cow immediately after being dropped or is allowed to stay with its mother for several days. The essential thing is that the calf receive the first milk from its mother. A calf should always receive the milk from its own mother for the first two or three days of its life, because the milk is quite unlike normal milk and stimulates the calf's digestive tract to action.

The earlier the calf is taken from its mother the easier will it be to teach it to drink. When the calf runs with its mother for several days it will learn to drink more quickly if it is not offered

milk for 24 to 36 hours after it has been separated from the cow. In most cases the calf will learn to drink quite readily if allowed to suck the feeder's fingers while they are held under the milk.

### Feeding Whole Milk

The stomach of the young calf is small, so that it is not able to handle large amounts of milk. Eight to 10 pounds or 4 to 5 quarts per day is the proper amount to feed a young calf. For a very small or for the weak calf, 6 pounds or 3 quarts is sufficient. The results are probably a little better when the calf is fed three times daily first few days. This is not necessary, however, and it is usually best not to feed three times daily unless the milk can be obtained fresh from the cow. The milk should be divided equally between a calf being fed twice daily, receiving 4 to 5 pounds at each feed.

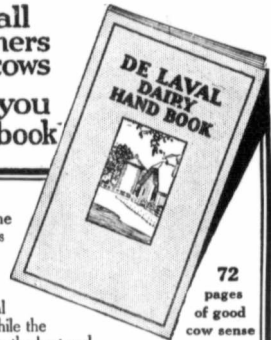
### Feeding Skim Milk

A calf of ordinary vigor can be put on a skim milk diet at the age of two or three weeks. The change to skim milk should be gradual. This change is best made by substituting a pound of skim milk for a pound of whole milk at each feed until the calf is receiving only skim milk. The amount of skim milk fed should be the same as that of the whole milk which it replaces. This will usually be 10 to 12 pounds for a calf two or three weeks old. A gradual increase in the milk should be made as the calf grows, until at the age of five months it is receiving 16 to 20 pounds daily, depending upon the size of the calf.

### Feeding Grain

A calf will begin to eat a little grain by the time it is two or three weeks old. After it is a few days old, grain should be kept

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THIS book was written for the man with only two cows just as much as for the man with twenty. In it has been gathered together a great fund of valuable information on subjects which are of vital interest to every cow owner. And while the various phases of dairying are treated by the best and highest authorities, it is not a technical treatise but is written in plain every-day language so that even the children can understand it.

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before it and a little put into its mouth immediately after it has finished drinking its milk to aid it in learning to eat. The grain should always be fed dry and never mixed with the milk. In order that grain be properly digested it is necessary that it be chewed before it is swallowed. Probably the best time to feed the grain is just after the milk has been fed. The calf's appetite is very keen at this time, and it will take to the grain readily.

A good grain mixture to use until the calf has learned to eat well is crushed oats. Up to the age of three months it is well to give the calf all the grain it will eat. At that time it will be eating 2 or 3 pounds daily and may very well be limited to this amount until weaning time.

**Feeding Hay**

The calf will begin to eat hay about the same time as it does grain, and some should be provided for it to nibble. For the young calf, clover or mixed hay is as good as any. It occasionally happens that where alfalfa hay of the best quality is fed immediately after the milk and grain, a calf will gorge itself to such an extent that impaction of the stomach may follow and prove fatal. When very palatable hay is fed, it is well either to supply it in limited amounts or to keep it before the calves all of the time so that they will not gorge themselves at any one time.

**Feeding Silage**

Silage may be fed with safety to the young calf, and is very much relished by it. It is well to pick the pieces of ear out of the silage fed a young calf. In using silage avoid overloading the calf's digestive system either by offering even only a small amount or supplying it in the middle of the day.

**Water and Salt**

It is a mistake to assume that a calf does not require water because it is receiving skim milk. The calf should have water accessible at all times, as it will drink considerable despite the fact that it is receiving a large quantity of milk. It is also quite necessary that the calf be provided with salt. It requires salt besides its regular feed, the same as does an older animal.

**Weaning**

Six months is a very good age at which to wean a calf, though there is no reason why the feeding of milk should not be prolonged beyond this time if skim milk is abundant. A calf can be weaned in three or four days' time by gradually reducing the amount fed.

**Scours**

Scours in calves are the most common sources of trouble in calf raising. If a feeder is able

to avoid the occurrence of scours in his calves, it is very seldom that other ailments will annoy. Scours in calves are of two kinds: White scours or scours from indigestion. The common cause of scours is indigestion or inflammation in the stomach. This may be brought about by a large variety of causes, but in any case the aim of the treatment should be to remove the source of the inflammation. As in most other ailments, half of the battle in curing scours is to begin treatment as soon as any trouble is noticed. The calves should be watched closely and treatment administered upon the first indications of scours. Treatment should always begin by cutting down the ration, thus giving the calf a chance to rid itself of the irritating material. The milk should be cut down at least one-half and in severe cases withheld entirely. In most cases after one or two feeding periods have passed, the calf will appear normal, and full feeding can be gradually resumed. In more obstinate cases it may be necessary to administer a physic of two or three ounces of castor oil given in a little milk. After a calf has suffered with scours, feeding should always be light for a few days until the calf regains its strength.

To avoid scours it is essential that the condition of the milk be controlled. Milk should always be fed sweet if good results are to be obtained. While it is known that healthy, vigorous calves may be raised on sour milk, it is not a good policy to try to feed it, because it is often impossible to obtain properly soured milk. Milk that has been allowed to stand around until it is half rotten is quite different from normal sour milk, though it may have a sour taste, and it is almost sure to cause trouble if fed to calves. Sweet milk is very much more dependable in quality and should therefore be used exclusively.

Scours are often caused, no doubt, by a filthy condition of the feeding pail or trough. Unclean milk or milk out of unclean vessels will cause trouble. It is best to give the calf pails the same treatment and attention accorded the regular milk pails. They should be kept sweet smelling.

Milk should always be fed at a temperature near that of blood heat, or between 95 degrees and 100 degrees Fahrenheit. This is the temperature at which the calf would receive the milk if it were sucking the cow. Cold milk taken into a young calf's stomach so chills it that digestive processes are checked for a time and digestive disturbances are liable to follow.

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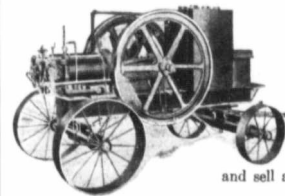
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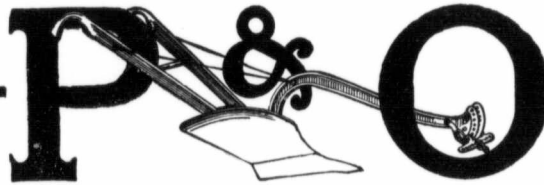
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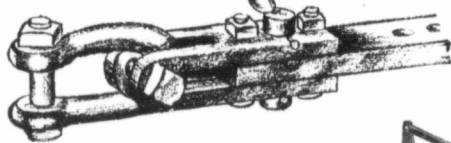
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HEAD OFFICE - - WINNIPEG





The  
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Break  
Hitch

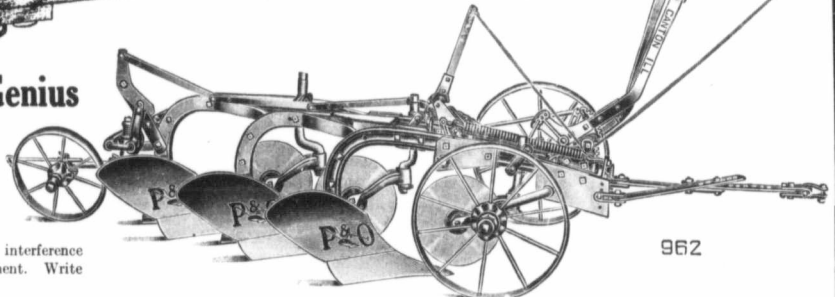


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is one of the important factors in the remarkable record of the P & O Little Genius. It is the factor that enables the Little Genius to make good under adverse conditions. Wrought into every part of this little plow is the idea of reserve strength and ability to meet emergencies. That wooden pin shown in the cut to the left protects engine and plow against damage from hidden root or stone. It has nothing to do with the efficiency of the plow under ordinary conditions, but—it is there for the emergency.



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Alfalfa leaves the land richer in organic matter and nitrogen than before it was grown. Organic matter and nitrogen are two things very necessary to have in the soil in order to grow good crops. In continuous grain growing, organic matter and nitrogen are wasted. It has been found that in continuous grain growing five times as much nitrogen as the crop uses is lost from the soil. There is also a rapid loss of the organic matter. When a grass crop or a legume crop is grown,

organic matter is added to the soil. The grasses do not add nitrogen but the legumes do, which makes them more valuable than the grasses. A legume as alfalfa produces more hay, too, than any of the grass crops, and the alfalfa hay has a higher feeding value.

Alfalfa will improve the land and, at the same time, produce more food for live stock than any other crop grown.

### MAKING BUTTER

Cream is made up of little fat globules floating in milk. In making butter the fat globules are brought together into a mass and the milk is removed as buttermilk. These fat globules will stick better when just the right heat than if either too warm or too cold. A good temperature for churning is 58 deg. Fahrenheit. When the cream is the right sourness it churns better than when sweet or too sour. The cream should be kept at 50 deg. or lower till the day before churning. Then warm it up to 70 deg. or room heat, which will bring about the souring by the next day.

When the barrel churn is used, allow gas to escape every few minutes at first. When the butter begins to come keep a close watch

and stop churning when the butter granules are the size of wheat kernels. Draw off the buttermilk and wash in the churn repeatedly with cold water till the buttermilk is all removed. Then remove the butter from churn and work it with a paddle. Add an ounce of salt per pound of butter. —North Dakota Experiment Station.

### CORN, OATS, WHEAT FOR FEED

In an experiment at the Wisconsin Experiment Station 3, lots of heifers weighing about 350 pounds, were fed equal amounts of nutrients. For one lot the nutrients were wholly from the wheat plant, another from oats, and the third from corn. All lots grew at about a normal rate, but after a few months it became easily observable that the wheat lot was not so well nourished as the others. This was evident from the appearance of the coat. The corn and oat fed lots bred earlier than the wheat fed one, showing that the latter were depressed in some degree. The corn fed lot produced calves which were of normal size but with very low vigor, while those from the wheat lot were about half as large as the normal calf at birth, and were dead or ready

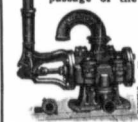
to die when born. When half of the roughage of the wheat lot was replaced with alfalfa hay, the calves were normal.

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#### ARE EASIEST TO OPERATE

The Patented Cog Gear Head on Myers Tank Pumps, saves one-third of the operating power. This will be appreciated by threshers, for using one of the old style pumps is tiresome work.

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**GLANDERS**

Glanders is an infectious disease affecting horses and sometimes attacks man. One of the symptoms is the formation of ulcers in the nose and a discharge, mixed with blood, but without an offensive odor, from the nose. The glands under the jaw often swell. Swellings often occur on the legs, ulcers sometimes form on the skin, the coat is apt to be dull and the affected horse loses flesh.

The discharges from the nose contain the germs which shows how easy it is for a glandered horse to infect a watering trough or manger. It also gives an idea of the care that needs to be exercised when glanders is in a community in order to keep well horses from becoming infected.

Horses that come from a distance, whether brought by horse traders, immigrants or gypsies, sometimes are affected and so spread the contagion.

There is no cure for glanders and being so contagious it has been found best to kill glandered horses. The sooner they are killed and destroyed there is less danger of other horses becoming infected. This is so much of a community problem that in North Dakota the state pays the owner of a glandered horse, that is killed by one of the agents of the state, a part of its value.

It is not always possible to diagnose glanders from the symptoms. A test called the Mallein test can be used to determine whether a horse has glanders or not. This test is very reliable.

Glanders also attacks humans and is usually fatal. Care should be taken in handling a glandered horse. The infection comes through some of the glanders pus getting into the eye or gaining entrance through the skin where it is cut or scratched.

**HORSE LABOR ON FARMS**

On the grain farm the heaviest work for the horses comes in April, May and in August, September and October. The rest of the time there is practically nothing for the horses to do. But enough horses have to be kept during the year to take care of the work during these busy months. When averaged up, the horse on the grain farm only works three hours a day. These figures were secured in an investigation by the Minnesota Experi-

ment Station, under the direction of Thomas Cooper, now Director of the North Dakota Experiment Station. In this same investigation it was found that when the crops are diversified, the horse labor is better distributed. There is less work for the horses in the seasons that are the busiest on the all grain farm, and there is work for the horses when there is no work for the horses on the all grain farm.

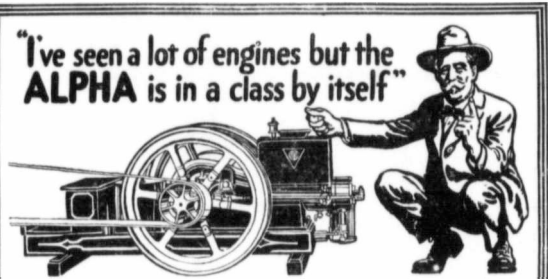
**SMALL PIGS**

In travelling through the country at this time of year, a great many pigs weighing not more than 50 to 70 pounds are seen in the feed lots and pastures.

To be marketed at a price anywhere near the top these pigs must be carried through the winter at least until January or February. When one considers the additional cost of gains made through the winter months when no green feed is available, one is led to wonder whether it would not be more profitable to have these pigs larger at this time of year. That it is more profitable to have the pigs larger at this time of year, at least in most cases, is proven by the fact that the most successful hog raisers see to it that their spring pigs weigh at least 110 to 135 pounds by the end of September. Should one undertake to criticise a man with 60-pound pigs and tell him that his pigs should be larger, an argument immediately follows.

The average farmer knows that his pigs should be larger at this time of year to be profitable. His problem is how to get them larger. Wherever small pigs are found at this time of year, several shortcomings can be located in the management the pigs have had. The first is that inferior, undersized breeding stock has been used, the second is that the pigs were farrowed late in the spring and the third is that they have gone through the summer on pasture but with too limited a grain ration. The first essential in raising big, growthy pigs that can be marketed in the month of November at a weight of 175 to 200 pounds, is that good, big, heavy-boned breeding stock must be used. For some reason or other a pig farrowed in March or early in April always seems to grow faster than one farrowed in May or June. The second essential to rapid growth of the pigs is that they be farrowed early.

March is the month selected as the most successful farrowing month by the best hog growers. It is true that it takes something of a building and a little care to farrow the pig crop in March but it pays. In order that pigs may make a rapid growth through the



**T**HE more a man knows about gas engines the stronger is his recommendation of the Alpha. Users of the Alpha who have had lots of engine experience will tell you that the Alpha gives them the most power for the fuel consumed, is the least troublesome to keep in good working order, costs the least for repairs, and that they can always rely on it to give them plenty of steady power when needed.

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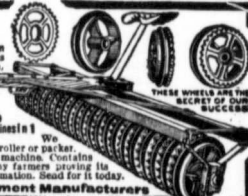
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See Page 17  
Whatever else you fail to read in THIS ISSUE

summer months, they must have a combination of good pasture and a suitable grain ration. It has been proven a good many times that pigs will make the most rapid growth when running on good pasture and getting their grain from a self-feeder. However, this has not always proved the most economical method of making the gains. In the work at the North Dakota Experiment Station covering several years, good gains have been made when growing pigs were pasturing on alfalfa and receiving a grain ration of 3 pounds per day per 100 pounds live weight of pigs.

It has been demonstrated that hogging off corn is one of the most economical and practical ways of fattening pigs. However, if this is to be done successfully, the pigs should weigh an average of 115 to 125 pounds at least when they are turned into the corn in September. This is another reason why every effort should be made to get the pigs early in the spring and grow them rapidly through the summer months.—W. H. Peters, North Dakota Experiment Station.

**HAVE FRESH VEGETABLES DURING WINTER**

Few people realize the number of vegetables that may be kept in the fresh state for winter use.

The essential conditions for the storage of all root crops, including such vegetables as potatoes, beets, carrots, horse radish, parsnip, winter radish, ruta-baga, salsify, turnip, kohlrabi and also cabbage, are that they be kept cool and moist, away from air currents. Storing should be done as late as possible, avoiding freezing.

These conditions may be met in several ways. The simplest for home use where only a few of each are to be stored, is to place them in a box of moist sand or soil in layers and leave in a cool part of the cellar.

Where larger quantities are to be kept, they may be put in what is known as an out-of-door pit. Only whole specimens free from disease should be used. The method is as follows: The vegetables are placed in a conical pile on the surface of the ground in a well-drained location. A covering of six to eight inches of straw or litter is then placed over them, and a covering of as much soil, commencing at the bottom and working toward the top. In severe climates a later covering of manure may be necessary as soon as the soil freezes. In this way, vegetables may be kept in perfect condition until well along in the spring.—J. J. Gardner, Colorado Agricultural College, Fort Collins, Colorado.



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**ALL** the more reason why you should use only **ADAMS SLEIGHS**. The eight or nine months they stand

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Because they're built of better materials—in a more substantial manner—than most builders deem necessary in sleighs.

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**MAKING HOG CHOLERA SERUM AND VIRUS**

Recent years have witnessed such a general adoption of the practice of vaccinating hogs to protect them from cholera that the scientific production of serum and cholera blood, or virus, has become a commercial undertaking of considerable magnitude. Anti-hog cholera serum is made from the blood of a hyper-immune hog. In producing this serum, an animal is selected which has had cholera and has recovered or has been vaccinated. It is placed in a portable crate and wheeled into a laboratory where a block and tackle is employed to raise it up in a frame so that it cannot move. An incision is then made in the animal's ear and the proper amount of virus injected into one of the veins through a rubber tube. An injection of about one quart is used for an animal weighing 200 lbs. If the hog survives this infusion of diseased blood, it is killed at the end of two or three weeks and its blood is drawn off and used for serum. It is not used, however, until a post-mortem examination shows that the carcass is in a healthy condition. It is now a well recognized practice to inject cholera-infected blood into an animal at the same time that it is vaccinated with the serum, thereby giving it immunity for life. To procure this virus

# Big Ben

A Westclox Alarm

4 a.m.—

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**BIG BEN'S** the only time-clock the modern farmer knows—he helps the farmer beat the sun to work.

Four a. m., in growing time, starts the farmer's day—brings a bumper crop of hours, for chores and in the field.

That's why Big Ben goes to the farm, at Christmas every year—to lend a hand in preparing for planting days. Now days there's businesslike system on the farm. Where Big Ben's wound up every night, the farm cannot run down.

So it's Big Ben for Christmas, wherever you go—the gift of time that means good-will all year. You'll like Big Ben face to face. He's seven inches tall, spunky, neighborly—downright good all through. He rings two ways—ten half-minute calls or steadily for five minutes.

Big Ben is six times factory tested. At your dealer's, \$2.50 in the States, \$1.50 in Canada. Sent prepaid on receipt of price if your dealer doesn't stock him.

He catches folk build more than three million alarms a year—and build them well. All wheels are assembled by a special process—patented, of course. Result—accuracy, less friction, long life.

La Salle, Ill., U. S. A. **Western Clock Co.** Makers of *Westclox*  
Other Westclox: Baby Ben, Pocket Ben, America, Rings, Sleep-Meter, Loud and Ironclad

for commercial purposes, a healthy hog is taken into the laboratory and infected blood injected into its veins. When the animal

has become seriously sick, it is killed and the infected blood drawn from the carcass for future use.

SEVERAL years ago, a writer, Edward Bellamy, wrote his "Looking Backward." It was a fictitious bit of socialistic imagination that Utopianized humanity's condition and allowed man to live in an idealistic state. When the book itself was written it excited a great deal of popular favor, passing through several editions before it had spent itself. Many of the events therein named have since ceased to be matters of fiction but are listed in the realities of everyday life. Changes, wonderful in themselves, have taken place upon every hand. The giants steam and the wizard electricity have converted the daily toil of man into a work of pleasure, so that events are transpiring to-day which at one time would have been considered fit tasks for Aladdin and his wonderful lamp. Nowhere have greater changes taken place than in the province of agriculture. From the very beginning, Nature has been most lavish in providing the things necessary for the comforts of mankind, but in doing so it has come "in the rough," so to speak. It needed his qualifying hand to make it fit for his use—this qualifying giving rise to the Science of Agriculture.

# The Farmer of 1930

Of necessity, the first thing that appealed to man was how he was going to get the grains that grew enclosed in a head on a stalk into condition so that it could be made into bread, cakes, or whatever they used in those days; so that the first thing he did was to provide some sort of a sickle or hook to cut the stalks of grain, and he would then collect them together. Then the problem would open up, how was he going to get the little yellow grains away from the straw and chaff so that he could use the grain for his own food and have the straw to feed his cattle? For a great many centuries the only process that occurred to them to use was by using something of the nature of the modern flail, consisting of two sticks, one perhaps five feet long and the other two and a half feet, connected together with a thong, so that by swinging the longer end of the combination the other could be brought down with considerable force, full length, on the bundle of grain on the ground. Then with the use of forked

sticks, the straw would be carried away and by throwing what was left in the air, the wind would blow away the chaff, leaving the clean grain. This same necessity exists to-day and the modern thresher is only an evolution brought about by the needs of man and the necessity of being able to perform more of this work within a shorter time.

Following through the ages came such processes as making a threshing floor from fifty to one hundred feet in diameter and tramping it out with their own feet, then later with the use of cattle, and for many centuries this was the method that obtained everywhere. This was necessarily slow and had the disadvantage of cracking a good many of the grains and making it unfit for food purposes and even to-day in many parts of the old country, and in such countries as Syria, Turkey and even Spain, they have no better way of threshing their grain than this, and in our own country, even within the lifetime of people now living under forty years of age, in the new countries just developing before it was possible to have threshers, shipped grain has been flailed.

In every process connected with the handling of crops, the same development has taken place, step by step, stage by stage, epoch upon epoch, until the casual observer almost concludes that the Omega has been reached and that there is little more to be hoped for in new farm appliances. Yet the mind of the inventor is never idle. Through long weary days and sleepless nights his constructive brain, full of cogs and cams and wheels, is evolving some new process or machine whereby ten blades of grass can be made to grow where one grew before or whereby one man can perform the work of ten in the same time and with less labor.

The late C. C. James, in an address before the Ontario Dairy-men's Association, sounded a key-note when he said:

"I should like to imagine yourselves with me this evening on a trip into the country by electric car to a point, say, three or four miles from this city (Peterborough). Let us drop off at some farmer's gate and note our surroundings. First, we see a neat brick or stone house which has about it a noticeable appearance of comfort, with its garden and stretch of grass in front, where, if it is summer time, flow-

ers are in bloom. Stepping inside, we find that the house is equipped with electric light and a system of water supply and that a telephone has been installed. Having surveyed all this, we conclude that here at least we have found the ideal home of the Ontario farmer. Let us turn from this picture and look back in our imagination to the time, not many years ago, when the old log house stood on the spot where this modern dwelling now stands. It was located in a small clearing in the forest and the only means of access to it was the rough corduroy road which has now given place to a highway equipped with electric car service. Marked as this contrast may seem, it has taken but a few years in the history of this province to bring it about. When we contemplate the change, we begin to realize the rapid progress that has been made in agriculture."

And what is true of Ontario can be made true of every province in the Dominion. It is not a question of time. Looking back we may be inclined to judge the future by the past and say to ourselves that such changes can never be accomplished within our own time and generation, forgetting that we are living in an age when progress is accelerated by forces that were never dreamed of in the days of our forefathers. Fifteen years ago the idea of plowing 30 or 40 acres in a day with a single outfit was unheard of, while now it is an every day occurrence during the plowing season. Under former conditions the breaking of the glebe was slow, retarding settlement and at the same time making the process a tedious and tiresome one. Man was driven to the task through necessity, but now we find hundreds of farmers turning over the virgin soil as a means of investment for profit. Hand in hand with the traction plow go modern implements, such as heavy disc and draw harrows, levelers, etc., for transforming the roughly furrowed sod into a smooth seedbed. And these developments have all taken place within the past few years, predicting that the course is onward, and it is safe to do so, there is indeed much in store for the farmer of 1930. His will then be a work that will require the labor of the brain rather than of the hands. He will direct rather than perform the actual labor, or at best will confine his toil to the pulling of a lever or the pressing of a button.

Some time ago the writer had occasion to visit a large farm in North Dakota. This farm consisted of several thousand acres of rich Dakota prairie, well im-

## Prevent Joint Ill—Use



Ashton Do. Aug 21 - 16

Dear Sir,  
The bottle of Foaline you send me gave satisfactory results as the full blood Percheron mare I gave it to foaled a healthy colt on May 27 and is vigorous at present. The mare had lost 2 colts in 2 y. from joint ill and I believe your medicine saved her present colt. I hereby recommend your Foaline

Yours truly  
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FOALINE is sold under the guarantee that the money paid for it will be refunded, if the foal from the mare treated contracts Navel Disease and Joint Ill.

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Please forward by parcel post or express ..... bottles of FOALINE, for which I enclose \$.....  
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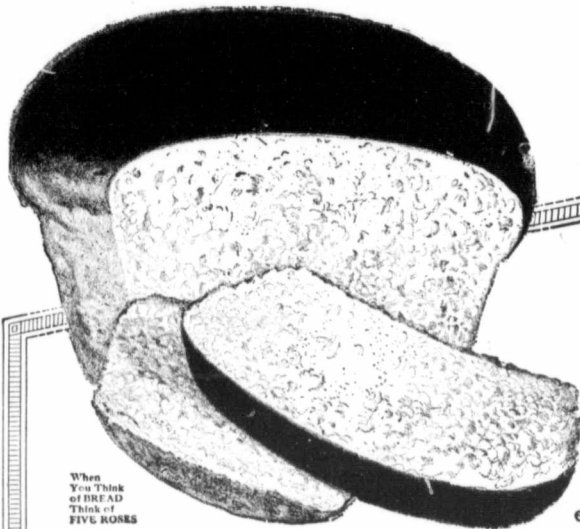
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One bottle required for each mare. Treatment starts 90 days before mare is due to foal.

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Appearance, flavour, digestion, economy — all are served by using

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for Breads-Cakes Puddings-Pastries

In the same splendid loaf, let it bring *you* this extra quality: — a fulness of nutlike flavour, a sweetness that is envied by the best cooks everywhere.

- a crisp, thin crust that is crinkly and toothsome.
  - an elastic texture, porous and well-risen, that retains for days its original freshness, the kind that cuts without crumbling.
  - every slice not only a delight, but a source of vitality, alive with the matchless nutrition of Manitoba's richest wheat.
  - a downy lightness ensuring ready and complete digestion.
- FIVE ROSES brings *more*—it brings *economy*. Because of its uncommon strength, it absorbs more liquid and produces more loaves with less exertion.

Insist on FIVE ROSES flour for *all* your baking. It promotes the family health and mitigates the high cost of living.

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It gives many uses for stale bread and cake: French toast, bread puddings, breadcrumbs, croquettes, pulled bread, bread dust. A splendid chapter on sandwich making.

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Packed in Bags of 7, 14, 24, 49, and 94 lbs. Also Barrels of 5 and 100 lbs.

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proved and under a most intense cultivation for so large a farm. The owner was not aware of my coming so I engaged a livery to take me out from the railway station. I found him in a most delightful state of comfort that was at the same time devoid of idleness. His house was large and roomy, unpretentious but suggestive of business-like comfort everywhere. It was dark when I arrived at the place and after a pleasant evening I retired

to a sleep that can only be induced by the soothing prairie air. Mr. A., for such I shall call my host, was up at sun-up in the morning and had a large share of his business for the day done before 7 a.m. By this I do not mean that he had been milking cows, carrying feed to the hogs, etc., etc., for two hours or more, but he had taken his morning ride on his favorite saddle horse, had inspected some work that needed his personal attention and had

talked over the day's work with the superintendent previous to the breakfast hour. This, he informed me, he did every morning of the working season when at home. A small but well equipped office had been erected in one corner of the yard, and here he settled all matters of business, whether in person or by long distance telephone. A simple system of farm accounts was kept and everything done or undone was recorded in detail. This

office was connected by private telephone with all of his barns and out-buildings, with the residence of his superintendent and several booths were erected at different places on the farm from which the main office could be called up in case something needed attention in a hurry. Everywhere about the place I found this same evidence of the institution of labor-saving appliances, inexpensive in themselves, but contributing greatly

to the comfort of the labors about the place and greatly facilitating the amount of work done. A large room has been fitted up over the tool house for a reading and lounging room for the men, and Mr. A. informed me that though his farm was but two miles from town, his help seldom visited this same town except when business required, but that outside of working hours they were nearly always to be found in their lounging room or in bed.

Modern and up-to-date machinery was used everywhere and I daresay that had one travelled over the entire farm he would not have found a single implement that was not in use lying outside of the tool house. The family automobile took me to the station and I left the farm with the feeling that for once I had seen the application of modern business methods to farming. Now don't misunderstand me and put the article away with the idea that such methods as the above, and only such, are modern. Not every farmer has the farm that will permit of their application in the strictest sense, nor has he the means, but there is so much more that might be accomplished along this line that I feel it is by no means amiss to give an extreme example.

Opportunities are being wasted every day that will make for the farmer a life of ease instead of one of unremunerative toil. There is the telephone, the trolley, the automobile, the refrigerator, etc., etc., all making for a great deal of comfort and not a little profit. There is much in store for the farmer of 1920, even though advancement be only as rapid in the future fifteen years as in the fifteen years just passed. At the end of that period every farmer should have his home supplied with telephone service. By this means the entire rural population will be in as close touch with the markets as is the city broker. Rural free delivery will bring to his home the metropolitan daily, his correspondence will be up-to-date, and instead of being isolated, as he now is he will fit into his proper pitch in humanity's great cog wheel. In 1930 Western Canada should be producing at least 500,000,000 bushels of wheat and other grains in proportion. The dairy export trade would form a large part of Western Canada's wealth, and at least fifty per cent of the goods required by the people should be made here.

The traction plow should be found on every farm and it is really not too prophetic to declare that central power stations will be established in the different farming communities from which

electrical power can be drawn for the different farm purposes. Macadam highways should, by 1930, make the farmer independent of the weatherman or seasonable changes, and in many localities the interurban trolleys will provide an easy means of communication between town and country. Rural schools will be consolidated, making them larger and more complete and giving the farmers' children the same educational advantages as their city cousins.

But, you say these are merely prophetic words. True in a sense, but if we are to be guided by the progress of the past they are well within the realm of possibility. All that is needed is the concerted action of the farmers themselves. By individual effort, by instructions to the legislators in parliament, and by developing and keeping up a community of interest there is much in store for the farmer of 1930. His star will be brighter in the heavens and his position will be that for which he has been called—a real Captain of Industry.

#### Her Precious Thumb

A woman sued a railroad company for \$5,000 for the loss of her thumb, which had been destroyed in a collision, and the opposing counsel opened the defence with the words: "\$5,000 for the loss of a thumb. Well, gentlemen of the jury, the only justification I can see for so exorbitant a claim is that it was the thumb the lady kept her husband under."

## To Investors

THOSE WHO, FROM TIME TO TIME, HAVE FUNDS REQUIRING INVESTMENT, MAY PURCHASE AT PAR

### DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF \$500 OR ANY MULTIPLE THEREOF.

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Proceeds of this stock are for war purposes only.

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For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA,  
OCTOBER 7th, 1916.

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Twelve Months of this Magazine for \$1.00

**FROM WHEAT TO PINE-APPLES**

On account of the great interest being shown in Los Indios, Isle of Pines, by farmers, ranchers and fruit growers, Mr. Charles S. Brown, President of the Canada Fruit & Land Company, is now on an extended visit throughout Western Canada. He reports that numbers of settlers and tourists are planning on locating permanently at Los Indios. He lays the cause to the fact that as so many farmers and ranchers have had the work of an entire year spoiled by the uncertainty of climatic conditions, they are migrating to a more suitable climate.

Every farmer and rancher, according to Mr. Brown, is becoming daily more convinced that the biggest profits are in supplying winter fruits and vegetables. If this can be done successfully in a climate where not only assurance as to fertile soil, evenness of temperature, etc., are assured, but also where home living, educational and social advantages are to be had, so much the better.

Marketing conditions are another point settlers are particular about. They make certain that the demand will be more than the supply and that good prices will prevail.

The Isle of Pines, being situated in what is popularly known as the American Caribbean, is located near the Isle of Cuba and only a short distance from Jacksonville, in Florida. The climate all year is ideal for fruit and vegetable growing. The temperature rarely goes above 90 or below 60, and there is no snow, frost, sleet or hail which cause such a loss among farmers and ranchers in all parts of the United States and Canada.

Los Indios being the only deep water harbor on the island, makes it the only port of entry that will accommodate ocean liners. Unusually low shipping rates are another feature that Los



Three Feet High

**\$39.50 CASH**

**Now! A Full Cabinet Talking Machine at \$39.50**  
*The*  
**MELOTONE**

Right from the makers. **NOTHING DOWN**—all cash—but it's half price—because it's factory to you. Wouldn't you sooner pay \$39.50 cash to the manufacturer than \$75.00 for the same machine on the instalment plan through the retailer? This talking machine is designed and built with the single idea of placing a \$75.00 machine—minus jobber and dealer profits—within the reach of all—\$39.50 f. o. b. Winnipeg. Six choice records (12 selections) \$5.10 extra. The very thing for a Christmas Gift.

**Tone**—The Melotone is rightly named. The tone comes through an all-wood chamber, like violins and pianos—the ideal construction. It gently gathers the faintest undertones of the composition, and it superbly renders the voluminous notes without any rasp.

**Improvements**—This is truly an all-record machine. It plays Edison's new disc records or Pathé, Victor or Columbia. Needles and jeweled tip for Edison's are supplied free.

**Cabinet**—Encased in a genuine oak cabinet of simple elegance (mahogany \$5 extra). A piece of furniture which harmonizes with the most luxurious furnishings yet is not out of place in more homely surroundings. The roomy cabinet holds 70 records—dustproof and protected.

Get this machine because you want big value for your money. Haven't you always wanted a real talking machine? Here it is. You know this is not an old style cylinder machine, and you do not need a table or stand with it. The Melotone is complete. Don't wait another day to order because quick action will be necessary to get prompt delivery, as our output is limited. Send your remittance in to-day. Our money back guarantee and this paper protects you.

**FACTORY TO HOME JOBBER AND RETAILER PROFIT CUT OUT**

**SATISFACTION GUARANTEED OR MONEY BACK**

**A FULL CABINET TALKING MACHINE FOR LESS THAN OTHER TABLE MACHINES**

**The Melotone Talking Machine Co., Ltd.**

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References: Union Bank, Winnipeg

Indios farmers are finding greatly to their profit.

These known facts, together with the rapidly increasing demand and consequent high prices

for winter fruits and vegetables, are making Los Indios the mecca for farmers and ranchers.



Something we Can't raise in Manitoba



**Galvanized or Painted Corrugated Sheets**

The maximum value for building purposes. Full weight, properly corrugated to allow an adequate lap with minimum loss, well covered with a coating that protects, this brand has proved its worth by service in Western Canada. Insist on being supplied with **MAX** Brand and you will get full value for your money.

Your local dealer will gladly quote prices or you can send full particulars of your building with measurements direct to us for free estimate.

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**Are Free Hospitals Possible?**

"Free public hospitals can be had within twenty miles of every settler for one cent an acre."

Such is the announcement of the Free Public Hospitals' League of Calgary. This league was organized by representatives of the Trades and Labor Council, the Ministerial Association of Calgary, and the women. They say:

"Experiments in co-operative public hospitals, already in successful operation, prove that a cottage hospital, adequate to meet the normal needs of the people in a territory equal to four rural municipalities can be built at a cost of from five to eight thousand dollars. The cost of maintenance, including the salaries of a staff of trained nurses, and in some places of a doctor, and the interest and sinking fund on the investment could be met by a tax of from one to two cents per acre on the land. Thus, a homesteader on a quarter section, by paying \$1.60 to \$3.20 per year, could secure proper nursing and medical care for himself and all his dependents residing on the land, without further cost. This is the cheapest sick benefit insurance known in Alberta, and it is an agreeable contrast to present conditions, under which many settlers must pay exorbitant fees of thirty, forty and fifty dollars for a single visit from a far distant doctor, and must pay thirty dollars a week for the services of a trained nurse in the home."

The statement is made that the province spends \$696,234.58 to build and maintain the hospitals already there. "This amounts to \$9 per head for every man, woman and child in the City of Calgary. Yet, before any citizen, except a person who is absolutely destitute can obtain any benefit from these institutions, he must pay fees of \$7 to \$28 per week, with special fees for the use of the operating room, X-rays, etc. The service to the public is not graded according to the need of the patient, but according to his ability to pay. The scale of fees is so high as to constitute a serious burden to those people whom ill-health has rendered least able to pay."

Free public hospitals would mean equal service for all, without anyone bearing a heavy burden. This campaign is worthy of the consideration of the men and women of all the Prairie Provinces for Saskatchewan has already passed an act allowing the people to establish free municipal hospitals along pretty much the lines suggested by the Free Hospital League of Alberta. Next month I will give the text of this act.

The Trades and Labor Council of Winnipeg has been gathering some statistics preparatory to a campaign for free municipal hospitals in Manitoba.

We must have free hospitals, for the barbarous method of putting on the weak and the physically disabled the burden of great bills is uneconomic and unsocial. The united bearing of the burden of ill-health is the Christian and economic method.

**Saskatchewan Women**

The Equal Franchise Board of Saskatchewan is doing splendid work for the women of that province. It recently appealed to Hon. George Langley, who administers the municipal affairs of that province, for legislation that would allow the women on the homesteads a vote in municipal elections. The municipal vote in that province is a property or household vote, and as the women on the farms rarely have property in their own name and rarely rent property, it practically disfranchises them, so far as the municipal vote is concerned.

The women of the other Prairie Provinces are in exactly the same position.

The women of Saskatchewan are ahead of the other prairie women in that Mr. Langley has promised them that he will bring in legislation to enfranchise the women municipally, who make the homestead their home and have a right in it. This will be a big step in the right direction.



Mrs. BENNETT, Regina, Vice-Pres. Saskatchewan National Council of Women of Canada

Mr. Langley has also promised the women to right a grievance, that surely needs righting. In Saskatchewan and Manitoba the women are not allowed to hold municipal offices such as councilmen and mayors, and controllers. The only municipal office open to women is the school board and there is no salary attached to the position of school trustee. Mr. Langley says that he overlooked having that change made last year, but he will do so this year.

At present the women of Alberta are the only prairie women who are eligible for all municipal offices. Premier Sifton of that province, when he enfranchised the women, did it fully and gave them

not only all the provincial rights that the men enjoy, but all the municipal rights.

**Federation of Women's Clubs**

Since the prairie women secured the franchise, they have felt the need of some central council of women representing all the women's organizations in the province, where questions of interest to all might be discussed and united action decided upon. As I stated before in this page, the National Council of Women of Canada appears to be the machinery that can be best used for this purpose.

Mrs. Edwards, of McLeod, Alta., is the National vice-president for the Province of Alberta, and she has succeeded in organizing a number of local councils, which comprise most of the large organizations of women in that province. The committee on laws for that province was appointed by the council.

Saskatchewan has but one Local Council, but Mrs. Bennett, the National vice-president for that province expects to soon have a large number of Local Councils taking in all the important organizations of women.

Manitoba has two very strong Local Councils, representing about eighty organizations of women and it is expected that other local councils will soon be formed taking in all the large organizations of women in the province.

**Laws for Manitoba Women**

The Political League of Manitoba has outlined the legislation that it will strive to have passed at the coming session of the legislature. The first concern of the women is, of course, the unjust laws bearing on women and children. The fact that the women of the province have the vote does not alter the fact that they have no claim on the property of their husbands, that all his property may be willed away from them and that their children do not belong to the mothers, but the fathers, entirely.

There must be a dower law in the province. That is, a law giving a wife some claim on the property of her husband. The Educational League has written all over the world for copies of dower laws as they have been passed in other countries, and for information regarding their success or failure. Lawyers all tell the women that a dower law will make all kinds of trouble and give them plenty of work, but the women are not hesitating. They are going to have a dower law drafted and presented to the legislature for approval. What that dower law

will be exactly has not yet been decided. But before it is presented to the legislature it will be sent to all the large organizations of women for their approval or for suggestions for improvement.

In Ontario the women have a claim on one-third of the real property held by their husbands; in Saskatchewan the women must sign the papers before the homestead can be sold. The law does not state just what their claim is. In some countries the wife has one-half. In others the wife has one-half of the increase in the property after marriage.

**Guardianship Laws**

No mother in this country is a legal mother, unless she is unmarried. That is, she has no right to control the future of her child. It is entirely in the hands of her husband. The father is the only parent. Yet a strange thing is that while the father is the only parent and can do pretty much as he likes with his children regardless of the wishes of his wife, yet, if he does not support them, she must. A woman can be punished by law for not supporting her children, or rather, her husband's children.

The league wishes an equal guardianship law that will give to fathers and mothers equal rights in their children.

Of course it will be evident to most people reading this that these changes in the laws will not affect the majority of people in the slightest degree. Laws are made for people who would not otherwise be just. They are not made for people who would do what is right under any circumstances.

The Inheritance Law and the Guardianship Law are, I think, the same in all the provinces of Canada.

**Municipal Reforms in Manitoba**

The women of Manitoba are going to ask that all the women in the province be made eligible for municipal offices, and they are also going to ask that some change be made in the qualification of voters, to enable women to have the municipal franchise. There has been some talk of asking the government to make the municipal vote a residence vote and not a property vote. Whether that will be done, has not yet been decided upon. Certain it is that the women of the province are not going to be satisfied until they have the municipal franchise, which, being a property vote at present, practically disfranchises them.

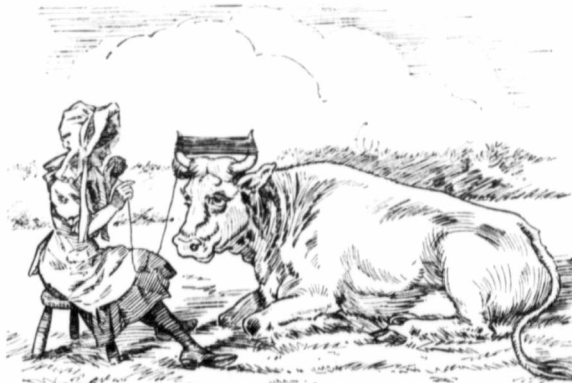
**Dominion Franchise Board**

Last summer, at the time of the Dominion W.C.T.U. convention in Regina, a body of progressive women from almost all the provinces met and discussed the advisability of having a Dominion-wide organization of women, to unite in getting better conditions for women and children all over the Dominion. At that meeting there were a number of women from Eastern Canada who have not the franchise and they asked the help of the West in their campaign for suffrage.

It was decided to write to the women in every province in the Dominion and ask them if they would co-operate in a Dominion-wide campaign by appointing two members to a Dominion franchise board. Of course all the Western provinces have joined, and with them Ontario, New Brunswick, Nova Scotia, and Prince Edward Island.

This board, hopes to meet in Ottawa at the time the Dominion Parliament is in session and it will then put before the cabinet the claims and desires of the women.

Mrs. Nellie L. McClung is the chairman of the board, and Mrs. Lawton, of Yorkton, Sask., is the secretary. These officers will act until a general meeting, when permanent officers will be elected.



One Result of Shortage of Male Labor on the Farms.



# OUR YOUNG CONDUCTED BY Cousin Doris. FOLK.

## Girls' Cosy Corner

### TRUE OWNERSHIP

By Blossom Allen

Who owns the hills which swell and spread  
In softened lines of misty blue?  
The earth's blue archway overhead,  
And golden sunbeams striking through?  
The purple veil of mist now spans  
The farthest summit I can see,  
The ground and trees, they say, are man's,  
Their beauty—that belongs to me!

Who owns yon meadow, sweetly fair,  
Where purring brook croons softly by;  
Where clover-scent hangs in the air  
Like cloud-wreaths in a summer sky?  
That meadow, wreathed by Nature's hand,  
Which seems both human and divine,  
Is to its owner so much land;  
Its beauty—that is all, all mine!

To whom belongs the sunset's flush,  
Or rainbow, when the clouds are spilled?  
Whose is the morning's radiant blush,  
When every vale with mist is filled?  
Who owns the silver of the moon,  
Or gold or burning summer sun?  
Ah, they belong, like rose June,  
To those who love them—every one!

Who owns each fragrant wayside flower  
Each woodland glade or spicy breeze?  
To whom belongs each fleeting hour,  
Each birdsong in the forest trees?  
Who owns the tender hues of spring,  
Or glories of the brilliant fall?  
A beauty shines in everything,  
And he who sees it owns it all!

### FLORENCE McCLUNG

#### The Daughter of a Master Builder

By P.R.H.

A few years ago a little girl won a prize for the best written letter to this department. The other day I met this girl and was surprised to see she had grown into a young lady. Our little girls grow so fast, but when they grow sweet and beautiful and lovely, as Florence has grown, it is all right. Florence sat opposite me and her charm of personality and beauty fascinated me. Is it not lovely to see a girl appear with a complexion just as God has made it? I see so many girls whose faces emphasize their opinion that God did not know His business when He created them, so they try to improve His work by covering their cheeks with red stuff and their lips with red stuff and their eyelashes with black stuff and what is left with white stuff. Then they put on their hats and, with a final look of approval, defy God and Nature. Now everyone who sees them is immediately struck with a feeling of disgust. The tempter says to himself, "There is a girl I can trap. Her make-up dares me," for everyone can detect the artificial, and an artificial outside must come from a false inside—a mind that has false ideals. Of course, some girls have mothers who are false, others have mothers who are good, but are not obeyed. But Florence has a good, true, sincere mother, and Florence obeys her and that is the reason she is so sweet and beautiful and natural, and that is the reason I was lost in admiration when I met her the other day and was so proud that she belonged in her childhood to our Cosy Corner.

Now we need more than anything else in our Empire—girls that are sincere and womanly for they influence men and women to be brave and noble and strong. We do not want silly girls whose beauty

lasts only till the paint is washed off. Every girl wants to be lovely and the only recipe for beauty is that which can be applied to the heart, for the face is the barometer of the heart. Every face advertizes the life to which it belongs. I see hard faces, ugly faces, bad faces. I know the story that must mold those faces.

Everybody in this big wonderful world loves a beautiful face. No paint on earth can cover the cracks in the face that have come from the disturbances of a frozen heart. So, if our girls want beautiful faces, they must appear just as God has made them, and when a mother is in partnership with God as she directs her girl, and her daughter obeys her, this daughter develops into a beautiful woman. Florence has just this kind of mother. Florence has a brother who is a soldier has three other younger brothers. Others speak of Nellie L. McClung in her great splendid public work, but I like to think of her greater work in the home and if anyone ever doubts for one minute her ability as a house-maker, let that person meet Florence—the lovely daughter of a beautiful mother — our Nellie L. McClung. There is nothing in this big wide world so beautiful as a lovely girl and any woman who mother's such is a Master Builder.

## Canadian Boys' Camp

### The Average Man

Here is a toast to the average man,  
Patiently doing the best that he can;  
Working away  
For his average pay  
And knowing he's classed as an also-ran.  
Faithful and cheerful and brotherly,  
Making no boast of his honesty;  
Doing the right  
As given the light,  
With never a taint of the Pharisee.

Helping a neighbor in need of his aid,  
Marching light-heartedly, firm, unafraid;  
Taking the pain,  
The loss and the gain,  
The pleasure and sorrow, as part of the trade.

Bearing a musket when need does arise,  
Following duty, expecting no prize;  
Doing his stunt;  
Bearing the brunt;  
Upright and looking all men in the eyes.

Claiming no rights save as one of the clan,  
Fighting the fights that his leaders began,  
Plugging along  
With the rest of the throng—  
A pretty good scout is the average man.  
—Walter G. Doty.

### CHINESE BOY SCOUTS

There are many new things in China, some good and some not. One of the good new things is the Chinese boy scout movement. The founding of the scout movement in China was due, to a great extent, to the interest stirred up in some Chinese boys while watching B.P. scouts in Shanghai. In Shanghai there is, besides a troop of B.P. (Baden-Powell) scouts, also an international troop called the Shanghai boy scouts; and from these two troops some of our Chinese boys got the idea of scouting.

When the Chinese Boy Scout Association was formed, in 1913, a Chinese railway manager was made president and Admiral Sir Sah Chen-Ping was one of its



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**BOYS AND GIRLS**—This is the chance of your life to get the finest Scholar's Outfit that was ever offered. Just read what it contains: One high-grade large size English school bag, one fine fountain pen with three extra gold finish nibs, one combination safety pen and pencil, a big complete printing outfit including a fine 12 inch ruler, a high-grade lead pencil, a fine pencil box with lock and key, a microscope or magnifying glass, a dandy new pencil sharpener, a fine sanitary pocket drinking cup, one box of fine crayons, one box of fine paints containing 12 colors, one school compass, one 12 inch ruler, a set of 10 school blotters, and last but not least, a fine camera. **It is a wonderful outfit for you.** Send us your name and address to-day, and we will send you, postage paid, a free sample package of Fairy Berries, the delightful new Cream Candy Coated Breath Perfume, and just 32 large packages to introduce among your friends. Open your free package and ask all your friends to try a "Fairy Berry." They'll like them so much that ever, one

will want a package or two at once. Just one little "Fairy Berry" will purify the mouth, sweeten and perfume the breath, and give the freshest, healthiest complexion. Everybody loves them. You'll sell them all in an hour. "Fairy Berries" sell like wildfire. Then return our \$3.20 and we will at once send you this grand complete 34-piece scholar's outfit exactly as represented, and a beautiful full size Folding Film Camera (value \$5.00) will also be sent to you for showing your grand Scholar's Outfit to your friends and getting only four of them to sell our goods and earn our fine premiums, as you did. We arrange to stand payment of all transportation charges on your outfit. Write today—right now while you think of it. Address:

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vice-presidents. The motto adopted is three Chinese words, which appear more than once in this combination in the Chinese classics. They mean "wisdom, kindness and courage." The second-class scout's badge is made up of this motto on a scroll, placed on the new Chinese five-colored flag in miniature. The tests for this badge are like those of our own B.P. second-class scout.

### CITY LIFE

You ask if he lives in the city?  
Well, no, though of course he'd insist  
That he does; but the simon-pure fact is  
That city folks merely exist.

They busily go through the motions,  
But their lives are as froth on the deep,  
Containing more "hustle" than "get-  
there";  
And their flats are just places to sleep.

In spite of the lack of amusements,  
In spite of the death of good plays,  
Folks live—really live—in the country  
While the man in the city just "stays."  
Graydon Gray.

### WORDS WORTH REMEMBERING

**Mr. Lloyd George:**  
"We meditated no quarrel with Germany. As the Lord liveth, we engaged in no conspiracy against Germany. We are in this war from motives of purest chivalry—to defend the weak. Britain is not responsible, thank God for that."  
"Who is responsible? Not France. The Government of France was essentially a pacifist Government. Not Russia. Why, it is the essential part of the German case that Russia would not be ready for war for three years. That is their boast. That is why they attacked her. Belgium or Serbia? Does the victim, the poor victim of a bird of prey, really commence the hysterics?"

"Looking back, we can see what happened. We can see Austria hovering like a hawk over the Balkan fields. The vulture has been hanging over Belgium for some time; we know that now. But it made a mistake. It soared so high that even the most discerning falcon

might have made a mistake. It thought it was pouncing on a rabbit and fell on a hedgehog. It has been bleeding and sore ever since. We know now what it would have been malevolent to suspect before—that the counsellors of Germany, while professing peace, while pretending good will in cold blood with malice aforethought had intended, planned, organized wholesale murder of peaceable neighbors; had even arranged the date to suit herself, a date when she thought her neighbors would be caught unprepared to defend their lives and their homes."

**Mr. Asquith:**  
"There is certainly nothing in the warfare of these one hundred days to damp our hopes, to depress our confidence, or to impair our resolve. Our enemies have tried in turn three separate objectives—Paris, Warsaw, Calais. From each in turn they have retired baulked and frustrated by the invincible steadfastness and valour of the Allies."  
"But that is not enough. We shall not sleath the sword which we have not lightly drawn until Belgium recovers in full measure all, and more than all, that she has sacrificed; until France is adequately secured against the menace of aggression; until the rights of the smaller nationalities of Europe are placed upon an unassailable foundation; until the military domination of Prussia is fully and finally destroyed."

**Lord Kitchener:**  
"The British Empire is fighting for its existence."

"We have enormous advantages in our resources of men and material, and in that wonderful spirit of ours which has never understood the meaning of defeat. All these are great assets, but they must be used judiciously and effectively."

"I have no complaint whatever to make about the response to my appeals for men—and I may mention that the progress in military training of those who have already enlisted is most remarkable—the country may well be proud of them; but I shall want more men, and still more, until the enemy is crushed."

# OUR WOMEN FOLK

CONDUCTED BY  
PEARL RICHMOND HAMILTON

## A SENSIBLE MATCH

By Graydon Gray

We had picked out the man for our daughter.

Tender and pure and sweet,  
Laugh like the ripple of water,  
Hair like the sun on the wheat.

We knew that she dreamed of a mating,  
With Billy, who counted on it—  
Young Billy so patiently waiting  
Until he had saved up a bit.

Poor Billy is earnestly trying  
To stand with the men who have won,  
And there is no use of denying  
We'd be proud of the boy as a son.

He's manly and clean. At his coming  
The maiden's clear eyes are alight,  
And all the day long she keeps humming  
The songs that he sang her last night.

But we've tried, yes, to turn her from Billy,  
We've discouraged the thing all we can;  
For a match 'twixt the two has seemed silly,  
As he's only a salaried man.

Now, Drew is a man more than forty,  
Ill-natured and broken in health;  
He's boorish and flashy and sporty,  
Ah, yes, but just think of his wealth!

He's full of a grasping ambition,  
And his meager soul's twisty and mean;  
But we've thought of his social position—  
Our daughter could reign like a queen.

So we've thought that the girl would prove supple  
And do as we wanted her to,  
For we, like a sensible couple,  
Have been anxious to wed her to Drew.

But to-day as we sat here a-talking  
The pros and the cons, wife and I,  
Billy came to take daughter out walking,  
And the telephone rang by and by.

I answered. Of course it was Billy,  
They were married! It did take my breath;  
But after all, though it is silly,  
Wife and I are both tickled to death.

## THE SIZE OF HEAVEN

By Perrin Holmes Lowrey

"Grandfather, how big is heaven?" I asked;

"Is it big as this town? Is it big as the skies? Is it big as the world?"

His spirit was masked  
With the wrinkles of age, but it laughed in his eyes;  
His lips were shut tight, but he smiled them apart;

"No, Lad, it's the size of a little boy's heart."

## ARE YOU A BIG SISTER?

The Welfare of our Children

Mrs. Colin H. Campbell, of Winnipeg, has been at Ottawa with the object of pressing upon the government the desirability of establishing a national child bureau. The work and scope of the bureau would be to investigate and report upon all matters pertaining to children and child life, including infant mortality, the birth rate, child immigration, dangerous occupations, etc.

"Mrs. Campbell does not propose that the bureau should encroach upon the rights, nor relieve the various provinces, but it would furnish reliable information to the provinces and the general public.

"In her interviews with the prime minister and his colleagues, Mrs. Camp-

bell pointed out that children are more valuable to the State than they were before the war and that the nation spends less upon the scientific study of such problems than on the protection of live animals or the extermination of noxious weeds. She pointed out that it had been discovered in the United States that 100,000 infants die annually before reaching the age of 12 months and that 80 per cent of these deaths are unnecessary. Mrs. Campbell is hopeful that provision will be made for the establishment of the proposed bureau at the next session of parliament.

We, who have the interests of our country at heart, and we all have, realize that we must do everything possible to foster splendid efforts towards the protection of our children. Mrs. Colin Campbell is doing a wonderful work for Canada and in the future her name will

live long in the hearts of Canadians. Another movement is being launched with the idea of protection and help for our boys and girls, and Mrs. Campbell has given both personal interest and money for its advancement. This is known as the Big Brother and Big Sister movement. It is supported by all denominations and creeds. Mr. Billarde, superintendent of neglected children, department of education, is the president. Mr. L. Rice, representing the Hebrews, is one of the vice-presidents; Rev. Harry Atkinson, from the Methodist church, is secretary-treasurer. The other members of the executive are Rev. Father Patton, representing the Catholics; W. H. Moore, from the Y.M.C.A.; and Staff Captain Sims, of the Salvation Army. The members of the executive emphasize the broad idea of the movement. They want to save the boy or girl regardless

of race or creed. Last week Dr. Coffee, one of the leading social service workers in the United States, lectured in Winnipeg in the interest of the movement. I quote the account of his address as reported in a local paper, as I am anxious for our H.E.S. women, our Homemakers' clubs, and all other readers to know of the work as it is to be taken up throughout the West and, in the meantime—be a Big Sister to some deceived or lonely girl or a Big Brother to a needy boy.

## Work of Keeping the Young From Going Astray

Described by Dr. Coffee

"Rev. Dr. Coffee has outlined before us this evening a scheme for the preservation of our boys and girls that is along the right lines. I am satisfied that if this Big Brother and Big Sister movement had been inaugurated years ago a large proportion of the men who are now in our penitentiaries would be respected citizens to-day."

In these words Chief Justice Mathers voiced his appreciation of the address given by Rev. Dr. Rudolph I. Coffee in the Central Congregational church to a large audience, in the interests of the Big Brother and Big Sister movement. The chief justice's remarks were undoubtedly expressive also of the feelings of all those present.

Dr. Coffee, who is a noted social service worker in the United States, opened his most forceful and convincing address by laying before those present the organization and objects of the movement. The speaker stated that the scheme concerns itself with helping boys and girls to attain the best in manhood and womanhood and to better their future prospects.

There are many boys who for lack of proper environment or proper home influence, or who are unable to suppress their youthful energy commit offences which bring them before the juvenile courts. These boys need a fair chance, and the movement has been inaugurated to provide for them a big brother, someone who will volunteer to bring his personal friendliness, sympathy and wise counsel to keep the boy from the moral dangers and pitfalls of present day life.

The movement is also aiming to extend its activities among boys, who, although having committed no trespass, need the sympathy of someone to help them become useful citizens.

## Must Face Problem

"Only now are we coming to understand and realize that poverty is a crime toward God," said the speaker. "Poverty will be wiped out directly we are ready to wipe it out. We must face the problem in an intelligent manner. I was delighted to-day when I was afforded the privilege of visiting Stony Mountain penitentiary to see the humane and kindly methods adopted by the officers there. They are men of real heart and intelligence."

Dr. Coffee referred to the institution of the first juvenile court in the United States eighteen years ago, which was followed by the inauguration of the Big Brother and Big Sister movement, owing to the failure of the parole system. The speaker severely criticized the prison systems in the United States, and added, "If you can find a city prison worse than the jail of the City of Chicago, then I am ready to leave this platform."

"The first great blessing was the juvenile court," continued the reverend gentleman. "The idea now is to give the boy a Big Brother. These little brothers want not your purse, but your personality. You Christian people deserve the greatest admiration for what you are doing in the Western cities by means of the Y.M.C.A."

**Christmas Gifts on Approval**

Wouldn't you like to select from one of the best possible assortments those gifts that you think your friends will like best and have them sent to you on approval, returning those that fail to come up to your expectations?

That is practically what ordering from us by mail means. Really, your remittance is only a deposit. It is understood—guaranteed, that if for any reason or for no reason you wish to return your purchases after seeing them, you are at perfect liberty to do so. Other goods or your money—whichever you prefer—will be promptly sent to you.

"Dingwall's" is the pioneer Mail Order jewellery house of Western Canada. Established in 1882, it has kept pace with the phenomenal growth of the West and is to-day, with its splendid factories and stores, in a position to give you better service than you could possibly obtain otherwise.

Send for the catalogue and see for yourself—there is no obligation—a postcard will do.

**D. R. Dingwall Limited**  
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WINNIPEG

"I will also tell you of the Big Sister movement. Fewer girls than boys have suffered in the past. The war, however, is giving women the opportunity to go out in the world, and to be less under the protection of home influences. Many girls will fall. But what right have we to brand a girl as fallen, when she fell because she was unprepared for what she had to meet? I dislike to use the words 'fallen women' unless you say 'fallen men' at the same time. You must be kind and Christianlike to the fallen woman. There are a number of fine women in Winnipeg who owe something to the fallen girl. The Big Sister movement is a glorious movement. We are helping the unmarried mother. She wants your help. Look at the reward—look at the blessing to come. I abominate the sentimental man or woman. There must be love and kindness. This is the Big Sister movement. I do trust that as a result of this gathering there will be men and women who will negotiate with Rev. Harry Atkinson, secretary-treasurer of the Winnipeg board. Thou that help—another helpeth thou not thyself. The answer is assuredly 'Yes.' You are the keepers of your brothers and your sisters. We are absolutely responsible for the boys and girls of Winnipeg. Let your boys and girls run riot and the country suffers. Look after your boys and girls and the country improves. We shall never blot out poverty until we are prepared to protect and uplift our bad boys and fallen girls. Let us now join hands and stand shoulder to shoulder in this noiseless war, so that we may all become sisters and brothers under the one great God that ruleth the world."

**Chief Justice Approves**

Chief Justice Mathers, who was chairman of the meeting, after expressing conviction of the worthiness of the movement outlined by Dr. Coffee, stated that he was convinced that a great deal said by the reverend gentleman in connection with present day prison systems was right. To place men, who had erred by an act of thoughtlessness or sudden impulse, among the hardened criminals, is to place a stigma upon them, and if they are not already criminals they will develop criminal instincts as a result of the environment.

"Where I find fault with our prison systems," said his lordship, "is that they take stalwart men, confine them in a cell and then march them around the jail yard doing the goose step to keep them in fit condition. These men ought to be employed in some useful public work, and for each day they work a certain sum, a reasonable proportion of the value of their labor, should be set aside for the dependents, or to be handed to them when they are discharged upon the expiration of their terms. I have seen men released from prison without a cent in the world. They were faced with the alternative of stealing or starving."

"Under this new movement we shall be able to get at the better nature of the child. There are more liars and sneaks made among boys and girls because they are afraid that an admission may lead to corporal punishment, than by any other cause."

"Under the movement, directly a boy commits an error he will be given a Big Brother. These Big Brothers will have a very big influence upon the boys. The scheme is logically right because it takes the boys or girls who may become criminals or erring and stops them."

In bringing the meeting to a close the chief justice strongly recommended the movement to the people of Winnipeg, expressing the hope that many would come forward to offer their co-operation in the splendid work which is being undertaken by the organization.

**COMBATING THE EVIL OF THE FEEBLE-MINDED**

It is an old saying that prevention is better than cure, and, in the case of the feeble-minded, this fact is brought home to us very forcibly.

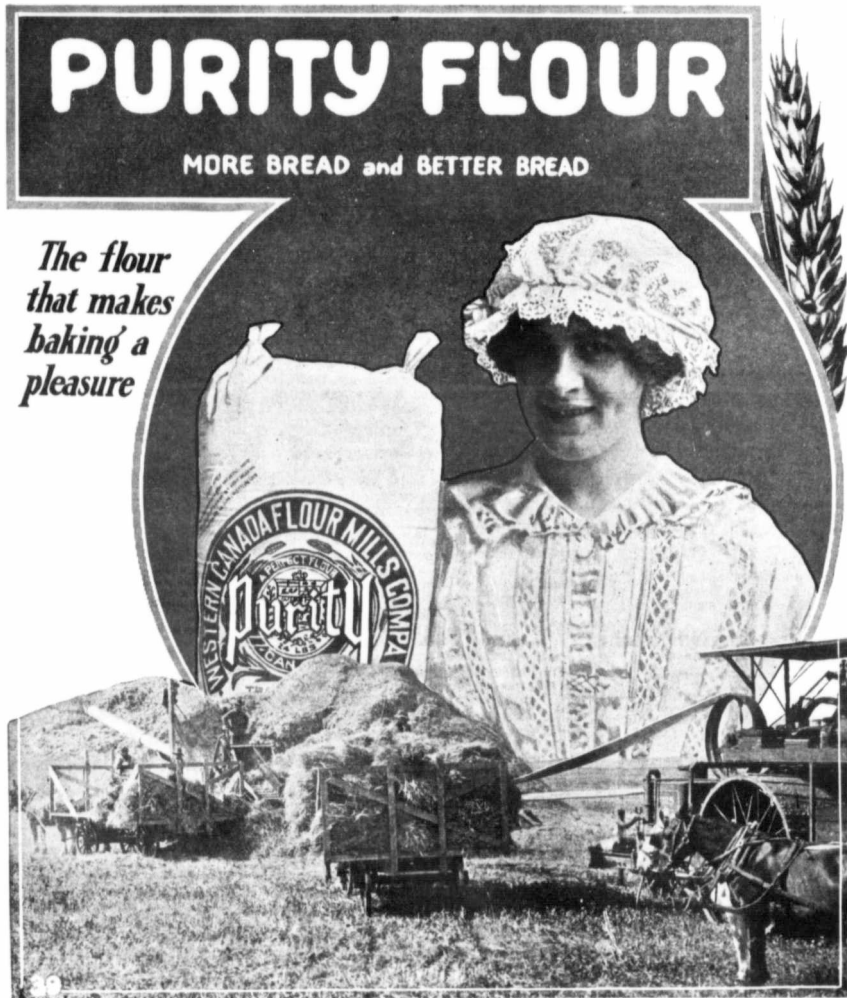
Until proper preventative measures are taken, we will always have this difficult problem before us. It is all very well to provide institutions for these people, and very necessary, but why let the birth of idiots and criminals go on?

Why not get down to the root of the matter, by providing a home for the

# PURITY FLOUR

MORE BREAD and BETTER BREAD

*The flour that makes baking a pleasure*



women of child-bearing age? It has been demonstrated that these women can manage a poultry and egg farm, with proper supervision, of course, and grow vegetables, fruit and flowers. How much better it would be if these people were given an opportunity to live a healthy out-of-door life, to become self-supporting and of some use to the community, instead of either roaming at large, a menace to society, and perpetuating their own kind, or housed in institutions in a most unsuitable environment, because the way

the feeble-minded of all grades are obliged to live side by side, is both harmful and inhuman. There is no reason why the comparatively bright person should be obliged to live in the environment of a person of very low mentality.

If the government, instead of building expensive and imposing edifices, would put the money into the land, on which could be built a number of smaller houses, the feeble-minded could be sorted out, as it were, and live in more or less congenial groups. There is so much talk

about humanity to-day, let us get a little of it into our institutions.

Another way to combat this evil would be to have a health certificate with the marriage certificate, and so prevent, not only the feeble-minded from marrying, but also syphilitics, who are also responsible for idiots and criminals.

Instead of vaguely saying that something ought to be done, let us really stamp out this evil by uprooting the cause, not dealing with the effect.—From Woman's Century.

**Mother's Corner**

**DEPENDENCE**

Whatever Fame may have in store,  
As I life's fital course shall run;  
However much I may explore  
The mountain-tops, anear the sun—  
Let me not, Lord, despite the sky,  
Which lures me upward through the  
maze,  
At any moment climb too high  
To sing my mother's praise!

Whatever Fortune may elect  
To give me on my pilgrimage;  
However much I may direct  
Some prince's or some pauper's wage—  
Regardless of my lofty niche,  
Grant me, O Master of my wars,  
That I may never be 'so rich  
To crave my mother's prayers!



**THE TROPHY HUNTER**

Pat: "Here, kamerad, if I'd a knowed ye hadn't one o' them pickle helmets, I wudn't have come so far!"



Whatever friendly Time may name  
To sweeten my declining days;  
However gently Age may aim  
To scatter peace along the ways—  
Forbid, O God, though saints untold  
Should shower blessings from above  
That I may ever grow too old  
To need my mother's love!  
—Ralph M. Thomson.

**A MANY-TITLED WOMAN**

She's father's wife, and sister to  
My aunt and Uncle Ned—  
Grandmother calls her "daughter Kate";  
She's aunt to little Ted,  
And cousin to a lot of folks,  
There isn't any other  
Relation, though, in all this world  
(Cept me) can call her "Mother!"  
—Mazie V. Caruthers.

**MOTHER EYES**

Could some famed scientist but analyze  
The occult power that rests in Mother  
Eyes;  
Could he equip each mortal with this  
sight  
That looks through all the wrong and sees  
the right—

Perhaps the world would find that many  
a knave  
Beneath his rascal's skin is true and brave,  
And many a scoundrel, hated and reviled,  
To this strange sight is but an errant child.

Oh, gentle reader, Mother Eyes that  
dimly scan  
A vacillating wreck—and see a man,  
If this be blindness, then your God is true,  
For all your pain he is rewarding you.  
—William A. McGarry.

**WHEN OUR CHILDREN ORGANIZE**

The room was full of little girls. One rose and addressed the meeting.  
"Before we ask for membership pledges, I want it understood that this society—The Society for Stimulating the Mother's Interest in Her Children—is founded upon a desire to improve our country by improving its home life," she said in a clear, childish voice. "Our opponents will say that, because we work in the hope that our mothers will spend more time with us, we are opposed to up-to-date movements, that we are conservative and old-fashioned. We are not. We believe in suffrage, in socialism, and even birth-control. But we stand for an efficient distribution of time, and we claim we do not get our share. The society does not contemplate publishing a list of its members at present. We are going to work quietly. We are planning no campaign as yet, although I.W.W. methods may be necessary eventually. At first we are simply going to try to attract the attention of our mothers. Let our slogan be, 'Make the nursery attractive and your mother will come to it!'"

"I take pleasure in introducing the next speaker, Miss Alice Jones, who can speak with authority, for her mother sees her so infrequently that she mistakes her daughter's age to the census man and her own friends. I might add this, although it is confidential, that Miss Jones has had to deal with the Divorce Problem. Miss Jones."—"Life."

**THE MASTER BUILDER**

Recently, Life has published a mothers' number, from which I clipped the above little poems. There are two pictures in the issue that appeal to me. One is entitled The Master Builder. Eight splendid men stand in a row—a soldier, a farmer, a business man, a professor, a physician, a minister, a miner, and an inventor. These men have in front of them a modest, sweet-faced woman sitting in a chair—their mother—The Master Builder.

The other picture is entitled Pleasure and Happiness. The first is a picture of a dissipated crowd of men and women in an expensive automobile. Each woman is holding a pet dog. The expression on their faces is listless and weary. They are tired of everything—nothing interests them. This is Pleasure.

The second picture is that of a father and mother walking out. The father is wheeling a baby carriage and the mother has the hand of a little girl at her side—a father, mother and two dear little children. Their faces are full of animation, interest and peace. This is Happiness.

**MAKING GOOD BABIES OUT OF "BAD"**

By Bertha Bellows Streeter

Many people seem to think that because a baby cannot talk it is difficult to know what is the trouble when it is fretful. The truth of the matter is that the proper care of a small child is based upon very few principles and a mother who constantly keeps them in mind can be sure of having a happy, healthy baby that is a pleasure to the entire household.

The cause of a great deal of fretfulness in children is the lack of proper and sufficient food. This is not confined to the bottle fed babies, either. One young mother who could not nurse her first child was told by her physician that she had plenty for the second. But her "book" said that a child should not nurse more than twenty minutes and not a minute more than that time was it allowed the breast.

The baby had colic and constantly sucked at its fists as if ravenous; this performance was supposed to be caused by the pain it endured. Some of the older women of the neighborhood told of how their babies had had "three months' colic," and even her physician said: "Some children, you know, have to stand this for three months in spite of all one can do. I have two other such cases among my patients."

This young mother would not believe in any three months' colic and told her doctor so. "There must be some cause for this," she insisted. "It may be something I am eating or something I fail to do for the baby. Whatever it is I am bound to find it out and cure it. It is absolutely unnecessary for the child to have to suffer so and for us to have to stand this crying!"

The doctor smiled and went his way; the older women said among themselves that there was a lot for that young mother to learn; and the little woman began to study her baby more earnestly than ever.

She had read that more babies are overfed than underfed and decided to see if her child was one such. She cut down the time of nursing from twenty minutes to fifteen, then ten; things were worse than ever. The only thing that seemed to help matters at all was a bottle of hot water after each meal and it was astonishing how much the child would take.

The baby book said that the capacity of a child's stomach at this age was two and one-half ounces; yet the baby would nurse steadily for twenty minutes, seeming to get plenty while at the breast, and then take four ounces of the hot water before it would drop off to sleep as if satisfied. The doctor said that probably the child had a dilated stomach, but the abdominal measurement proved to be just what it should be.

Meanwhile, the baby was fretful all the time it was awake, its slumber was easily disturbed and after each feeding it would scream as if in great pain. This was laid to the large amount of wind that it broke. A month and a half went by and the child did not gain in weight; instead it was losing steadily at the rate of half a pound a week.

Then one day someone said: "There is only one thing I know of that would cause a child to lose weight as this one is doing and that is lack of sufficient nourishment. Throw your old book away and try stuffing the baby until she leaves the breast of her own accord. It will not do any harm to try it. When a child's stomach is full the surplus milk is forced out of it and certainly there is no room for gas."

That sounded plausible. A trial of the theory revealed the fact that there was barely enough in both breasts to satisfy the child and that it required nearly forty minutes for the baby to get it. Later, when the mother did her own housework, she had to supplement what she had with modified milk.

As soon as the child was satisfied it dropped off into a sound sleep, woke at the proper time to be fed again. From the first week it gained from one-half to three-quarters of a pound every seven days, slept a great deal of the time and did not suck its fists. From being a torment day and night, this little girl was changed into as good a baby as one could ask for. She was bright, happy and all smiles, whereas before she was always in tears.



**THE** desolation and hardships of war, and the worst of winter weather, cannot damp the spirits of our Canadians when the Christmas boxes arrive from "home".

As you plan the parcel for HIM who is dear to you, don't forget that Gillette shaving equipment is just as keenly appreciated on active service as are sweaters, mitts and "eats". If he already has a

**Gillette Safety Razor**

send him a generous supply of Gillette Blades, for probably he is sharing the razor with his pals who are not so fortunate.

Clean shaving is in high favor among our troops—because it is sanitary—because it makes the dressing of face wounds easier—but most of all because of its bracing effect. The Gillette is best for the job—and the man who has one is most popular in his platoon.

Whatever else you put in his Christmas box, be sure there's a Gillette Safety Razor or a supply of Blades. You can buy from your Hardware Dealer, Druggist, Jeweler or Men's Wear Dealer—"Bulldogs" and Standard Sets at \$5.00—Pocket Editions at \$5.00 and \$6.00—Combination Sets at \$6.50 up.

**Gillette Safety Razor Co. of Canada, Limited**  
Office and Factory—THE GILLETTE BLDG., MONTREAL. 217

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Thousands send their yearly catch to us. After trying many others, they stay with us. Why experiment? Why run the risk of losing money another year? Send your furs where you are sure of fair treatment. No deductions for commissions or transportation. Highest prices paid because of established outlet in manufacturing centers. Fair grading. Prompt returns. We submit offer if requested. Write for our price list, showing exactly what you will get for furs. This will put you on our mailing list. We keep you informed so no one can mislead you about market prices.

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PATHE AND DIAMOND DOUBLE DISCS  
No needles to change—unwearable records.  
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FITS INSTANTLY ANY GRAMOPHONE.  
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the Farmer got last year

THE ACORN LANTERN

How about one for Dad this year?

This lantern is efficient, safe, reliable, powerful. An economical light and absolutely storm-proof. Burns anywhere in any position. Fifteen hours' light from a quart of gasoline. Price \$9.00 delivered. Order yours early. Agents Wanted.

**UNITED MANUFACTURERS**  
Dept. C.T. WINNIPEG

Exactly the same conditions just next door to this family brought quite a different solution to the problem. The parents there gave the baby a pacifier, a comfort, a soother, a fooler, as the pernicious little thing is called in various

parts of our enlightened country. In another family in our neighborhood this was even recommended by the family physician. The grown-ups gained relief from the children's crying, but the poor babies, cheated of the food they begged



so hard to get, did not gain in weight as they should. Eventually the lungs of one of these babies became affected and to-day he is a hollow-chested little fellow who has had to go through two operations for adenoids and has had every children's disease that could possibly come his way. Beside the bright, healthy baby girl who received same treatment, the physical condition of these children shows up to great disadvantage.

Proper elimination of waste must go hand in hand with proper feeding; one without the other cannot make a good baby. The results of constipation are much the same as those of lack of nourishment; restless and fitful sleep, colic and peevishness during waking hours. A sensible mother of a cross baby, one who knows that the child has had enough to eat, will immediately ask herself when the bowels were last emptied. If it was over ten hours before in all probability she will remove the cause of the trouble if she gives an enema or a suppository. After such treatment the child will fall into a restful sleep only to awaken happy and contented because it feels as a healthy little animal should.

#### Troubled with Croup

Attacks of croup may be induced by exposure to cold or indiscretions in diet. The treatment must aim to produce relaxation of the laryngeal spasm. Such relaxation is best accomplished by the inhalation of steam, the application of heat over the larynx and the administration of an emetic.

As soon as the sharp, brassy bark or the quick, laboring breathing gives warning, wring a piece of flannel out of very warm water and place upon the child's throat, protecting the surface of the flannel and the clothing with a dry towel. Use as hot as can be borne, being careful of course, not to burn the child. Change as often as necessary.

In the meantime induce vomiting by giving half a teaspoonful of syrup of ipecac every half hour until the child vomits. Sometimes the finger may be used or a little warm water and mustard if the ipecac is not at hand. Prepare a steam tent by throwing a sheet over a raised umbrella, the back of a high chair, or anything which will hold it up. Pour boiling water into a container, holding one tablespoonful of compound tincture of benzoin or spirits of turpentine to a quart of water. Cover the bowl with a piece of pasteboard. Make a hole in the pasteboard cover and insert a paper funnel in this. Let the child breathe the steam.

If relief is not gained, give an injection of warm soapy water and apply to the throat a flaxseed poultice, to the surface of which has been added a generous sprinkling of carborated oil. If the attack does not show prompt signs of yielding, do not delay in calling a physician, for membranous croup is very serious, being of a diphtheritic nature.

After an attack of catarrhal croup, give a laxative and keep the little fellow in for a day or two. Remove the tendency to attacks by giving plenty of fresh air and by cool sponging with salt and water about the chest and neck. See that there are no adenoid tissues or diseased tonsils. Sometimes an alarming attack may be quickly relieved by placing the little patient in a very warm bath which comes up to the chin. Wrap carefully afterwards to avoid a chill. In an older child of strong vitality the use of cold compresses is sometimes satisfactory. A child subject to croup is frequently anæmic and is benefited by a good tonic.

## Recipes

### Old-Fashioned Desserts

(From My Scrap Book)

The person who has never tasted Indian pudding boiled in a bag and literally stuffed with plums—the real ones, dried, not raisins and currants or prunes, which



Shooting days are here. Can't you feel it in your bones? Just as sure as the sportsman in the picture has an excellent opportunity to secure a good bag, you have a chance to win \$250.00 in this our

## BIG PRIZE CONTEST

The subscription price of Motor and Sport is the one royal road to securing \$250.00 worth of sporting goods, or anything else you may select from Ashdown's Catalogue FREE. If you are not the fortunate one, you have still more than the dollar's worth in a year's course of the finest out-door literature published in Canada. If you seek entertainment through stories of hunting, outdoors with an automobile, fishing, etc., Motor and Sport will give you the spirit of the real thing—in short, everything the outdoor man wants to read. This contest is open to everyone, provided they comply with the rules.

Contest Opens 1st November, 1916

Closes 1st April, 1917

### HOW TO WIN THE PRIZE

We will present \$250.00 worth of sporting goods, auto accessories, or any other articles you may select from the J. H. Ashdown Company's catalogue, to the first reader of Motor and Sport who estimates nearest to the number of whole kernels in 5 pounds and 7 ounces of No. 1 Northern wheat, between the 1st of November, 1916, and the 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 of 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 Motor and Sport.

### HOW TO SEND YOUR ESTIMATES

Everyone who sends a subscription direct to this office between the dates mentioned, for Motor and Sport, 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 the prize. Estimate now and increase your chance of winning, because it is the first one who estimates nearest to the number of whole kernels that wins the \$250.00. 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  
5 years' subscription at \$3.00 gives you 19 estimates

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### This Bottle Contains

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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?

Frank B. Snyder, Elkhorn, Man., won the last competition. On that occasion there were 3½ pounds of wheat in the bottle, which counted 47,037 kernels. Mr. Snyder's estimate was 47,038 kernels.

The wheat used in this competition is drawn from the same sample as the wheat used in our last competition.

Any person handling grain will supply you with wheat from which to make your estimate.

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are the main ingredients of those our foreign cousins have sent across to us—has something in store. Cut in inch slices and almost hidden in a lemon sauce it is the delightful finishing touch to a cold day dinner.

There is the old Colonial formula for baked Indian pudding, that comes to the table a rich yellow brown, its interior creamy, almost jellied, and its odors tempting the appetite that is jaded

beyond repair by anything else in the culinary line.

The old-time baked lemon rice pudding is another favorite that should appear on the table more often than it does, and it should appeal to the careful housewife on account of its eggless condition, a thing to be reckoned with during the winter, when eggs are scarce and high-priced.

The experienced housekeeper does not

need instructions in boiling and baking, although there are exceptions even to this rule, and I have found some experienced ones who can learn new ideas each day. But the young housekeeper is most likely to run foul the culinary rock when she attempts to serve boiled puddings, and for the only reason that she does not take precaution to have a teakettle of absolutely boiling water at hand constantly while the pudding is cooking.

# RED ROSE TEA "is good tea"

This is to replenish the kettle in which the pudding is boiling and so stop the boiling process while doing so. The water must come one-third to the top of the pail or covered mold, so that it will boil over the top and cook the top of the pudding, which is often left doughy when the other part is all right. For this reason, a cover that fits over and not in the dish should be used, as there will be no opportunity for the water to boil into the pudding and make it soggy. Bag puddings must be kept under water by placing on them a plate or cover that will set down in the kettle and allow the water to come over it. Then the kettle cover should be placed on, too. Have the water boiling furiously when the bag is placed in the kettle; on account of the pudding dough being cold the water will cease boiling for a few moments and this will have to be regained, which will be only a brief time and will not injure the pudding, which is becoming warmed through during this time. When the water again begins to boil it must be kept so.

Indian puddings and those in which spices and suet are ingredients are better for long boiling and then reheating as long as there is any left. Personally, I prefer to boil puddings or steam them the day before they are needed and then reheat the quantity needed, the remainder being kept in a cool place for other meals. Boiled puddings must have the cloth in which they are tied or covered dipped in hot water and then covered with flour, which will prevent the water or the moisture from the steam from getting in.

In all puddings or pies where suet is called for, use the beef suet that clings about the kidneys. This is the best, and it should be light, creamy in color and easily crumbled. Remove all the thin skin that holds the fat together, as this will make the chopping much easier. When boiled puddings in bags or tied in cloths are ready to take from the water lift with a strong fork and at the tied end, piercing the cloth only so not to rip; then plunge in cold water for a moment and the pudding will be free of the cloth. Cut the strings and, in case a bag is used, rip down one side and pull off the cloth. When the pudding is cooked in a bowl the cold water may be poured over the cloth, when it can be pulled off easily.

When puddings are baked in basins and it is desired to serve them from the dish at the table, the dainty paper collars will transform an ugly dish into an attractive object. The woman who is fortunate to own a brown earthenware casserole and nickel frame may solve several problems in serving baked puddings. The frame keeps the hot dish from coming in contact with the table, besides dressing up the dish.

The old-fashioned recipes for puddings and pastry cooked in a modern fancy mold take on an added interest, especially for a company dinner, and a few large canned cherries, cooked shredded citron or stuffed dates or figs combined with whipped cream make an ideal decoration suitable for the most ceremonious occasion.

One of the old-fashioned puddings seldom seen these days is the delicious creamy batter mixture, but to ensure its success it must be served immediately it is taken from the oven.

In the recipes the old-fashioned method of using ounces has been changed to level tablespoons and cups unless otherwise stated. Where cups are used the standard half-pint measuring cup is intended, as nearly every housekeeper now uses this measurement.

**BATTER PUDDING**

One quart of milk, one and a half cupful—or twenty-four level tablespoons—of bread flour, a quarter teaspoonful of baking soda, half a teaspoonful of salt. Mix the flour with just enough of the milk to make a thin, smooth paste; then to it add the beaten yolks of four eggs, then the salt, soda and cold milk. Beat the whites until frothy but not stiff, then add to the mixture, stirring thoroughly. Pour into a buttered dish and bake twenty minutes in a brisk oven. Serve a hard sauce with this pudding.

**SPANISH PUDDING**

Chop half a pound of suet until fine, adding a quarter cupful of flour to keep it from adhering to the knife. When fine, add six level cupfuls of stale bread-

crumbs, three-fourths cupful brown sugar, sixteen level tablespoonfuls of bread flour, two eggs, one-half cupful of orange juice, the grated rind of one orange, and a quarter teaspoonful each of salt and grated nutmeg. Mix the suet, flour, bread-crumbs, nutmeg, sugar and salt together thoroughly; then beat the eggs separately and mix into the dry ingredients, adding the orange juice and rind last. Boil in a buttered dish for four hours and serve with an orange sauce.

**MARTHA WASHINGTON PUDDING**

One heaping cupful of stale bread-crumbs, three-quarter cupful of granulated sugar, the juice and grated rind of one lemon, three eggs, one-half pound stale sponge cake, half pound stale macaroons, half jar raspberry or strawberry jam, one tablespoonful butter, half cupful milk, half cupful orange juice. Rub the butter and sugar together, then add the beaten yolks of the eggs. Have the bread-crumbs soaked in the milk until soft; then add with the lemon juice and rind and beat to a light paste. Butter a covered mold and cover with a light layer of very fine bread-crumbs, then a layer of the macaroons crushed fine. Spoon in a layer of the wet mixture and on this place a layer of stale sponge cake moistened with orange juice; then a layer of whole macaroons. Cover with a layer of jam and place a layer of the wet mixture on this; repeat until all the ingredients are used, having the last layer of the wet mixture. Cover tightly and steam three hours, then remove the cover and set the pudding in the oven to brown the top. Turn out of the mold and pour over it a sauce made by melted jam, strained, then add one cupful orange juice and two tablespoonfuls hard butter. This pudding may be covered and baked for one and one-half hours, after which uncover and brown the top.

**INDIAN PUDDING, BAKED**

Stir one and one-half cupful of yellow Indian meal (also called corn meal) into two quarts of scalding milk, containing half a teaspoonful each of salt and pulverized ginger. Remove from the fire and let stand until lukewarm; then add one cupful of molasses, two eggs beaten together and one level tablespoonful of butter. Bake in a moderate oven for two hours. When the mixture begins to thicken stir in half a cupful of raisins. This pudding may be made without eggs, adding a quarter teaspoonful of soda.

**INDIAN PUDDING, BOILED**

Warm one pint of molasses and one pint of milk, stirring well together; then add two beaten eggs, one pound beef suet, chopped fine, four cupfuls yellow corn meal and two cupfuls of flour, sifted with two teaspoonfuls of soda and two teaspoonfuls of salt. Turn into a floured bag, tie, leaving a good space at the top for the pudding to swell. Boil four hours and serve with a lemon liquid sauce.

**GOLDEN PUDDING (ENGLISH)**

Half pound suet chopped fine, half pound (or four cupfuls) stale fine bread-crumbs, one cupful orange marmalade, four beaten eggs, half cupful seeded raisins. Boil in a buttered mold four hours and serve with lemon hard sauce.

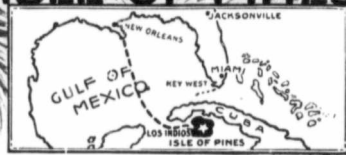
**PRINCESS CREAM PUDDING**

Stir together one pint cream, four tablespoonfuls granulated sugar, the yolks of three eggs, a little grated nutmeg; then add the whites of the eggs, beaten very stiff. Cover a buttered pie plate with a little melted butter and then with a thin layer of stale sponge cake crumbs; pour in the mixture; add more of the sponge cake crumbs and bake about fifteen minutes in a moderate oven or until the center is firm. Serve without a sauce.

**LEMON PUDDING**

Half pound flour (or half pint), half pint treacle or very light syrup, half pound beef suet, the juice and grated rind of one lemon, one tablespoonful candied lemon peel, cut fine, three tablespoonfuls of cream, a level teaspoonful baking powder, two eggs. Chop the suet fine, add the flour, treacle, peel, cream, lemon juice and two eggs, beaten thoroughly together, a dash of salt; sift baking powder with flour. Pour into a

**LOCATE IN LOS INDIOS ISLE OF PINES**



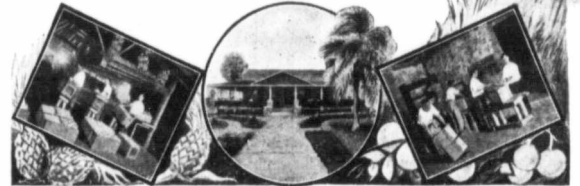
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**IMPORTANT**

**McBean Bros. Advice on Low Grade Wheat**

As there is a large quantity of No. 6 and feed wheat grown this year, we feel it our duty to warn the farmers before selling this low-grade grain to send samples and have it graded, as very often wheat that you might think is feed will grade as high as No. 5 and No. 4, and you also want to get the exact value before selling on street or track. It is very important that you follow out these instructions this year. The demand is enormous for all our grain and will continue until another crop is harvested, and we wish to reiterate to you strongly, get into the habit of shipping your own grain, especially this year. It will mean big money to you. Do not sell on any break in prices, as these breaks are only natural reactions on a high-priced market. There is nothing in the market situation to put prices down at any time this year. It is not going to be a question of price, but where the wheat is going to come from to supply the demand. The trade has not yet realized the great shortage all over the world.

We figure our oats are entirely too low and should be 15c. to 20c. per bushel higher, compared with other grains and we strongly advise farmers not to be in any hurry in selling their oats. We also figure that flax will advance to \$3.00 per bushel before another crop is harvested.

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battered pail and boil three and one-half hours. Serve with a hard sauce.

**APRICOT PUDDING**

Cut a five-cent loaf of entire wheat bread into thin slices, then crumble coarsely and mix with half cupful of melted butter. Butter a bread-pan and lay in an inch layer of the crumbs; then on top place a layer of dried apricots, soaked for six hours, or less if very soft and fresh; dust with cinnamon; then cover with more crumbs and fruit until all are used, having the final layer crumbs; turn on half cupful of cold water; cover with a pan and bake half an hour in a moderate oven; then remove the pan and brown the top. Serve with egg sauce.

**BLACK PUDDING**

One teaspoonful of stale, fine bread-crumbs, two teaspoonfuls of baking powder, half a cupful of chopped suet, one cupful of molasses, one teaspoonful cinnamon, half teaspoonful pulverized cloves, quarter teaspoonful salt, one egg, half cupful flour, one half cupful milk. Sift spices, salt, flour together; then add the suet and crumbs; beat together well, add the molasses and milk and egg; stir in half a cupful of dried cherries; pour into a pudding mold, well buttered; cover and steam for four hours. Serve with a liquid or hard sauce.

**CRACKER PUDDING**

Butter a dish and place a layer of split soda crackers in the bottom; sprinkle with raisins, cinnamon, nutmeg and a little salt; then add a layer of sour apples, pared, cored and sliced; place over some more crackers, and repeat with the fruit and spices until the dish is three-quarters full; then pour on enough milk to come just to the top of the crackers, beating into the milk the yolks of two eggs and the white of one, reserving the white of the second one for a meringue. Let stand fifteen minutes to soak up, then bake in a moderate oven until the pudding is puffy and brown on top. Beat the egg white with two tablespoonfuls of granulated sugar until very stiff; put this over the hot pudding, letting the top be rough, then place in the oven, the heat of which has been reduced to allow the meringue to cook through before browning on top. This method will give a tender meringue. As soon as the meringue is done serve with a hard or egg sauce.

**LEMON SAUCE**

Mix one cupful of granulated sugar, the juice and rind of one medium-sized lemon, with two cupfuls of cold water; set on the fire to come to the boiling point; then stir in one tablespoonful of corn-starch dissolved in a tablespoonful of cold water. When pouring the starch into the hot liquid stir constantly to prevent lumping; let it boil for ten minutes; then strain and just before sending to the table stir in a teaspoonful of butter.



Mr. McIntosh (to doctor who has had an urgent call in the middle of the night): "Man, doctor, I'm awfully sorry we can't ye on sic a trevial job. We thoct Willie had swallowed a hauf-croon, but my wife has been countin' her cheenge an' it turns out ta be only a penny."

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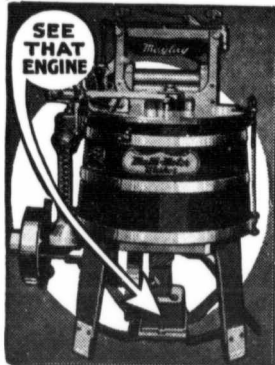
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ENGLISH AS TEA DRINKERS  
Why the Custom Has Grown in a Few Years

One remarkable feature of English domestic life has been the increase in tea-drinking. In 1876 the consumption of tea per head of the population in the United Kingdom was four and a half pounds. In 1913 it was six and three-quarter pounds. The increase has been all to the good from the point of view of the nation's sobriety. It represents a real change in habit.

Formerly it was customary for business men to clinch a bargain over a glass of wine or ale. Now this custom is far more honored in the breach than in the observance. In busy cities tea is the beverage. The clerk, the foreman, the operative, the working woman all drink tea, greatly to the advantage of health and pocket.

The great increase in the consumption of tea is very largely due to the efforts of British planters in India. Formerly all tea came from China. Fortunately, however, it was discovered that the tea shrub is a native of Assam, one of the Indian provinces. Energetic Britons started planting in Assam. The present-day Indian planter is a very different individual from the luxurious gentleman of "Tom Cringle's Log" and the romances of Marryat. His life is one of assiduous toil, sweetened by all too brief furlough.

In Darjeeling or Kotagiri he enjoys that sweet half-English air of which the poet sings. In the Terai, which stretches at the foot of the Himalayas, he has to contend against all the iniquities of a fearful climate. Always and everywhere he is the same cheery and resolute fellow, facing with equanimity alike the risks of disease, the difficulties inseparable from the management of native labor, and the many plant diseases which are the enemies of all cultivation in the tropics.

The pioneer planters had before them the task of reclaiming those jungle wastes, of replacing their futile extravagance of vegetation by well-ordered gardens, or re-populating those bare tracts, supplementing the scanty and inert inhabitants by larger numbers of orderly and industrious workers from other provinces.

The planters are men conversant with modern science, and use ingenious machinery well adapted to the purpose it serves. Large gardens, carefully planted, are cultivated by experts. After plucking, the leaf undergoes many processes. It is withered to condense the sap. It is rolled to squeeze the juice on to the surface. It is oxidized to develop the flavor and aroma. It is fired to dry it. It is packed in clean, lead-lined, air-tight chests.

All these processes are performed by clean, automatic machinery. Thus the teas from India are pure and free from all contaminating admixture. Coming from healthy, well-matured plants, they contain all the essential elements in rich abundance.



ACCIDENTS WILL HAPPEN  
Officer: "Is that soup ready, Jones?"  
Officer's Servant: "No sir, the stove went out, sir."  
Officer: "Went out! Then why don't you light it again?"  
Servant: "Cos it went out by the roof, sir."

**Gold Standard**

Just Like an Old Friend

Always the same, smiling a welcome across the breakfast table every morning. It looks good and is good, and it improves on acquaintance. The introduction is easy, too —

Just a tablespoonful of

**Gold Standard Coffee**

for each cup required. Bring the water slowly to boiling point and allow it to boil one-half minute; add one-quarter cup cold water to settle, and serve in three minutes.

You can get it at your grocers.

**The Gold Standard Mfg. Co.**  
Winnipeg, Man.

**UNION BANK**  
OF CANADA

Depositors' Confidence is Well Placed

Our Paid-Up Capital is \$5,000,000.  
Rest and Undivided Profits over \$3,500,000.  
Total Assets over \$90,500,000.

As a natural consequence our deposits are growing rapidly, and now exceed \$72,500,000.  
Over 315 Branches in Canada—210 in the West.

BRANCHES IN ALBERTA

Airdrie, Alderson, Alix, Barons, Bashaw, Bassano, Bellevue, Blackie, Blairmore, Bowden, Bow Island, Brooker, Bruderheim, Calgary, Cardston, Carstairs, Cereal, Chinook, Chirano, Clareholm, Cochrane, Consort, Cowley, Didsbury, Edmonton, Empress, Foremost, Fort Saskatchewan, Grand Prairie, Grassy Lake, Hanna, High River, Hillcrest, Innisfail, Irvine, Jannet, Lacombe, Langdon, Lethbridge, Macleod, Medicine Hat, Okotoka, Pincher Creek, Seven Persons, Spirit River, Standard, Stathmore, Swallow, Three Hills, Wainwright, Winned.

Head Office: Winnipeg  
Total Assets over \$90,500,000  
Deposits over \$72,500,000

**Dr. Thomas' Eclectic Oil**

Relieves all Pain in Man or Beast

25 Cent Bottles at all Dealers



# MAGIC BAKING POWDER

NO ALUM  
MAGIC BAKING POWDER  
CONTAINS NO ALUM  
MADE IN CANADA  
E.W. GILLET COMPANY LIMITED  
WINNIPEG TORONTO, ONT. MONTREAL

One housekeeper says instead of buying regular dish towelling, she buys the cheap unbleached table linen. After it has been washed two or three times it is much more satisfactory.

## JAEGER

**For Comfort and Safety**

Jaeger Underwear is durable and comfortable, it affords real protection from chill in all weathers and at all seasons. Made from unquestionable pure and undyed wool for health's sake.

Jaeger Underwear is the underwear of quality at a moderate price.

A fully illustrated catalogue and Dr. Jaeger's Health Culture will be sent free on application to

**DR. JAEGER** Sanitary Woolen Co. Limited  
Toronto Montreal Winnipeg

Incorporated in England in 1883, with British Capital for the British Empire

## Young Men

It will pay you again and again to become a good penman; to be able to write an intelligent letter; to master the principles of business arithmetic; to write a receipt, draft, or a promissory note; to make a transfer of negotiable paper; to write your own leases, contracts, deeds and mortgages. The Success is the largest—strongest—most reliable. It trains more students annually than all competitors combined—employs courteous, competent, skilled teachers.

Write for Information

**The Success Business College, Ltd.**

WINNIPEG - MANITOBA

### JAM PUDDING

Beat one egg, add one cupful of brown sugar, one cupful of milk, two cupfuls of flour, into which sift a quarter teaspoonful of salt, four level teaspoonfuls of baking powder, then add two tablespoonfuls of melted butter, half pint of strawberry jam; beat well, then pour enough of the batter into a buttered pail to come two-thirds to the top; cover with either the pail top, buttering the inside, or a buttered paper tied down, and steam for one hour, setting the pail on a trivet or plate in the water and not in a steamer. Serve with a sauce made by creaming half a cupful of butter with one cupful of granulated sugar, then add half pint of strawberry jam and mix thoroughly; pile on a cold dish and set where it will chill before using.

### EGG SAUCE

Beat a cupful of pulverized sugar and half a cupful of butter to a cream, then beat in one egg yolk and cook over hot water until the butter melts; now fold in the stiffly beaten white of the egg and cook a few moments more. Serve in a dish, dusting a little grated nutmeg over the top.

### SWEET MUSIC—SMALL PRICE

That Western Canada is not asleep as to the needs of its population is evidenced by the fact that new industries are constantly springing up in the Canadian West for the supplying of goods that hitherto have been provided for through outside sources.

One of the latest industries to spring into existence in the city is that of the Melotone Company, builders of talking machines. This concern is wholly a Winnipeg industry. Recently the editor had the opportunity of going through the factory of the Melotone Company and witnessing the construction of these machines. The machine itself is exceptionally well built—nothing has been left undone that would provide for an honest article that would stand the wear and tear of time. After going through the factory, opportunity was provided for listening to the excellent machine itself, and the tone, both in quality and volume, was all that could be desired. The only thing cheap about the machine was the price, and this was so low that we were compelled to ask the manufacturer whether or not he could turn out a machine of such quality at such a low figure. He assured us that he had worked this out carefully and was taking no chances.

An advertisement of the Melotone Company appears on another page of this issue. The proposition offered is an attractive one and is well worth investigating.



Tommy (to Pat who is looking for a sniper): "Is he there, Pat?"  
Pat: "Begob he must be 'cos I don't see him."

# Old Dutch

quickly removes stains and spots from such things as oil-cloth table tops



## This Catalog is a Money Saver



YOU will make substantial savings in your orders for home and farm supplies if you purchase from this catalog.

The merchandise quoted represents excellent quality in every instance, and we guarantee absolute satisfaction. If for any reason you are dissatisfied, the goods can be returned, and we will pay all charges. You have nothing to lose but much to gain.

Do not confuse this firm with the old "Christie Grant Company Limited." This business is an entirely different organization, owned by Stobarts Limited, a firm which has been well known throughout western Canada for many years, as one of the oldest and largest wholesale dry goods firms operating in Canada.

If you want this Catalog fill in your name and address below, cut out the entire advertisement and mail to us.

NAME .....

POST OFFICE ..... PROV. ....

Canadian Thresherman, Nov. 1-16

**CHRISTIE GRANT LIMITED**  
WINNIPEG, CANADA

**ROBE TANNING OUR SPECIALTY**

SHIP YOUR RAW HIDES AND FURS  
TO  
**W. BOURKE & CO.**  
BRANDON  
BEST PRICES PAID

WORK GUARANTEED

**CUSTOM TANNERS**

PRICES RIGHT

**FURS! HIDES! WOOL!**

If you want quickest returns and most money for your furs, hides, wool, etc., ship them to

**FRANK MASSIN** Brandon, Man.

Write for prices and shipping tags.



**The Happy Baby**

The air of perfect happiness and contentment of babies brought up on Savory & Moore's Food is constantly a subject of remark. This is simply because it is so easily digested, so nourishing and satisfying, in fact an ideal food for babies in every way.

Get a tin of Savory & Moore's Food to-day from your Stores, and note how eagerly baby will take it, and what marked improvement and steady progress will follow its use.

**MOTHER'S GUIDE FREE**

Savory & Moore's Little Book "The Baby" is full of useful and reliable information on Infant Management. It is just what a young mother requires, and will prove invaluable in the home. A Free Copy may be obtained on application to Savory & Moore, P.O. Box 1601, Montreal.

**SAVORY & MOORE'S FOOD**  
Of all Druggists and Stores



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

**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.,**  
Princes and James Streets,  
Winnipeg, Manitoba.

**GEISER SEPARATORS 40-40, 35-54, 30-46, 27-39 and 24-32, new and rebuilt.** Must be sold by liquidator this season. Will sacrifice at much less than makers cost. R. S. Ewing, 300 Union Trust Bldg., Winnipeg.

**TWO 45 H.P. GASOLINE TRACTORS,** one new and one rebuilt, \$3,200 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, 300 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 75c. per bushel. Eureka Pedigreed Seed Farm, Melita, 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. Alford Coleman, Y.M.C.A., Hamilton, Ont.

**IMMORTALITY CERTAIN** — Swedenborg's great work on "Heaven and Hell," and the life after death, over 400 pages. Only 23 cents postpaid. W. H. Law, 486 Euclid Ave., Toronto, Ont.

**STATIONARY GAS ENGINES**—Have six splendid new, water-cooled engines in perfect order, running from 1 1/4 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, 300 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 23 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 machine built at less than cost. R. S. Ewing, 300 Union Trust Bldg., Winnipeg.

**GAS TRACTOR, BARGAIN** — Rebuilt Pioneer "30," good as new. Address C. T., Box 2164, 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.

**ALL-PURPOSE GASOLINE ENGINES** for sale at much less than manufacturers' cost. "Gads" (6 h.p.), air-cooled, rebuilt, \$119; 14 h.p. "Badger", standard stationary, rebuilt, \$150. You cannot buy the quality good anywhere at anything like the price. R. S. Ewing, 300 Union Trust Bldg., Winnipeg.

**This Ad. is Worth 50c to You**

**This is Your Last Chance and You Must Act Quickly**



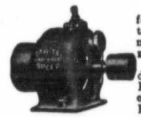
Owing to the great advance in the cost of both material and labor we will be forced to advance the price of the **Three Minute Suction Washer** to \$1.75 inside of a month, and would have to do it to-day

only for the fact that we have on hand a few hundred washers that were made when material was low, and which we can still sell at the original price of \$1.25 post paid. Don't forget that this is the original Suction Washer—the washer that will wash anything washable in three minutes. If it does n't we will return your money. Washes fine silks, lace curtains, blankets, comforters, collars, shirts, all in the same tub at the same time, and in three minutes. It also blues and rinses. An ordinary weekly wash can be done in 30 minutes with this wonderful washer.

**DON'T MISS THIS CHANCE!**  
We will accept this ad. as cash for 50c. Send us only \$1.25 and we will send the washer to any address post paid. We will also send to readers of this paper our catalogue of one hundred household necessities. Things that will make your work easier and more pleasant, at prices that cannot be purchased elsewhere, and which we sell at practically wholesale prices, charges paid. Send \$1.25 for the washer to-day. Your money back if not satisfied.

**The People's Wholesale Supply Co., Barrie, Ont.**

**Strite Variable Speed Governor**



Is the best by every test for running cream separators, washing machines, faning mills, or any light machinery.

More cream separator driven by Strite Governor Pulleys than all others combined. **THEY'RE A REASON—ASK US.**

**STRITE GOVERNOR PULLEY CO., 8. S. 800 ST., MINNEAPOLIS**

William E. Knowles, J. Franklin Hare  
A. Benson, B.A.  
**KNOWLES, HARE & BENSON**  
BARRISTERS, SOLICITORS, Etc.  
Solicitors for  
Imperial Bank of Canada  
Canadian Mortgage Association  
Western Canada Mortgage Company  
Offices: Walter Scott Building  
Suite 409  
**MOOSE JAW, SASK., CANADA**

**RAW FURS**  
—WE BUY THEM—  
Thousands of satisfied shippers say we give best and quickest returns. Good reasons: We pay highest market prices, give honest fair grading and send the money promptly. We charge no commissions and pay express and mail charges.  
*Trappers and Dealers write at once for free price list.*  
**IT WILL PAY YOU TO SHIP TO US.**  
**BENJAMIN DORMAN, Inc.**  
147 West 24th Street, New York

**CHALLENGE COLLARS**  
MADE IN CANADA  
WIPE THEM OFF WITH SOAP & WATER, presto!  
JUST LIKE NEW  
BEST QUALITY DULL FINISH SMART AND DRESSY  
AT YOUR DEALER'S OR DIRECT, FOR 25c  
THE ALHAMBRA CO. BY CANADA  
34-54, Front St. E. TORONTO

**STOVEL COMPANY Limited.**  
The high-classe Engravers  
WINNIPEG.  
PHONE G. 1600.

**Advance Straw Spreader**  
**DON'T BURN STRAW**  
The Western Steel & Iron Co., Ltd.  
Winnipeg, Canada  
Ship, send me without charge book and full price list. Name: \_\_\_\_\_ Address: \_\_\_\_\_

**Well Drills**  
For Drilling  
**WELLS or BLAST-HOLES**  
Built to stand up under heavy work. Most economical and rapid drills made. Styles and sizes for all purposes, with or without power.  
Write for Circular  
**WILLIAMS BROS.**  
426 West State Street, Ithaca, N.Y.

**BOOK ON DOG DISEASES And How to Feed**  
Mailed free to any address by the Author  
**H. CLAY GLOVER CO., Inc.**  
118 West 31st Street, New York

**Our Last Word**  
Turn again to page 17 of this issue, and photograph on your mind what that proposal might mean to you.

**RAW FURS**  
We Pay Highest Values  
Write for Price List and Shipping Tags  
**Pierce Fur Co. Ltd.**  
King and Alexander, WINNIPEG, Canada  
We also buy Hides and Seneca Root

**EARN \$10.00 A WEEK AT HOME**  
The Hoosier trade is booming. Help to meet the huge demand. Industrious persons provided with profit-making Hoosier equipment on Auto-Knitters. Experience and distance immaterial.  
Write for particulars, rates of pay, etc. Send 2 cents in stamps.  
Hoosier Knitting Co. (Can.) Co., Ltd.  
Dept. 311E, 257 College St., Toronto

# Buy a MOGUL or TITAN for Real Every-Day Economy--And Do It NOW!

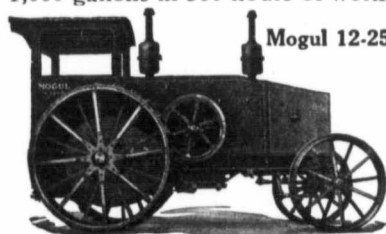
**N**O matter what you may hear or read to the contrary, you can buy a real Kerosene Tractor—one that saves you half the cost of a gallon of gasoline for every gallon of kerosene it uses. A real kerosene tractor is one that does as much work on kerosene as the best tractor does on gasoline, using not over 8 to 10 per cent more fuel to do it.

The True Kerosene Economy Tractors are:

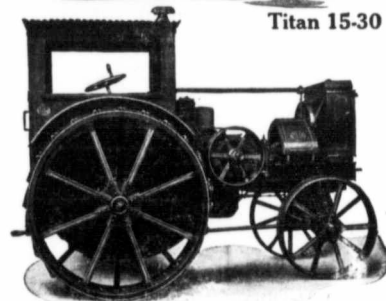
Mogul 8-16 Titan 10-20 Mogul 12-25 Titan 15-30 Titan 30-60

To realize the importance of this feature to you, you must know the comparative local costs of gasoline and kerosene, and the amount of fuel your tractor will probably burn during the season.

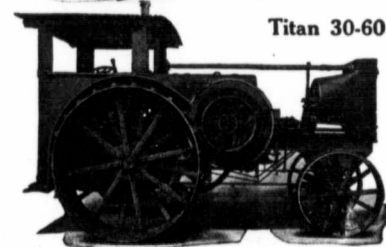
About the smallest quantity of fuel that any tractor will use in a working season is 1,000 gallons in 500 hours of work. On this low basis the smallest I H C tractor will save you from \$80 to \$100 a year, according to the local difference in the prices of kerosene and gasoline.



Mogul 12-25

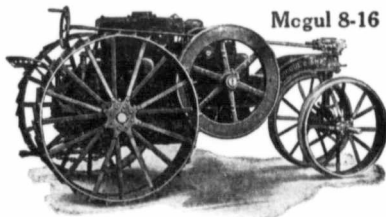


Titan 15-30

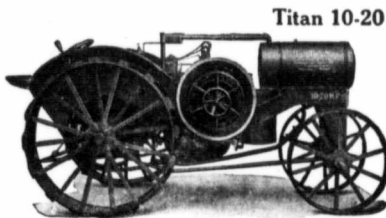
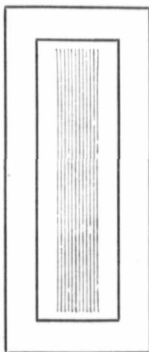


Titan 30-60

Do not let anyone tell you there is no such thing as a real kerosene tractor. A man who says that does not know what he is talking about. Take the first opportunity to see a Mogul or Titan at work. Then you will know which tractor of them all it will pay you best to buy. Or, a postcard to the nearest address below will bring you complete information.



Mogul 8-16



Titan 10-20

**International Harvester Company of Canada, Ltd.**

**BRANCH HOUSES**

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

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



## Men Prefer Case Steam Engines — Why?

The chief reason is that every owner can depend upon the ability of his Case steam engine and his Case separator to work from morning 'till night—any number of hours without wasting any time.

Threshermen know that Case engines have won top place because of their simplicity and dependability.

We have always maintained that steam in certain localities is the best and to prove our faith in steam we have continued to add new and improved features that make Case steam engines a leader in their class. This is illustrated by the butt and lap joint now used on Case boilers. Case boilers are so thoroughly built that they meet the requirements of boiler laws of every state in the United States and Canada.

In the past 74 years, Case has tested out all kinds of power for agricultural use. To-day we sell three final types, in steam, kerosene, and gasoline classes.

# CASE

Here are few reasons why:

1. Main frame of one casting to which cylinders of engine are bolted. This feature insures perfect alignment.
2. Main bearings run in interchangeable babbitt lined bushings and can be easily replaced in cases of wear.
3. All gearing made of Special Ferro Steel. Transmission completely housed to protect against dust and dirt.
4. Case Boilers are designed so that they meet the most rigid requirements of every country in the world. That means Case engines can be successfully used anywhere.
5. Spring mounting of the boiler to the rear axle and



spring differential and draw bar is an exclusive feature of Case engines. This takes all strain and shocks from the working parts of the engine. This is an especially good feature in traveling over rough roads.

Generous size firebox makes firing easy and effective. Case engines develop more power per pound of weight than any other make.

Case builds seven sizes of steam tractors 30-40-50-65-75-80 and 110 horsepower. Sizes for every farm.

Our catalog explaining Case Steam Tractors in detail sent on request.

J. I. CASE T. M. COMPANY, Inc.

721 Liberty St.

Racine, Wis.

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