

Sixth Annual Special Farm Machinery Magazine Number

# FARM AND DAIRY & RURAL HOME



DEVOTED TO  
**BETTER FARMING**  
AND CANADIAN  
COUNTRY LIFE



Peterboro, Ont., June 4, 1914

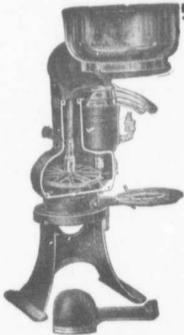


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## Can a Woman Run a Gasoline Engine?

H. P. Blanchard, Hants Co., N.S.

WHY the very ideal! Of course she can! And now I hear the young lady, who would rather go to school another year than stay at home and help wash dishes, say— "Certainly she can; for a man can run an engine; a woman can run a man (if the man does not run); therefore, a woman can run an engine. Q. E. D." Another young lady also vehemently affirms the fact, for she would blow ourselves to pieces. Next thing you will expect us to run the binder. But truly, Mother, it is easier to run a gasoline engine than to manage that big kitchen range of yours and turn out that lovely flakey white bread, just done exactly right and never a fail.

BREAD MAKING VS. ENGINE RUNNING  
Think that in making that loaf you have carried out a complex chemical operation, transforming starch and the like to their co-relative materials; utilized the science of bacteriology to create the carbon dioxide which causes the heavy dough to "rise"; a most complex experiment. And you think you cannot run a little gasoline engine.

One day I brought home and put in the back kitchen a little 1 1/2 H.P. motor. It was to drive a power washing machine. The young woman who was to run it had never before seen an engine. When it was all ready I started it for her, showed her the levers that ran the washer, how to pull a little switch to stop the engine and left everything running nicely. When I returned before dinner, the wash was on the line.

A GOOD START ENDS WRONG  
Next Monday I showed her how to throw in the switch, put a few drops of gasoline into the air opening (to prime the engine), and then told her to take hold loosely of the handle on the fly wheel, turn it round twice and let it go as the engine pulled and let it go as the engine pulled and let it go all right; and to the tune of its tip-tap, tip-tap-tup-tup, I went cheerfully out of hearing. When I returned for dinner, there was no line full of clothes, but the young lady stood and cross, and finishing up on the wash tub.

Alas! I had started that engine with only a few drops of gasoline; and for want of fuel it had stopped. That never happened again. I need not say. Finally, I concluded that the longest was the shortest way, and there and then sat down and gave a lesson on engineering to that young lady.

THE MECHANISM OF A GASOLINE ENGINE  
Imagine a tube, with a plug sliding into it. A crank on the axle of the engine shaft will cause this plug to go in and out of the tube as the shaft is turned, or, reversely, the going in of this plug (or piston) in the tube (called the cylinder) causes the crank to turn the shaft and the belt

wheel on it. By a system of valves little doors opening from the inner end of the cylinder, gas is allowed in, and smoke is let out. Now these are so arranged that, as the piston begins to come out of the cylinder, one valve opens and lets in gas. The wheel continues to turn, the crank starts ultimately to push the piston back in to the cylinder to its limit; and the wheel continuing, would again commence to pull the piston out again.

But just at this instant an electric spark is made to burn in where the gas is; the gas is exploded and violently pushes against the piston, driving it out against the crank and giving more speed to the shaft. Just as the piston reaches its limit and will begin to move back, impelled by the crank driven by the flywheel, another valve opens, and lets out that exploded gas with a bang. The piston returns and pushes out this dead gas; the valve shuts again and the first one opens when the piston is in to its limit; and the process of sucking in a whole charge is repeated. This is a nice process; a charge of proper gas, an electric spark strong enough at the right instant to explode the charge.

HOW TO FEED THE ENGINE  
Now, strange to say, "more gasoline more power" is not true. Pure gasoline vapor will not explode at all. There must be mixed with it a certain proportion of air; too much makes a smoky explosion, if any, too little a sickly explosion, if any. It needs a little art to discover just how much air; and in summer a little more can be admitted than in winter.

Follow the directions that come with the engine, and also watch the smoke. A smoky exhaust means too much lubricating oil or too much gasoline, usually the latter. If this is the case, judge that when bread has properly "risen."

The next thing is the spark that ignites the charge, and, first, don't monkey with that big thick wire where the switch is closed.

A STUDY OF THE ELECTRIC SPARK  
Just sit down and study the electric outfit. The current, the electric force, is made in these round cells or batteries. There are two lines, or posts on each of these cells. Suppose you joined them with a wire. The current would come up through the carbon, along the wire, down into the zinc, through the cell interior as so in a circle. It goes just one way. Join two cells, each one of one to the carbon of the other, and you have the same the force or voltage; but the same in quantity or amperage. But if you joined zinc to zinc, and carbon to carbon, you have one kicking against the other; no power. So watch this in joining cells.

Then in your outfit you have a wire that buzzes. You notice your wire lead in and out again of 'is on' also a big third wire goes from the coil to the spark plug. The result is that the coil magnifies your electric current, turning your five volts into as many as two hundred.

HOW THE SPARK HAPPENS  
Now notice the plug. The electricity in the big wire goes to the interior of the porcelain to be sent and down through clean porcelain cannot escape through clean porcelain or mica. It would like to get into the plug tip into the big metal of the engine. But this is a little gap at the end of the plug, just big enough for the electricity to jump; and when it jumps, it makes a very hot spot where the spark that explodes the gas happens just then.

If there was a short cut for the electric current to take; for instance, if there was a hole in the porcelain, or rusted on the porcelain, or a bit of dirt or drop of oil on the tip, it would of course take the short cut. It would of course take the short cut. (Concluded on page 39)



Trade Increase Vol. XXXII

THE harder necessary of power to farmer who has kerosene engine. He may start by pumping and pouring. As time goes on well run the water stone, churn, horse power, grinding grain, wood and running engine cutter. farmers who had moderate ideas the gasoline engine their houses with electricity power.

Right here is purchasers of various mistakes, that may be large they have in mind thinking of the future for the engine from actual experience and convention out of 10 it will purchase an engine that at first find that a large work as the small realizing the engine them; And of course large engine investment do as much work as they the increase.

A question which prospective engine the dollars and cents farm? It depends a question. It does and the number of put. I have, however relations made by Ontario Co., Ont. about the size that in making his estimate help with \$1.50 a day. His outfit for his life at 15 years, one hour a day or more can be seen that to \$20 a year, or



# FARM AND DAIRY



We Welcome Practical Progressive Ideas

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

Vol. XXXIII.

FOR WEEK ENDING JUNE 4, 1914

No. 22

## The Dollars and Cents Value of Farm Power

A Farm Power a Practical Necessity and a Profitable Farm Investment

BY B. H. C. BLANCHARD

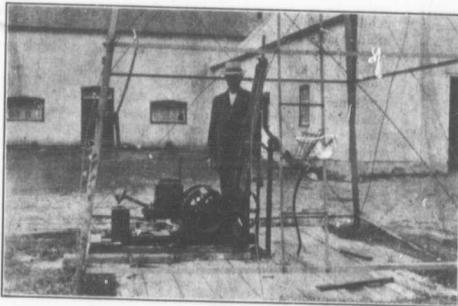
THE harder it is to procure labor the more necessary and profitable does some form of power become. I have noticed that every farmer who has once installed a gasoline or a kerosene engine finds more uses for it than he ever imagined possible when first purchasing it. He may start by making the engine do only the pumping and possibly operate a cream separator. As time goes on he finds that the engine may as well run the washing machine, grindstone, churn, and, if of sufficient horse power, he will soon have it grinding grain, cutting, feed, sawing wood and running the threshor and ensilage cutter. I have even seen farmers who started out with very moderate ideas of the usefulness of the gasoline engine, end up by lighting their houses and outbuildings with electricity generated by gasoline power.

Right here is where I believe many purchasers of farm power make a serious mistake. They buy an engine that may be large enough for the use they have in mind at first, never thinking of the further uses they will have for the engine when they find from actual experience how economical and convenient it is. In nine cases out of 10 it will be true economy to purchase an engine somewhat larger than at first thought necessary. I find that a large engine will do light work as easily and economically as one of the small power and when other uses materialize the engine is there ready to take care of them. And of course the best way to make the large engine investment profitable is to make it do as much work as possible and offset proportionately the increase on the purchase price.

A question which I hear frequently asked by prospective engine purchasers is, "Just what is the dollars and cents value of an engine on the farm?" I cannot give a definite answer to such a question. It depends on the size of the farm and the number of uses to which the engine is put. I have, however, close at hand some calculations made by J. F. Malyon, whose farm is in Ontario Co., Ont. His is a five-horse power; about the size that would appeal to most farmers. In making his estimates he has credited hired help with \$1.50 a day and a man and team at \$4 a day. His outfit cost him \$300, and he estimates its life at 15 years, running 300 hours a year, or one hour a day on the average. In this way it can be seen that the deterioration would amount to \$20 a year, or six and one-third cents an

hour. In heavy work fuel costs at 12c an hour. "With this data," writes Mr. Malyon, "let us compare cost of cutting wood with power or by hand. In this locality it costs 80 cents a cord to get wood sawed by hand. Three men with saw and my 5 H.P. engine can cut 40 cords in 10 hours, expenses as follows:

Chopping at mill	.....	\$1.20 a ton
Hauling $\frac{1}{2}$ day, men and team,	.....	
per ton	.....	2.00
Chopping at home.	.....	\$3.20 a ton
Oil, three hours	.....	36 cents
Deterioration	.....	20 cents
or a saving of \$2.64 a ton.	.....	56 cents a ton



In Case of Emergency

Did you ever hear a herd of cattle bawling around the barn just because the gas Co. One, is prepared for any such emergency, his one and one-half horse power gasoline engine being ready to supplement the wind. Mr. Logan may be seen in the illustration.—Photo by an editor of Farm and Dairy

Men, \$1.50 per day	.....	\$4.50
Oil	.....	1.20
Deterioration	.....	.65
or 16 cents a cord.	.....	\$6.35

Hence on 40 cords there would be a saving of \$25.60 on one day's work.

Let us now turn to filling a silo by a hired machine and with my own outfit. To hire an outfit would cost \$15 a day, whereas to operate my outfit would be as follows:

Deterioration	.....	\$ .65
Oil	.....	1.20
	.....	\$1.85

or a saving by having an outfit of your own of \$13.35 a day.

Let us turn our attention now to chopping, which is perhaps the operation on which power is most used on a farm. Let us compare chopping at home and drawing grain to the mill and back, four miles away.

In estimating his chopping expense it will be noted that Mr. Malyon does not make any charge for time. He chops while doing chores and has only to start and stop the machine. As Mr. Malyon chops about 40 tons a year he saves \$105.66 on chopping alone over drawing his grain to the mill.

"There are a good many ways," writes Mr. Malyon further, "in which it makes money for us besides the ways above stated. For example, if we want a little buckwheat flour or graham flour in the house we can get it right at home without having to pay three to five cents a pound for it to the merchants in town, or again we can make linseed for our calves without having to pay three cents per pound for it. The large mills will not grind small amounts. Again one can grind it fine or coarse or mix the chop to suit oneself without any trouble.

"I have also found the engine handy for warming water. Should I need a pair or two of hot water to water a sick animal or mix up some slop for small pigs all that is necessary is to start the chopper for a few minutes.

"In cutting wood I have found that it is difficult to cut rough wood with a cross-cut saw, but it is a simple operation to cut it small enough with the buzz saw.

"Again, if the pasture gets bare in the latter part of summer nothing helps the cows like a good feed of cut corn night and morning. This would not likely get cut if it had to be done by hand after a hard day's work, but five minutes will cut enough for two or three days with my 5 H.P. engine."

Mr. Malyon does not care to estimate the actual dollars and cents value of his engine as he says with truth that it is hard to estimate just how much small conveniences such as the last that he mentions are worth. "My think I would be quite safe in saying that my outfit pays for

(Continued on page 9)

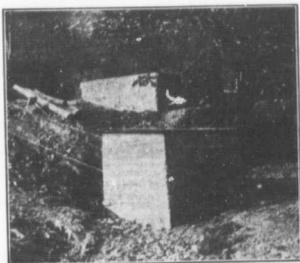
# Make the Small Creek Do Your Work

Properly Harnessed it is an Efficient Hired Man

BY F. E. ELLIS

ON thousands of farms in Ontario there is power going to waste—power enough to run all the machinery on the farm, and that at practically no expense except the initial outlay to harness it. I have been on hundreds of farms where small creeks, close to the buildings, could be readily harnessed. All that is necessary is a man of vision to see the possibilities of running water and turn it to his own uses.

Such a man is A. J. Tamblin, Durham Co., Ont. Mr. Tamblin is one of Our Folks of whom we are proud. We have already told Farm and Dairy readers of how this young man took over his father's farm, got into dairy cattle, and doubled the revenue in seven years. We have also mentioned his power equipment. Recently, when in Durham county, I dropped in on Mr. Tamblin for a chat, and inquired more fully into his most ambitious undertaking—his hydraulic power.

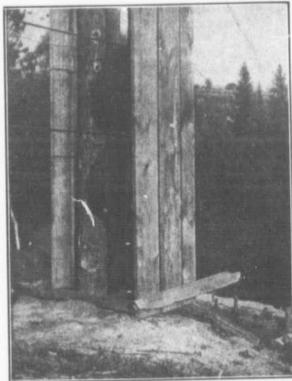


**"The Seat of the Power**

In this little cement house is a turbine wheel that does much of the work on the Tamblin farm in Durham Co., Ont. Notice the cement dam above the power house; also the power cables running up the hill to the buildings.

"As you will notice," continued Mr. Tamblin, "I use my power for grinding grain and cutting feed. I find a rip saw in the barn very handy for ripping out whifletrees and such work. To illustrate the value of my power, in one winter alone I saved over \$25 by grinding my own grain. In the basement my power is arranged to run the pulper, separator, emery wheel, and grind stone. The latter is one of the small uses made of my power that is much appreciated, especially in harvest."

"What did the work cost?" I asked. "As near as I can remember about \$300, besides my own work. The turbine wheel cost \$75, the steel feed tube \$50, 500 feet of transmission cable \$25, with shaftings, cement, and so forth, additional."



**Support for the Power Cables**

The power from Mr. Tamblin's turbine is carried to the barn by a cable as seen. This illustration shows how the cables are supported and the direction changed at the brow of the hill.

The creek on this farm is a small one, so small that few people would have seen any possibilities in it for useful work. About five years ago Mr. Tamblin decided to harness it. Work was started after the fall work was done and was continued till Christmas. The creek was dammed back, a reservoir excavated, and a small cement power house constructed. The reservoir into which the creek can be diverted is 25 rods long, 12 feet wide, and at the dam is seven or eight feet deep.

As we went from place to place examining the various parts of the outfit, Mr. Tamblin told us something of its installation. "When I first decided to obtain power in this way," said he, "I took a spirit level and examined the ground to see where the water would come were I to build the proposed dam. I found that by making the excavation that you see that I could obtain 18 feet of head. I then wrote Prof. W. H. Day at Guelph for advice. Likewise to manufacturing firms. My investigation satisfied me that the thing could be done, and in a month the dam was finished. We had our own troubles with the power house, as we found the foundation contained quicksand, but this difficulty, too, was overcome, and by Christmas the outfit was complete.



**A Small Creek Does the Work**

One does not need a large creek to duplicate the Tamblin power plant as the illustration testifies. The dam may be seen in the distance.

"How much power can you develop?" was the next question.

"We have drop enough to develop 25 horse-power," said Mr. Tamblin, "but the outfit is rigged to develop only 12 horse-power and work longer. The flow of the feed during the most of the year is sufficient to run only one-half hour twice a day, but this is quite sufficient for ordinary farm work. We run the power and get the work that it does, done at the same time that we are doing the chores. During the spring freshets there is water enough to run the wheel continuously, and then we plan to get the year's supply of wood cut."

The illustrations on this page will show clearly how the power is conveyed from the power house at the foot of the hill to the buildings at the top—by a strong wire cable running on pulleys. The wheel may be started or stopped from the barn, and it is never necessary for Mr. Tamblin to go near his power house except to oil the gearing. Mr. Tamblin has ensured the safety of his dam by constructing a gate, which turns all of the water into the regular bed of the stream in the case of spring freshets.

"Why cannot my scheme be applied on many farms?" remarked Mr. Tamblin. "Take all of the big creeks through the country. There should be thousands of these wheels utilizing the power that they afford. When I drive past a creek I always think of its power possibilities. I have had my own power now for five years, and it hasn't cost me 50 cents, except for oil. With the experience that I have had I would advise harnessing the creek if it were three-quarters of a mile away, but in this case it would probably be advisable to establish a dynamo and transmit the power by electric current rather than by cable."

Mr. Tamblin is one of the pioneers of such power development in this country. Such development by both individual and cooperative enterprise, however, is common in both Germany and Denmark. In the former country there are several thousand cooperative societies organized for the express purpose of developing water powers and supplying their farmer members with power, light and heat. The greater portion of Eastern Canada and British Columbia are especially well watered. The facilities for power development are quite as good as they are in older lands. Properly harnessed, these streams will prove themselves most efficient hired men.

A run-out soil is usually a soil drained of its nitrogen by injudicious cropping. Many crops are sickly in color and unthrifty because of lack of this one important fertilizing ingredient. The nitrogen in the air over each acre of soil, if it could be trapped for fertilizing purposes, would have a fertilizing value of not less than \$10,000,000, basing our estimate on current prices for commercial fertilizer. This atmospheric wealth is available for the farmer. He cannot trap \$10,000,000 worth in a lifetime, but he can trap \$15 to \$25 worth an acre in a season by the growing of legumes, such as alfalfa or clover.



**Why Not Harness this Creek Also?**

This creek is only a short distance from the one Mr. Tamblin harnessed. There are hundreds like it all over the country. Why not harness them to light our homes and supply us with power? A creek of this size could be developed cooperatively for the use of several farms.

—All photos by editors of Farm and Dairy.

**E**DISON once

motor over mechanical For every one I we put into a horse pounds of work traces. There i even the old-fas so low an effici motor is the m producing the fo to this most wa because no tracti vised that they place of "Old meantime horse more expensive, tending upward, ciency is the sar der that farmers age size are ca factories to hurri able, practicable I believe that th soon be with us, already here.

So far as the rmed the tractor its usefulness and are ewe now in Perhaps the poin that makes its all-round usefule and fall it hauls mows economically easy to handle, ne eats only when it can also be harnes such as feed chop ping boxes, and pump water if occ ions of America ion engine taking and doing the wor The tractor app enables the farmer needs to be done. flow at the right t and seed at the rig all three operation the Western State working their trac was needed was a man.

There are many discussing the adv



The Adaptation of the Tractor to Farm Work is a Problem already Solved on the Extensive Ranches of the West

## The Place of The Mechanical Horse

Can We Domesticate the Tractor on the Farm of Average Size

BY R. P. JORDAN

EDISON once said, "The horse is the poorest motor ever built." From the standpoint of mechanical efficiency Edison was right. For every one hundred pounds of energy that we put into a horse in the form of feed, only two pounds of working energy are delivered on the traces. There is not another power, no, not even the old-fashioned steam engine, that has so low an efficiency unit. Yet this hay-driven motor is the machine with which farmers are producing the food of the world. Farmers cling to this most wasteful of all powers because no tractor has yet been devised that they believe will take the place of "Old Dobbin." In the meantime horse flesh is becoming more expensive, horse feed, too, is tending upward, but the thermal efficiency is the same. Is it any wonder that farmers with farms of average size are calling to the manufacturers to hurry up and get a workable, practicable farm-sized tractor. I believe that this farm tractor will soon be with us, if indeed it is not already here.

So far as the large farm is concerned the tractor has already proved its usefulness and thousands of them are even now in active operation. Perhaps the point about the tractor that makes its widest appeal is its all-round usefulness. In the spring and fall it hauls the plows or harrows economically and easily. It is easy to handle, never gets tired, and eats only when it works. The tractor can also be harnessed to all belt-driven machinery such as feed choppers, threshing machines, cutting boxes, and circular saws. They can even pump water if occasion demands. In some sections of America it is not unusual to see a traction engine taking a farmer's crop to market and doing the work of a dozen horses.

The tractor appeals to me, too, because it enables the farmer to do his work when it most needs to be done. With a good tractor we can plow at the right time, harrow at the right time, and seed at the right time. In fact, I have seen all three operations combined in one when in the Western States. I have heard of farmers working their tractor 24 hours a day—all that was needed was a strong headlight and an extra man.

There are many factors to be considered when discussing the advisability of buying a tractor.

We must decide how many days a year we will use it and determine fuel charges and compare these with feed charges. It is well to remember that gasoline is advancing in price quite as quickly as oats, hay, or corn; more quickly, in fact. There will also be a tendency on the part of farmers to under-rate the cost of horse upkeep. I have figured carefully on this problem, and believe that a little study should convince any farm horse owner that the man who keeps

perience that these advantages apply to the large tractor. The tractor is no longer the wild, bucking bronco of its experimental days. It has been entirely domesticated. What I want is to see the domestication of the mechanical horse carried out in its entirety so that the man who farms 100 to 150 acres may use the never-tiring traction engine.

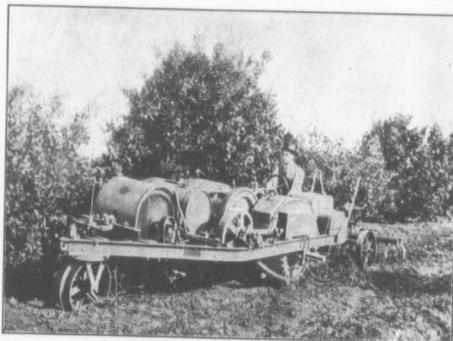
It might mean an expensive experiment for an individual farmer to give the small-sized tractor a trial. What do our experiment stations know about it? Can they give us any light on the subject? Have they given any of the common makes a trial? Is it not time they did? The farm tractor is coming sooner or later, and I believe our Government experts should help us to get in on the ground floor by testing the more promising of the tractors that manufacturers are now offering.

### Field Shed for Implements

John Jack, York Co., Ont.

ONE of the big holes in the farmer's pocket is the loss that comes from the depreciation in value of farm machinery and implements. The regrettable part of it is that the implement is done for long before it has rendered the service that it should. It is a notorious fact that the same bit of machinery, as far as construction goes, will last a manufacturer far longer than it will the farmer. In the meantime, the manufacturer has got many times over the amount of work out of the machine that the farmer has secured.

That this need not be the case is borne out by the practice and experience of a farmer near Hamilton, who has made it a practice to erect implement sheds on one or two of his fields where he may store his outfit when it is not in actual use. Six posts, a few rails in lieu of plates, and boards enough to act as roof and ends, and you have the whole thing. The lumber is not the best but it serves to keep off rain, dew and sun. Into this structure the implements are driven of a night or till they are needed for the next farm operation. Experience shows how little injury is done to this farmer's equipment by actual field service. This house simply serves as a protection for the implements when on summer duty. One season will pay for the construction of such a protection. Try it and stop one more leak.



### Is the Tractor Adapted to the Small Farm?

Horse power is wasteful power. Only a small percentage of the horse's energy is transformed into work. Hence the demand for a small farm tractor and the efforts of manufacturers to supply it. The farm sized tractor here illustrated is the one devised by the Rumely Company.

good horses is really expending over \$100 a year for each horse. That would go a long way in buying gasoline, repairs, and accounting for depreciation. The initial cost of a small tractor should not be greater than that of the horses it displaces. The difficulty will be to find a tractor that will fit the average farm so completely that most of the horses can be dispensed with. Perhaps cooperative ownership of the tractors and the dispensing with a team or two on two or three farms will make the first outlay an economical one. A shelter for the tractor can be built at much less cost than a barn and stable for horses. Repairs will not cost as much as harness repairs, shoeing, and veterinary bills.

This may sound very "fetching," but also theoretical. It is so far as the small tractor is concerned. But I know from hard, practical ex-

# What Farm Machinery Shall I Buy?

Men of Experience Offer Some Suggestions on Choice of Implements

## My Choice of Implements

A. C. Hallman, Waterloo Co., Ont.

ONE of the most perplexing questions that confronts the average farmer of to-day is the farm labor or hired help problem. There is only one way, in my opinion, to solve the problem—improved implements and farm machinery. With these we are independent.

As farm labor grows scarce, happily new methods and inventions multiply and keep pace with the demand. With a full equipment of implements and farm machinery a man can be fairly independent, and when it is paid for, it won't dictate to you like the average hired help.

The choosing of the implements is a very important matter as soil and methods of farming differ very much. There are, however, certain standard implements everybody must have for successful farming and differ only in their application, as soil and circumstances differ. There are several very essential factors that enter into the purchase of all implements—durability, simplicity, ease of operation, rapidity, and thoroughness in their work.

To begin with, one of the most primitive and yet most useful implements, we will mention good plows. Good plowing is the first step to good farming. We should have plows with good skimmers. A good double plow and several single plows should be on every farm.

Next in importance come good harrows. I fear many farmers are wasting their valuable time working with disk harrows and cultivators when a good sharp harrow (flexible preferred) would do the work more quickly and more effectively. No farm is complete, however, without a good wide-spring-tooth cultivator and a good wide-tooth cultivator. The disk harrow is indis-

pensable on heavy soil, but not of such great value on lighter soil, except for after harvest stubble cultivation. I have no fault to find with the disk harrow, except that it is too slow in covering work, as no good work can be done without doubling, as otherwise there will be too much riding. In this particular the cutaway harrow supplies a long-felt want and will prove a valuable implement.

For a grain seeder I like the disk drill. It puts the grain in very evenly and stirs

up the soil, especially after a rain. For corn stubble or top dressing with manure it has no equal.

No one should be without a good sculler for root cultivation, and a wheel hoe is very valuable in this connection; also a good weeder. There is a difference of opinion about corn cultivators. My experience with a single row two-horse cultivator for about eight years and a double row of the most improved kind for one year, leads me to favor the single row two-horse corn cultivator. With a good, steady, heavy team, and if the rows are exactly alike and weeds not too plentiful, a careful man can do good work with the double-row cultivator, but where this combination lacks, either the weeds are left standing or very often some of the corn is cut out. To make the best of it a man has to go very slowly and the cultivator pulls hard. With a single two-horse cultivator a light team will walk along. A good boy or average man can watch the ones so carefully that very few weeds are left standing or uncovered, and the Land hoing is made very light. I have, therefore, come to the conclusion that a man is further ahead when using a single row cultivator.

In hay making tools we want a six-foot cut mower, a 12-foot side delivery rake, and a harrow to make good hay rapidly. We also need a hay fork, pulleys and rack in the barn for quick work. For harvesting grain, a seven-foot binder with a bundle carrier saves time. Another of the most modern helps on the farm is a good manure spreader. It does the work much more effectively than hand labor and saves a lot of hard work.

The electric part of Mr. Smith's recently, Mr. orchard. When equipment in went into the convenient but him to light u all. It was t at the entrance on lights in th behind the hor not necessary by carrying a switch at the drive floor enal among the raft One does not h stable but wha fore entering.

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A MODERN equipment of implements and some form of power are necessary on the 100 acre farm to-day. But from the multiplicity of implements offered, which ones shall we select? In a Canadian farm journal recently we were reading of two farmers who started years ago with conditions equally favorable to both. To-day one man owns his own farm. His neighbor is in debt. The first was a good financier; the second got the farm implement craze, decided that he needed every new device offered, and kept himself continually on the rush to meet implement notes coming due.

Probably every implement has a place somewhere. But we cannot afford them all. We must pick and choose. In fact, it is one of the finest points in farm management to determine just what to buy and what to pass over. A letter recently received by Farm and Dairy from Gilbert McMillan, Huntingdon Co., Que., outlines a principle or two that should be borne in mind in purchasing for a farm of 100 acres.



**A Dual Purpose Implement**  
There is a place for the riding cultivator on almost any farm. With suitable attachments it may be used both for preparing the seed bed and cultivating the crop during the growing season. These purebred Clydesdale mares find the cultivator easy hauling on the farm of their owner, E. L. Osborne, Durham Co., Ont.

—Photo by an editor of Farm and Dairy.

"Care should be taken," writes Mr. McMillan, "to get machinery suitable for three horses wherever possible. There always is, or should be, that many horses available, and with help so scarce it makes a considerable saving of time. A double furrow plow is about a necessity, and can only be handled with three horses. The double cutaway disk is in the same order. The same also applies to harrowing, one man driving three horses as easily as two."

Mr. McMillan mentions the two-row corn cultivator as one of the best of the newer implements. "We grow about 20 acres of corn," he writes, "and with this implement can attend to the cultivation of it as easily as we could eight acres with the old walking cultivator." In talking of power, Mr. McMillan spoke favorably of a 1½ horse-power gasoline engine for pumping, separating, and so forth, and an eight or 10 horse-power engine for the larger work. "Out-side of silo filling, an eight horse-power will prove ample for most farmers," Mr. McMillan concludes.

During the past month Farm and Dairy has solicited suggestions on choice of implements from other well-known farmers, who have kindly complied. The suggestions contained in these letters, which follow, may offer valuable pointers to prospective implement buyers:



**Utilizing All the Horse Power**

Three-horse implements are economical of man power. On the two-furrow riding plow here illustrated, Mr. Whittaker, Dundas Co., Ont., has hitched his driving horse to help out in a busy season and supply the necessary three horses.

utilizing all the horse power. On the two-furrow riding plow here illustrated, Mr. Whittaker, Dundas Co., Ont., has hitched his driving horse to help out in a busy season and supply the necessary three horses.



**Rapidly Acquired Popularity Attests the Value of this Implement**

No land working implement is more discussed to-day than the double disk harrow. It does the work of two ordinary disk harrows and does it better. The land is left perfectly level. It cuts the labor bill in two. Its chief drawback on the small farm is the horse power required to run it; four horses are required on heavy soil.

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For power, either wind or gasoline are useful. The power wheel, it seems, has had its day, although it has done good work. For pumping water the little wheel has still a very useful place. Gasoline power is here to stay (unless we can get something better), and I believe it is to most farmers' interests to have an engine and do their own chopping and other work.

The milking machine on a dairy farm is becoming very popular and is worth considering where a sufficient number of cows are kept.

There are many other farm implements that I might mention, but will conclude by say-



**Particularly Valuable Where Top Dressing is Practised**

The manure spreader is another implement that properly calls for three horses. Its main advantage is that it spreads manure more finely and evenly than could be done by hand and makes the same amount go further. The one illustrated was photographed by an editor of Farm and Dairy on the farm of M. S. Schell, Oxford Co., Ont.

ing that no man can afford to grub along with poor tools and farm machinery. We must have them rather than neglect our work because of scarcity of labor.

**Some Practical Suggestions**

*Oswald Walker, Perth Co., Ont.*

FARM and Dairy asks my opinion on the important question of farm implements, knowing that I have had considerable experience along this line.

In the first place, our soil must be plowed. I would advise getting a good two-furrow riding plow. A farmer on 100 acres of land must have three good horses for his work any-

(Continued on page 8)

# What Twenty Dollars a Year Will Do

Electric Power as it is being Utilized on One of our Ontario Farms

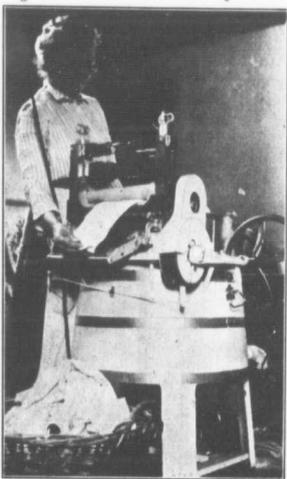
PROGRESSIVE farmers have long looked forward to the day when electric energy would be available for their use. Farm prophets have long been painting pictures of model farm homes with buildings all aglow with electric light and every machine in the home and on the farm set in operation by pressing a button that sets the electric current to work. For many the day of opportunity has now arrived. Power lines pass in front of hundreds of farm homes and at least six companies in Ontario alone are offering to supply power to farmers at reasonable rates. As yet, however, it is unusual to find a concrete instance of where this power has been utilized. A few men, however, are pointing the way. One of these pioneers is Mr. W. L. Smith, of Durham Co., Ont.

Mr. Smith is well known to farmers everywhere as he was for eighteen years editor of The Weekly Sun. He has recently retired from newspaper work to a 50 acre farm near the village of Orono, and in his new home has installed with the assistance of electric power all of the conveniences that are generally supposed to make the city home more attractive than the home in the country. A description of Mr. Smith's electrical conveniences will, therefore, be of interest to Farm and Dairy readers, particularly those to whom power is available.

The electric lighting is the most appreciated part of Mr. Smith's electrical installation. When an editor of Farm and Dairy dropped in on him recently, Mr. Smith was busy spraying in the orchard. When we returned to the buildings the equipment in the barn was first examined. As we went into the drive shed Mr. Smith pointed to a convenient button near the door which enabled him to light up before entering the building at all. It was the same at the barn. Switches at the entrance to the stable enable one to turn on lights in the pig pen, water shed, cow stable, behind the horses and in the root cellar. It is not necessary to risk burning the building down by carrying a lantern into the hay mow. A switch at the foot of the stairs leading to the drive floor enables one to turn on a light high up among the rafters; which lights all of the mows. One does not have to go anywhere in Mr. Smith's stable but what the light can be switched on before entering.

As we were going into the house Mr. Smith called attention to a small transformer on the pole opposite the house which reduces the power carried by the wires of the Seymour Power Company to suit his needs. In the hall are three

switches—one turns on the hall light, another the parlor light, and the third the light in the dining-room. At the head of the stairs are switches that light the upper hall and a couple of bedrooms. At the rear of the house the wiring is still more convenient. Here one can light the upstairs by a switch in the kitchen. All of



**Electric Power in Harness**

This electric washer and wringer is only one of the conveniences that Mrs. W. L. Smith, Durham Co., Ont., has by virtue of the electric power that the Smiths have utilized in their farm home. The other conveniences are told of in the article adjoining.

—Photo by an editor of Farm and Dairy.

the bedrooms are electrically lighted. When one has occasion to go into either the summer kitchen or the woodshed, switches are so arranged that light can be thrown ahead of one.

A motor of one-sixth horse-power pumps the water required for kitchen and bathroom. The water is held in a cistern of 2,500 gallons capacity. This cistern is connected with the pump in a pantry off the kitchen. Water is pumped into a tank under pressure. The pump works auto-

matically. When the pressure goes down to 15 lbs. the pump starts automatically and pumps until the pressure is restored to 55 lbs. A hot water tank is connected with a water front in the kitchen stove, and when the stove is going, hot and cold water are always on tap. "The pressure," said Mr. Smith, "is quite as good as that which we had in Toronto."

It was wash day when we happened along, and we had an excellent opportunity of seeing just what a great convenience is Mr. Smith's latest installation, an electric washing machine and wringer. Here again a six horse-power motor is sufficient to run both washing machine and wringer. All of the labor of washing, aside from hanging out the clothes, is performed by electrical energy. "I like this washer better than any other part of our equipment," was the decided expression of opinion by Mrs. Smith. And Mrs. Smith did not graduate directly from the old scrubbing board method to the electrical machine. She had previously used a good washing machine.

Other household conveniences are an electric iron and an electric toaster. The first is now considered indispensable, it cutting the work of ironing nearly in half. The toaster finds its best use in warm weather. It may be used for toasting bread, boiling eggs, or preparing coffee. If warm water is needed in small quantities when the fire is out in the kitchen range, the toaster is particularly useful.

"And what have all of these conveniences cost you?" we asked Mr. Smith, after spending a pleasant day with him. He had the list right at hand. Here it is:

Pump and motor .....	\$145 00
Wiring the house .....	37 18
Wiring the barn .....	94 27
Electric iron and heater .....	7 00
Washing outfit, with motor .....	60 00
<b>Total .....</b>	<b>\$273 45</b>

"And the cost of operation," we inquired.

"Our electric power for all purposes," said Mr. Smith, "averages a little over \$1.50 a month, probably about \$20 a year. I may mention that our cost of installation was somewhat reduced by my son Gordon helping in the wiring of the house and with the assistance of a neighbor doing practically all the wiring of the barn. The \$24.27 netted as the cost of wiring the barn is altogether a bill of materials. These charges are such as one could get only on a main power line.

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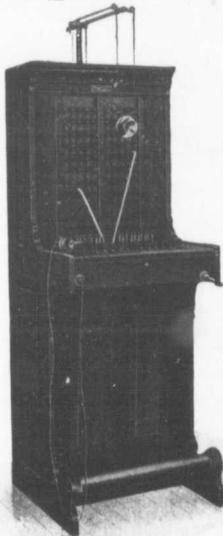
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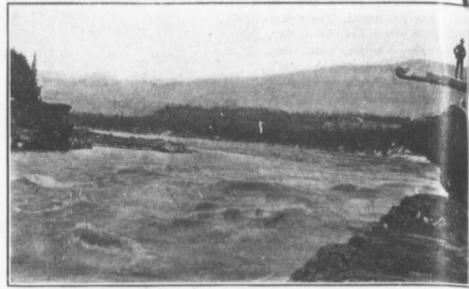
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Potential Power in the Far North—Peace River Canyon

### What Farm Machinery Shall I Buy

(Continued from page 6)  
The spring-tooth cultivator comes to my mind next as an indispensable implement for the soil. Then we must have the diamond harrow, the roller, and the seed drill. Were I asked to advise the kind of seed drill to buy, I would have to refuse an answer, as the fertilizer drill is coming in now, and it remains for each one to decide whether or not he will use commercial fertilizer, and hence if he needs a drill. Last fall I had my first experience with the fertilizer drill. It cost me \$102, with the three attach-

stone boat plank 12 feet long and 48 inches wide, with a tongue in it, also bunks and a box, and can assure you I would not be without it for anything, as we drew manure with it right through the first week of April when it would have been too rough for the spreader on plowed ground.

I have not had any experience with the double cutaway harrow, but have a disc harrow, which I like for sod. My corn cultivator is a single one, as I bought it before the double ones were in use.

In reference to the cost of implements I have mentioned, that will depend on the way in which they are



Another Example of Peace River Power Possibilities—Vermilion Falls

The Peace River District in Northern Alberta is a land of great agricultural possibilities, say those who know the country best. The Peace River offers itself admirably to power development as the illustrations herewith testify. Who knows but on some day these falls may be harnessed to light farm homes and run farm machinery even as Niagara power is now beginning to do in Ontario.

—Data courtesy Commission of Conservation

ments for grain, grass seed, and fertilizer.  
Haying implements should consist of mower, horse rake and tedder. Good hay cannot be made without tedding, especially where it is heavy. The next question is, does it pay to have the side delivery rake and loader on the average 100 acre farm if help can be secured. I do not think it is, but on a farm the size of my own it is different, and I have all of these implements, and would not dispense with any of them. Next comes the binder with sheaf carrier attached.

The question of handling the manure is another problem. I believe there is too much money tied up in manure spreaders for the length of time they are in use. I do not use my spreader for more than one-third of the manure that is put on the farm. I haul manure out in the winter whenever practicable, and when snow is gone if the ground is still frozen. I have a sleigh which I made from purchased. Cash always has the advantage over time purchases. Oftentimes a number of good implements can be purchased reasonably at auction sales. The farm, in my opinion, is what we make it, and a number of handy devices could be made, when work is slack, that would save a vast much time and labor.

The Experimental Farm at Ottawa and the branch farms and stations have been summarized and issued in Bulletin No. 75 of the Experimental Farms. It takes up the question of rotation, cultivation, fertilizers, rates of seeding, cost of production, weed eradication and other points connected with field agriculture. The bulletins are for free distribution at the Publications Branch of the Department of Agriculture, Ottawa.

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Worth of Heifer's Calf

Will a bull from a two-year-old heifer with a good record transmit his qualities as good as would a bull from a matured cow? I am looking for a Holstein bull at present. I can get lots of them from heifers but I think bulls from matured stock would transmit their milking qualities better than bulls from young stock.—D. A. McD., Huron Co., Ont.

This query opens up a much disputed point. Some breeders claim that sires from immature females should never be used. Another class hold directly the opposite view,—that the age of the dam makes no difference to the transmitting qualities of the male calf. Probably the truth lies somewhere between these two factions. It seems reasonable that early breeding must, in the long run, result in smaller cattle. Hence we would expect the son of a heifer bred at too early an age to be somewhat backward in growth, that is, unless the heifer were an exceptionally strong one. Where the heifer is growthy and bred to come in at 30 to 36 months we can not see why her first son would not transmit her qualities, as well as later ones. The chief advantage of buying bull calves from mature cows is that the producing qualities of the dam have been more thoroughly tested.

The Dollar and Cents Value of Farm Power

(Continued from page 3)

itself at least every two years, besides providing a lot of labor-saving conveniences and comforts," he concludes.

Every farmer who is thinking of buying a gasoline engine has in mind several ways in which he would like to harness it. I can give some very general data which will enable each man to figure its economic advantage for his own particular case. Take pumping, for example. Suppose that one horse-power were required to operate the pump. About one-tenth of a gallon of gasoline would run the pump for an hour, or a one and one-half horse-power engine will pump anywhere from 600 to 1,000 gallons of water under average conditions at a total cost of one-half a cent for fuel. The same engine will operate a cream separator, separating for a herd of anywhere from 10 to 25 cows at a cost of from one-half cent to one cent a day. Other light work is done at a proportionate cost.

I was asked in the first place to figure out for the benefit of Farm and Dairy readers the dollars and cents value of the gasoline engine. The more I thought over the subject the more decided I became that any conclusions that I would reach would have a very limited application. The general rules that I have given should enable any prospective purchaser of a gasoline engine to decide just what it would be worth to him. I am fully convinced that there is not a farm anywhere of 50 acres properly worked that would not find some form of power an economic addition to the working force. My experience would lead me to second Mr. Mahyon's contention that a gasoline engine will pay for itself every two years.

J. A. Ruddick, Dominion Dairy Commissioner, will represent the Canadian Government at the Sixth International Dairy Congress at Bern, Switzerland.

I have used a cement tile drain machine and believe that cement tile can be made at a good profit where material is suitable and the right man takes hold of it. It can be manufactured as cheaply as clay tile and the cement will stand the frost much better.—O. D. Oatman, Oxford Co., Ont.

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After we ended rim-cutting we took up loose treads—another major tire trouble.

At the base of the tread in every tire there must be a breaker strip. In all tires save Goodyears this strip is made of closely-woven fabric. And road use often separates this breaker strip from the rubber.

We bought the rights to a patent fabric which we picture here. It cost \$50,000, and it forms our breaker strip.

During vulcanization, hundreds of large rubber rivets are formed.

This lessens by 67 per cent the risk of tread separation. And no other maker employs it.

Millions Saved

That is one way in which we save tire users millions of dollars yearly.

Another is our "On-Air" Cure. No-Rim-Cut tires are final-cured on

air bags, under actual road conditions. This saves the countless blow-outs due to wrinkled fabric.

This extra process adds immensely to our manufacturing cost. And no other maker employs it.

In these tires alone is rim-cutting ended in a satisfactory way. We control the method.

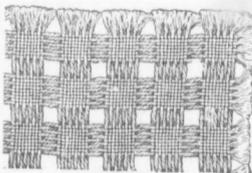
And these tires alone have our double-thick All-Weather tread—a smooth-running anti-skid.

18 Makes Cost More

No-Rim-Cut tires are the only tires embodying these costly features.

After years of tests on countless cars they have come to outlast any other tire in the world.

Yet there are 18 U. S. and Canada makes of tires which sell at higher prices. Some nearly one-half higher. Three such tires cost as much as four Goodyears. That's a curious situation.

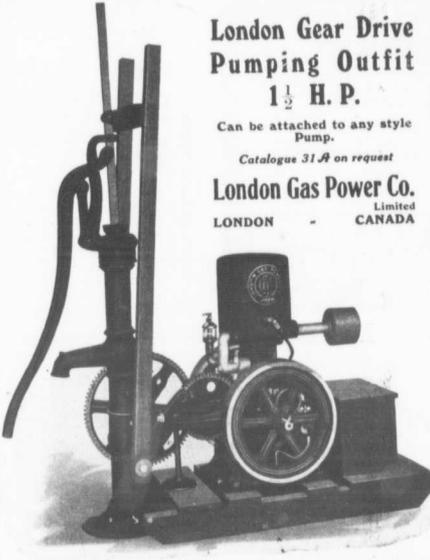


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**The Knife in the Orchard**

J. S. P., Lincoln Co., Ont.

I do not consider pruning as important an operation as it is usually supposed to be. I know that many growers consider that pruning decides the amount of growth, that it can control the fruit and everything else in connection with the orchard. My own theory is that the more pruning we do the more injury we do. Let us look at it in this way. The foliage of the tree is the manufacturer of raw material into plant food. Hence the tree must have plenty of foliage if it is to manufacture the food necessary for new growth and a good crop of apples. Particularly is this true of young trees making rapid growth. In the case of a young orchard all the pruning that I would do would be merely to shape the head according to the type of tree that we want to grow. In taking off branches I would prefer to cut them off when they are small, rather than wait for an annual pruning. Prune when the knife is sharp, is a very good rule, and I always plan to have mine sharp. I don't believe in butchering the orchard, as some growers do, and I believe that the best growers are coming around to this point of view.

venience, soak the ground well before putting in the plants. Plant their roots in mud; plant four to six inches apart; press oil firmly around roots. If weather is cloudy and moist they will not need more covering, but if the sun's heat is strong, cover with boards set on blocks over the rows, till the roots have taken hold. Water daily. To insure stocky plants, trim roots and clip off top of plants, but if this is the first transplanting you cannot do this, but later, I trim off the tops and use the green stalks in soup.

Stir the earth frequently around the roots, and as the plants grow, bank the earth higher and higher around them, holding the plant together with one hand so that the earth does not get between the stalks. The plants grow from the heart outwards, so do not cover the crown, but as the plants grow rapidly keep the earth banked around them. Frequent watering and stirring of the earth and banking, will insure quick growth.

**PREPARATIONS FOR HARVESTING.**

For early varieties bleach between boards, staked closely at each side of the rows to exclude sunlight. White Plume should be ready in August, and by the time it is at its best, the later variety will be nearly ready. The first frosts do not injure celery, but it should not be frozen through.

**Celery Culture**

Mrs. A. Ferguson, York Co., Ont.

Celery has rightfully won first place as a delectable table vegetable. Its culture is comparatively easy. While it luxuriates on black, loamy soil—which we rarely have in gardens—it will grow in almost any soil, provided food and water is supplied, and these are necessary to insure quick, robust growth and crisp, nutty flavor.

I prefer to grow my own plants for while the tiny seeds are slow to germinate, when once they get a good start the plants grow rapidly, and they are so full of vitality that trit alone will kill them. I then have plants by the score or even hundreds, instead of dozens. Choose an early variety—white plume, or autumn celery, which keeps well the greater part of the winter, and a winter kind, which gives you celery nearly the whole year round.

**STARTING THE SEEDS**

The seeds should be started in the house in March or even in late April, in hot beds. I find that the hot bed planted catch up to the earlier sown plants. These should be transplanted into flats or cold frames, but as my time for gardening is squeezed in, just when I can get it, I do not transplant my plants, except into the open trench, and I write this for the benefit of other busy people. It is now too late for celery from seed for this year but plants all ready to be set in the trench can be bought at any green house.

I prepare the trench as early as I can, usually after the garden is planted, early in May. I dig the trench the depth of the spade, and rather wider. Into this I place plenty of food—good manure. Cover with earth and conserve the strength, and the trench is fairly well filled again. If I can obtain good loamy soil I add it to the other, and give the tender seedlings a soft earth bed.

**WHEN TO TRANSPLANT**

Transplant in June after a shower, or should rain not come at your con-

venience, stake closely at each side of the rows to exclude sunlight. White Plume should be ready in August, and by the time it is at its best, the later variety will be nearly ready. The first frosts do not injure celery, but it should not be frozen through.

**Rhubarb Culture**

Lillian G. Crummy, Leeds Co., Ont.

Many people wonder why they have no success in raising rhubarb. They have none fit for use until perhaps late in May or early in June, whereas it should be one of the earliest luxuries.

I do not know that rhubarb attracts attention and cultivation as much as any of our garden stuffs. I have often seen a few bunches of it in the fence corner or in a remote corner of the back yard with sod up to the roots. It is treated like some hardy perennial, and in time the rhubarb becomes unfit for use and finally dies out.

We have success in growing rhubarb and have it fit for use in April, although we never force it, nor do. But we have it in a shedded and sunny spot in the garden, where it is well cultivated and enriched by plenty of fertilizer; one can scarcely apply too much. Then, too, the roots should be separated in the fall as is done in spring; the early crop is laid on the ground, and the late stalks grow up as a spindle and new mature properly. It should be planted in a straight row in the garden so the cultivator can be used. To start it all up in a few weeks the secret of rhubarb success is in strong healthy clumps, and annual (fall) dressings of well-rotted stable manure.

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 THE POPULAR  
**LIVE STOCK EXHIBITION**  
 \$1,500.00 added to the Prize List this year. A fine lot of Specials on  
**CHEESE AND BUTTER**

Buttermaking Competitions Every Day  
 Special Railway Rates for Exhibitors and Visitors. Prize Lists and all information from the Secretary, London, Canada.

**W. J. REID**  
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**Massey-Harris Tillage Implements**

Plows—Cultivators—Disc Harrows  
 Drag Harrows

A Full Line of Implements for preparing the seed bed—all of which have stood the test of time, and have come to be recognized as the standard of excellence.—The most reliable and efficient implements on the market to-day.

**Massey-Harris Co., Limited**

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Branches at—Montreal Moncton Winnipeg Regina Saskatoon Swift Current  
 Yorkton Calgary Edmonton  
 Agencies Everywhere



**Poultry 1**

How much flock? Mr. Thomas Reprose, Lennox and a mounted a position only to county.

One hundred will be awarded \$30, \$20 and \$10 who obtain from their flock returns from total value of competition raised in 1913 prizes will be less than last year's periods.

**Some Turkeys**

Young turkeys than chicks. In order to succeed, parents must be nature and have the natural is to roost when and in time they to diminish the

This can be pensively constant which can be setting, a few tatted paper, was housed at night. The young birds come up regularly to be fed. It is driven in for five nights. An carbon foot pes, but it must majority of failure due to lack of carelessness.

In young are hatched the foster-mother little ones deprive and fed almost a grain of some

They must have diet, and even it must be exercised Turn the hen ones and let the most relish giving or wheat to coax to quicken their

In picking start, make you size will and The Bronze variety for the market use and the swart

But on account disposition this year rains. The birds their nests, and use for a month season. The White Halls maintained, and are about their nest buildings, as chicks as high as ten on clutch. They are harder to raise. Red, which is by some birds, but do some tame. All tur about their nests, once select the lo not be disturbed.

**POULTRY**



**Poultry Profit Competition**

How much profit per year can be made by an average hen in a farm flock? To get the answer to this question Mr. G. B. Curran, District Representative in the county of Lennox and Addington, Ont., has announced a poultry profit competition, open only to farmers' wives in that county.

One hundred dollars in cash prizes will be awarded in four prizes of \$40, \$30, \$20 and \$10 to the farmers' wives who obtain the highest net profit from their flock of poultry. The cash returns from the flock must be the total value of eggs sold during the competition and spring chickens raised in 1913 and 1914. Special prizes will also be awarded for the best egg production for the various periods.

**Some Turkey Peculiarities**

By S. E. Wallace

Young turkeys are harder to raise than chicks or ducklings, and in order to succeed with them more pains must be taken to study their nature and habits.

The natural tendency of the turkey is to roost where night overtakes it, and in time the wild animals are apt to diminish the flock.

This can be avoided by an inexpensively constructed roosting place, which can be made with woven-wire netting, a few posts and a roof of tarred paper, where the birds can be housed at night.

The young birds can be trained to come up regularly at about four o'clock to be fed, when they can easily be driven into the roosting-place for the night.

An carbon floor can be laid in this pen, but it must be kept clean. The majority of failures are, no doubt, due to lack of proper knowledge or to carelessness.

In many instances, where the young are hatched by chicken hens, the foster-mother is cooped and the little ones deprived of their liberty, and fed almost entirely on wheat or grain of some sort, which alone is enough to cause the poult to die.

They must have more of a vegetable diet, and even in this case judgment must be exercised.

Turn the hen loose with the little ones, and let them pick what they most relish giving them a little meal or wheat to coax them home and also to quicken their growth.

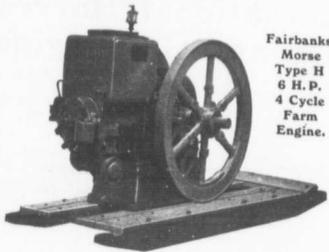
In picking stock from which to start, make your calculation that some are wild and some are tame.

The Bronze variety is very desirable for the market on account of its size and the sweet flavor of its meat. But on account of its wild, roving disposition this variety is hard to raise. The birds nearly always hide their nests, and perhaps will not be seen for a month or two at hatching season.

The White Hollands are more domesticated, and are more apt to make their nests about the barn and out-buildings, as chickens do. They are also good layers, laying an average as high as ten eggs each at one sitting. They are probably a little harder to raise than the Bourbon Reds, which, by the way, are handsome birds, but do not become quite so tame. All turkeys are peculiar about their nests, and when they once select the location they must not be disturbed.

**Absolutely the Best all-round Engine for every Farm Use**

Not an unsupported statement, but a claim that is backed by proof—proof supplied by years of experience in engine building and operation.



Fairbanks-Morse Type H 6 H. P. 4 Cycle Farm Engine.

**Fairbanks - Morse Farm Engines**

are built for hard work at many jobs, and they do all that, which is one reason why their farmer friends are numbered in the thousands.

**Powerful**

A Fairbanks-Morse Farm Engine will produce greater horse power than any other farm engine of equal weight.

**Serviceable**

Being skidded, it can be moved quickly, from place to place and made to perform a multitude of duties.

**Durable**

Of the 150,000 Fairbanks-Morse Engines constructed during the past 35 years, 90% are still doing effective work.

**Economical**

Will run on cheap oil; and an almost total absence of repairs holds maintenance cost to the minimum.

**Dependable**

Keeps running at all times, requiring but little attention and performing its labors without trouble or inconvenience.

Fairbanks-Morse Engines are made for every power purpose.

Capacities 1 to 200 H. P. Horizontal or Vertical. Portable or Stationary.

Send for Free Booklet "Farm Power." Address any branch

**The Canadian Fairbanks-Morse Co., Limited**

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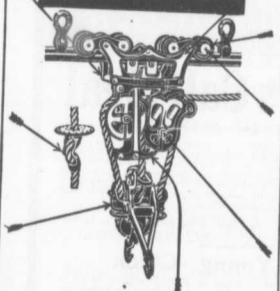
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Victoria Vancouver

**You save time and money**

on every crop you harvest with the aid of a

**LOUDEN Junior Sling Carrier**



**Sure to Work**

**Patented Brace Block**

A heavy ribbed malleable iron block attaches to the truck arms just below the track, and the bolt connecting the sides of the carrier frame passes through the lower end. This takes all strain off the bolt and increases the strength of the truck arms. No load can spread them.

**Adjustable Trip**

Used when desired to carry the load into the moor without elevating to the track. Slip it up or down on the centre draft rope as desired. A simple, effective adjustment without complicated parts. This trip is supplied when ordered without extra charge.

**The Great Triple Purchase Feature**

Three ropes lifting the load instead of two, as with the ordinary carrier; gives the horse one-half more power, reduces the strain on the ropes and prolongs the life of the outfit.

**Engine Trucks**

Distribute the load well along the track, increase the strength of the carrier and cause the load to run more steadily. No four-wheeled carrier, however much spread out, is so easy on the track or runs so steadily.

**Short Truck Arms**

The Truck Arms are only 5 inches long, nearly straight and extremely well braced. They cannot be sprung.

**The Unbreakable Axle**

These Axles are simply an extension of the main frame. Note how they are shouldered out at the frames; impossible to break them. No riveted or bolted pin axles are used on Louden Carriers. Such axles are always causing trouble.

**Patent Bushings**

The Pulley Shafts run on Patent Bushings, recessed into the side of the frames. This takes all the strain off the bolt and puts it on the frame where it belongs. The shafts are large, of extra strength and easy running.

A trip stirrup extends below the carrier frame and attaches to the locking mechanism. It is possible to keep the horse going on the draft rope and not bring the sling pulleys in contact with the trip stirrup. Once this is done the car is bound to leave the stop block and run back into the farm with the load. Side winds or uneven loads, cannot affect the proper working of the LOUDEN JUNIOR SLING CARRIERS.

Write for catalogue and special descriptive circular dealing with Gable Carrier.

**LOUDEN MACHINERY CO., Dept. 32, GUELPH, Ont.**  
Hay Tools, Feed and Litter Carriers, Stable Equipment, Barn Door Hangers.



## Potato Growing as It Is

John Rogers, Toronto

HOW wonderful are the conceptions of an inventor's brain! These conceptions, realized in implements of wood, iron and steel, have saved farmers many a backache. The life of the farm boy to-day is a cinch compared with what it was when I was on the farm. At least this is true where the father is progressive and has adopted labor-saving machinery to the full extent.

Take potato growing for instance: As a boy the potato crop was almost an all-year nightmare to me. I can remember how each spring around the first of June, as regularly as the season came, I carried a note to my teacher explaining that I would not be back to school for a week at least. Then we would start cutting seed. That was regarded as an easy job;

toes by machinery. I guess you've got out of touch with the farm and do not know just how things are done nowadays.

The invitation was accepted. A postcard informed me that potato digging was about to commence. It was a revelation to me. My friend mounted on top of a digger, drove up and down the rows on a machine that dug out the potatoes, separated them from the earth and vines, carried them into a second tread from where they were conveyed into a bucket at the side of the digger, holding about one bushel. This bushel box was dropped when full.

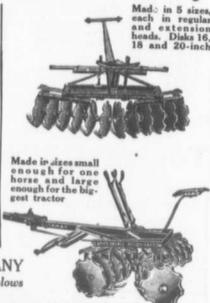
As I watched my good friend driving along so easily I thought of the many days when we together, from daylight to dark, had moved up and

## Do Better Disking and Raise Bigger Crops —You'll Make More Money

Regardless of how fertile or how poor the land, you can make more money by doing better disking. You can grow bigger crops at proportionately less cost.

### Cutaway CLARK

disk harrows will make you more money—they are specially designed for intensive tillage. Many farmers not only grow bigger crops at proportionately less cost by using CUTAWAY (CLARK) disk harrows, but they raise more per acre at less cost per acre. There is one for the biggest tractor or the smallest horse. Ask your dealer to show you a CUTAWAY (CLARK) disk harrow. If he doesn't sell the CUTAWAY (CLARK), write us. Don't accept a substitute. We ship direct where we have no agent. Write today for free catalog, "The Soil and Intensive Tillage."



Made in 5 sizes, each in regular and extension heads. Disk 16, 18 and 20-inch

Made in sizes small enough for one horse and large enough for the biggest tractor

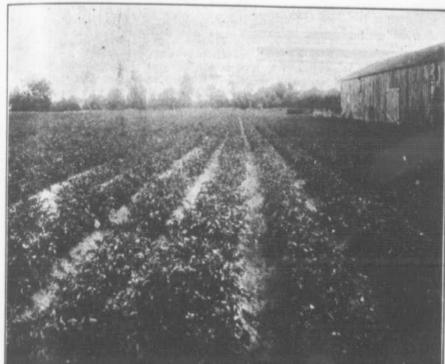
THE CUTAWAY HARROW COMPANY  
Maker of the original CLARK disk harrows and plows  
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We will gladly give information regarding the use of

## LIME

on your soil. The soil must be sweet to produce good crops. Where soil is hard, heavy, tall, mossy, etc., appears, the soil is sour, and you cannot expect the maximum yield of hay, cereal or fruit without correcting this acid condition. Lime (calcium carbonate) will do this. In many instances it has more than doubled the yield. We furnish blue litmus paper free with directions for testing your soil. Write us for further information. Agents wanted.

INTERNATIONAL AGRICULTURAL CORPORATION  
CALEDONIA MARL BRANCH - 835 MARINE BANK BUILDINGS, BUFFALO, N. Y.



Big Potato Fields are Easily Handled Nowdays

The unusually large field of potatoes was planted on the farm of John Wedrick, Turk Co., Ont., with a potato planter. It was dug with a potato digger. This machinery should make the potato crop where home production is not equal to home consumption.

not just the size for a farm boy; but it was hard enough to make my back ache. Then came the dropping of the seed. Another chore that the older men considered a boy's job. Potatoes were one of our most profitable crops, and between cutting the seed and dropping it I put in a hard week every spring of my boyhood days.

But what a different proposition it is to-day. At the time of the Canadian National Exhibition one of my old friends who had stayed on the farm dropped into my office. Our talk drifted naturally to farm subjects, and I made mention of the potato planting season that had been the highlight of my boyish days.

"Machinery does it now," "Oh, it's nothing like that now," answered my friend. "We still cut the seed just as we used to do when we were young, but on my farm there is an up-to-date machine that opens up the furrows, drops the seed and covers it. I could have got a machine that would cut the seed too, but I could not persuade myself that every seed piece would have an eye." "I was duly impressed. "But you have the digging and picking of them," I said, recalling another week of drudgery that had marked each fall on the farm.

"Not much," was the reply. "You just take a visit back to old Halton county next month and you will see me both digging and picking pota-

toes in the field, in a stooped position, picking the spuds one by one as the men laboriously dug them with forks. True farming is changing.

### Automobile Gives Satisfaction Wilfred Haigt, Prince Edward Co., Ont.

I am asked to give my experience with the automobile on the farm. In my opinion if any man needs an automobile it is the farmer. With it he can get to town for repairs to his machinery or the needs of his house, he back and hardly miss the time he is gone. Or while his horses are resting at noon, he can make the trip. I have found it very convenient in many ways. I live nine miles from our country town, and think it more pleasant with our conveniences than living in town, taking the telephone, rural mail (thanks to Farm and Dairy) and the automobile. I ran a Ford car for three years. The cost of upkeep was very light except for gasoline and oil. In the spring of 1913 I sold my Ford and purchased an Overland. I ran last year 2,900 miles, and it cost for the year:  
Gasoline, 150 gals. at 30c ..... \$45 00  
Oil, 8 gals. at 75c ..... 6 00  
Prestolite, 2 tubes at 25c ..... 5 00  
1 valve spring, etc. .... 1 25  
Total cost ..... \$57 25  
Of course this does not include depreciation of car.



## STANDARD Gas Engine Oil

Recommended by leading builders for all types of internal combustion engines, both tractor and stationary—gasoline and kerosene. Keeps its body at high temperature, leaves practically no carbon deposit. Equally good for external bearings.



## PRAIRIE Harvester Oil



The most durable oil for farm machinery. Stays on the bearings; will not gum or corrode; not affected by weather.

Eldorado Castor Oil  
Thresher Hard Oil  
Arctic Cup Grease

Imperial Oil Co. service puts these products within the reach of anyone in the Dominion.

Write any agency.

### THE IMPERIAL OIL COMPANY, Limited

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**RIDER AGENTS WANTED**  
 everywhere to ride and exhibit a sample 1914 Hyslop Bicycle with coaster brake and all latest improvements. We ship on approval to any address in Canada, without any deposit, and allow 10 DAYS TRIAL. It will not cost you a cent if you are not satisfied after using bicycle 10 days.  
**DO NOT BUY** a bicycle, pair of tricycles, lamp or sundries of any price until you receive our latest fully illustrated catalogue and have learned our special prices and a attractive proposition.  
**ONE CENT** is all it will cost you to write us a postal, and catalogue and full information will be sent to you **Free Postpaid** by return mail. Do not wait. Write **now**.

**HYSLOP BROTHERS, LIMITED, DEPT. K, TORONTO, CAN.**

**Tonight** Plan whom you will see about taking **FARM AND DAIRY.**

**Holstein-Friesian Association of Canada**  
 Applications for registry, transfer and membership, as well as requests for blank forms and all literature regarding **THE FARMER'S MOST PROFITABLE COW**, should be sent to the Secretary of the Association.  
**W. A. CLEMONS, ST. GEORGE, ONT.**

**Economical and Reliable Farm Power**

**Power from a Massey-Harris Engine is Cheaper than Man Power—Costs Nothing in Wages or Keep when Not Working—and is "always on the job."**

Let one of these Engines, Pump the Water, Draw the Wood, Run the Cream Separator, Churn, Washing Machine, Feed Grinder, Grindstone, Ensilage Cutter, Pulper, Etc.

**Sizes—1 1/2 to 20 H.P.**  
 All described in our Free Catalogue



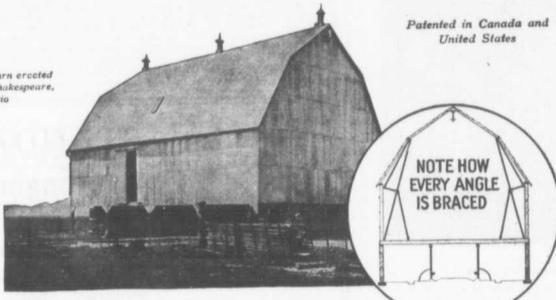
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**STEEL TRUSS BARN**

Patented in Canada and United States

Steel Truss Barn erected for N. Roth, Shakespeare, Ontario



**NOTE HOW EVERY ANGLE IS BRACED**

These Steel Trusses of Double-Angle Steel make the most rigid barn construction known to man

**A one-day job for 10 men**

Think of it! Ten men put up the frame of this barn—put it up ready for the covering of galvanized corrugated iron in one day. The barn left our factory ready to go up, not a timber in the whole barn that could not be handled by one man. The trusses were put together at the factory, ready to bolt into place.  
 That's the new idea in barn building.  
 You tell us the size of barn you want—that's all. We deliver a Steel Truss barn, fire-proof and lightning-proof to the nearest station ready to put up—everything supplied—all the timber and lumber, door hardware, fire-proof windows, ventilators, hay fork outfit—everything complete even to the nails.

**Lightning Proof**

Once erected, the Steel Truss Barn is there for good—proof against the weather, proof against fire—not a bit of wood showing, and proof

against lightning. Roof, sides, corruges, eaves, ridge, doors and windows, all are metal. The windows are heavy wired glass. The Steel Truss Barn is made for sturdiness.

**Load from the floor up**

There are no cross timbers in a Steel Truss Barn. More room in the first place, but the main thing is, it is easier to load and unload hay or grain.

Think for a moment. Wouldn't it save time, muscle, horses, ropes and tackle if you could load from the floor up instead of hoisting the forks high enough to clear the beams every time? The grain can be put in quicker and with less labor—in the Steel Truss Barn.

**Ready to Ship**

The Steel Truss Barn can be put up and ready to use while you are planning an old style barn. Eight factories in Canada are ready to ship you a complete barn, the day your order is received.

You do not need to keep a gang of men on the job for weeks—and board them. There is not a thing for you to provide. We send every stick of timber, the

joists, rafters, plates, braces, the wide doors and bird-proof track, and all the hardware, all metal and wired-glass windows (two for the roof and one for each end), three large metal ventilators and the best hay fork and track made.

**Cheaper than Wood**

You can see Steel Truss Barns now in almost every locality. Drop us a line and we will tell you where the nearest one to you is to be seen.

We will also send you a booklet giving full information. If you want a barn you will be proud of—the best class of building that modern farm architects can produce—and at a cost lower than the old frame barns, write to-day.

Ask any questions you like about farm buildings, we will be glad to answer them.

**C O U P O N**

**The Metal Shingle & Siding Co.**  
 Preston, Ont. Limited

Please send me full information about Steel Truss Barns

.....  
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 F. & D.

**That Milking Job**

By A. Edwin Long

You may rave about the farm, with its all-bewitching charm, Crowding blessings on the gentleman that plows;— But let a friend that's wise, set open up your eyes.— It's cusses when it's time to pail the cows.

Then it's strip, strip, strip, With mosquito's gettin' flip, And Betty's tail a cuttin' out your eyes.

Oh, it's hardly human work Just to pull and gouge and jerk.— Believe me, it will drive a boy to lies.

When the foam is rising light, and the pail is bulging white, And your pride begins to climb to see it there,

Betty's nerves go out of tune, straight she lunges at the moon, and the pail is topsy-turvy on your hair.

Then it's drip, drip, drip, Thomas Cat will smack a lip, While you pray for lightning's sure and fatal arm.

For this milking job at least Never made a saint or priest.— And it never coaxed a boy back to the farm.

Moral: Get a milking machine.

**Treatment of Bloat**

L. McGiven, Pictou Co., N.S.  
 If there is one instrument more than another that I value it is my canula and trocar. This instrument which is used in case of bloat of cattle or sheep, consists of a sharp pointed instrument the trocar, inside of a tube, the canula.

In a bad case of bloat the trocar and canula are inserted between the hip and last rib of the left side and pressed downwards and inwards into the stomach. The trocar is then removed and the canula left in the incision until all the gas has passed away from the stomach. The canula is then removed, the instrument and the incision disinfected and the wound allowed to heal naturally.

Of course one does not need a special instrument for this purpose. I have heard of one man who, finding a cow almost dead from bloat in a distant pasture field, used an axe to make the incision, and the animal recovered. I would not advocate such a drastic measure, however, except in case of extreme necessity. A trocar is better than an axe. When you get your canula and trocar don't lend it to everybody in the neighborhood for then it will not be on hand when you need it yourself. The incision is only necessary in severe cases of bloat. In mild case I would give raw linseed oil or a little turpentine in milk.

**Cinders for Concrete**

I intend laying a concrete floor in my cow stable this summer, and have been advised to use cinders with a little sand. We have cinders in abundance here as gravel. I can get good gravel out of cinders are lighter to haul and easier to mix. Here they made a satisfactory floor where used—W. J. J., Stormont Co., Ont.

Cinders mixed with sand make a perfectly good floor provided the cinders are clean. If they contain ashes and soot they are not fit to be used with concrete. Many reinforced floors in large places are built from cinders and sand, and they have been perfectly satisfactory wherever used.—London Concrete Machinery Co., Ltd. in use."

Don't buy a pure bred animal on pedigree alone. If you can't go see her, get a written guarantee as to her individuality from the breeder.

**The Metal Shingle & Siding Co. Limited**

Associated with A. B. ORMSBY & Co., Limited

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# The Value of the Mechanical Milker

## A Budget of Opinions from Our Flocks



**A Case Where One Man Does the Work of Four**

The four cows in the illustration are all being milked by a machine milker under the control of just one man. They stand as quietly as if good hand milkers were doing the work. Gillespie Bros., Peterboro Co., Ont., on whose farm this photograph was taken by an editor of Farm and Dairy, have got splendid satisfaction from their mechanical milker.

TO our certain knowledge the only milking machine in operation in or near the city of Peterboro, the home of Farm and Dairy, is doing its duty twice daily on the farm of Gillespie Bros., on the Mud Lake road, a couple of miles from the city. Mr. G. A. Gillespie is well known as a director and past president of the Eastern Ontario Dairy-men's Association. For several years he has run a dairy supply house in Peterboro, later a creamery was added and then an ice cream plant. A couple of years ago Mr. Gillespie and his brother purchased a farm, are running it on a partnership basis. The milking machine was there almost as soon as the cows.

A few days ago I was in Mr. Gillespie's office, and he suggested that we take a run out to the farm in his car. As it was quite late in the afternoon, we arrived at the farm about milking time, and in addition to seeing the machine in operation, secured the photographs which we reproduce herewith. Gillespie Bros. have a two-unit machine, which milks four cows at one time. They have an extra pail which enables them to keep the machine continuously in operation. When one pail is full the extra pail is switched into its place, and hence the machine does not remain idle as would be the case were the extra pail not available. On the occasion of our visit Mr. Peter Gillespie attended to the milking of four cows himself, but it kept him hustling. As a general rule they prefer to have two men on hand at milking time, but this is not always possible in a rush season.

Replying to my question, Mr. Gillespie informed me that their machine cost them \$377, the piping and engine being additional. A two and one-half horse power gasoline engine supplies the power, but in Mr. Gillespie's opinion a one and one-half horse power would be ample.

**NUMBER OF COWS REQUIRED**

"We have milked as high as 20 cows," said Mr. Gillespie when I called in his office a few days later for further information. "We have only two cows this spring, three of which are purebred Holsteins. To be an economical success I believe that a man should have 20 cows before purchasing a machine milker. When we get our farm in shape we plan to run about 30 cows, and then the milker will be of more value to us than it is now."

"How did the cows take to the machine?" I asked.

"We have had only one cow that did not milk easily. She was a nervous creature, and wouldn't milk anyway if we changed milkers." "How about wear and tear?" I next asked.

"I have just ordered my first new rubber discs, etc.," replied Mr. Gillespie. "We have not needed new tubing as yet, and there is no sign of deterioration. At each milking we wash with cold water and then with hot water, drawing the water through the tubes by means of a vacuum. Once or twice a week we take apart and wash thoroughly with a solution of Wyandotte Cleanser."

"I have just ordered my first new parts in lime water solution as is the general practice, but have a special galvanized box where the parts are kept free from dust and germs. 'My brother,' finished Mr. Gillespie, 'has more to do with the machine than I have, and he thinks it is the finest thing on the farm. All of the men are delighted with it.'"—F. E. E.

**In a 40-Cow Dairy**

Wm. Flintoft, Wentworth Co., Ont.

We have had our mechanical milker for a little over one year. We use a four-unit machine and milk 40 cows. We would not like to be without it. We have had no trouble with our machine and would recommend it to anyone wanting a milker. It lives up to all of the claims that the manufacturers make for it.

**Quick Milking**

M. Hoffman, Elgin Co., Ont.

I have been using a two unit mechanical milker since September, 1912, and can say it is giving perfect satisfaction. We have a herd of 30 cows and one man with the machine can milk and strip them in one and one-half hours. It is very easy on the cows and the heifers take to it with little or no bother at all.

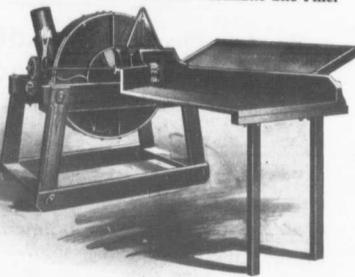
The machine is easy to operate and keep clean. It takes a few minutes a day to wash it, and we have no trouble in sending the milk to the condenser. The cost of installing, including a two and one-half horse engine, piping and everything in connection was about \$565. It saves a lot of time as we do not need near the help and the milking is done in the usual time.

He who goes another way to escape an obligation is apt to run into several that he was not looking for.

# Dollars For You if you Use the Monarch Line for Filling your Silo and doing Other Farm Work

BELOW GIVES THE EXPERIENCE OF TWO ENTERPRISING FARMERS. Compare One Power with HYDRO ELECTRO or any other power. Hydro Electro 2 H.P. Outfit cost Mr. Raymond about \$1,000 to install and cost him \$90.00 a year for electricity, and he had to get another large motor to fill his silo, which took three weeks to fill, also cost extra for Hydro-Electro. If he Canadian Farm, May 22nd, page 3.

This Cut shows a No. 1 Monarch Pneumatic Silo Filler



A 5 H.P. Gasoline Outfit cost Mr. McRay, of Moulton, less than \$400.00. With his 5 H.P. engine and ensilage cutter, himself, hired man and boy filled his large silo without other help in less than four days, besides doing other work. With sufficient help Mr. McRay claims he could fill his silo in seven hours at a cost of \$140 for power, also for another \$140 he could grind from 100 to 300 bushels of grain, according to the fineness required. Mr. McRay also states that his cost for a year for power does not exceed \$12.70, also that he saves one man and does the work quicker by using his engine for unloading hay during the haying season.

Gasoline Engines, Grain Grinders, Ensilage Cutters, Saw Frames, Hoists.

## CANADIAN ENGINES, Limited, DUNNVILLE, Ont.

The FROST & WOOD CO., Ltd., Smith's Falls, Sales Agents East of Peterboro.

# Engine Value Can Only be Judged by Service



Gilson "Goes-Like-Sixty" Engine

The Only Engine Equipped to Yield 100% Service—and then some

GILSON 60-SPEED

THE ENGINE THAT IS OF THE GREATEST VALUE is the engine that will adapt itself to the greatest number of your individual uses. The more work it does, the sooner it will pay for itself, and make and save money for you.

OUR 60-SPEED ENGINE, made in 1 1/2 and 3 H.P. Sizes,—is equipped with speed from 150 to 1,500 r.p.m. It comes prepared to operate any machine within its power, without extra equipment. It is mounted on a hand truck, and is also furnished with a direct connected pump jack.

The same idea is carried out in our larger engines from 4 H.P. up, by our No. 5 Friction Clutch Pulley with five removable rims of different sizes, and our simple and efficient speed changer. Our "Johnny-on-the-Spot" 1/2 H.P. engine is a wonderful labor saver. It costs only \$47.50. YOU DO NOT BUY AN ENGINE EVERY DAY, so your choice should be a wise one. The man of good judgment and discrimination—the man of foresight, to whom service and quality mean more than the first cost,—gets a Gilson "Goes Like Sixty" Engine.

IF YOU NEED AN ENGINE and don't buy one, you are paying for it anyway. When you get a Gilson Engine, in reality you do not pay for it,—it pays for itself.

Do not buy an engine until you have investigated further. Send for large catalogue, illustrating our full line of engines from 1/2 H.P. up.

Also pumps, feed grinders, ensilage cutters, governor pulleys, for cream separators, wood saws, tanks, etc.

# Gilson Manufacturing Co., Ltd.

1110 York St., GUELPH, Ont., Canada



## Right Now---Canadian Farmers Are Saving Thousands Of Dollars With Their FROST & WOOD Mowers and Rakes

Thousands of FROST & WOOD *Internal-Gear* MOWERS and "TIGER" *All-Steel* RAKES are saving many dollars each harvest-day for their owners, by *saving time*.

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The MOWERS, with their accurate-fitting gears and expensive roller-bearings at every frictional point, are absolutely free from wasteful "lost motion." The knife cuts the instant the horses move forward. The time saved on each start means a much bigger harvest for each day's work.

### NO LOST PARTS

The RAKE, too, is *all-steel* construction. Rivetted parts insure you against loss of time, occasioned through hunting or waiting for bolted-on parts that drop off. Quick trip-action and high tooth clearance save you much time in the course of a single day's raking.

Call at our nearest agents—or write for Pamphlet "Haymakers" TO-DAY. It may mean much extra money in your pocket at the end of the season.

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**LOW** initial cost  
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**LOW** upkeep cost  
 Price \$50.00 per unit.

**H. F. BAILEY & SON**  
Sole Manufacturers for Canada  
 GALT. ONT. CANADA

### Horse Power Economy

"Jockey," Peterboro Co., Ont.  
 I dropped into the stable of an amateur farmer recently just to see how he was getting along with the farm. He was a city business man. About a year ago he came into our section and bought one of our best farms and started out to learn a new business when past middle age. It was partly curiosity and partly a desire to help that tempted me to drive up to the stable door, where I saw a lantern burning, but incidentally I got a pointer myself. We were talking "horse" at the time. "Your teams are a little on the thin side, aren't they?" I asked. "Yes," he agreed, "they are a little thinner than most of the horses in this section when they start in at spring work. They are, however, as hard as iron, and I'll guarantee that inside of another month when all the



### Where is the Wheelbarrow?

Not in the stable at any rate. The Jockey, of Brant Co., Ont., has found that the litter carrier is easier on the back and quieter and more efficient in the bargain.

—Photo by an editor of Farm and Home  
 other horses are beginning to show the effects of strenuous spring work mine will be looking just as good as they are now."

He went on to explain that he did not believe in allowing horses to get soft and he had employed a good teamster and sent his teams into the woods for the winter. They worked hard and spring work was no extra strain on them. "One of the greatest losses around the farm as I see it," said he "is the number of horses that are eating their heads off and not working one third of the time. I have a lot of money tied up in my two teams, and it costs a lot of money to keep them fed. The longer they are earning for me the better. I wish I could plan the farm work to keep my teams going all the time, but I do intend to keep the going most of the time.

Amplifying his idea a little further this amateur farmer said: "I have the horses anyway. They have to be fed every day in the year. I can't take them away from the farm to myself, but I can hire a man for \$1.50 a day and get \$4 for the services of the man and team. Isn't that a profitable proposition? It's good for the horses and it's good in my pocketbook."

That man stands a good chance to be more successful than any of us. He is rapidly acquiring a knowledge of good farming methods and he is already a thoroughly good horse man. He will be giving us all things to think about before long.

We would again call the attention of Our Folks to the necessity of signing name and address to a letter asking for information on any subject. Perhaps this note will explain why queries that you have sent us have not yet been answered in these columns.

## The A

THE actual manure will to the soil. It is of accumulations from whence it matter of necess utilizing value settled section probably manure that is available used to advantage. It is, the we as farmers in farm manure b turns. To ob modern manure used whenever. The spreader claim to install, but be wise for debt in order to believe that a able investment wise expenditure also have any of manure to spr farm implements able, and in simply on the labor. With work they do ex well by hand, cient help of th be assured at th so with the man not one of o svers, but it is as to apply the man ner as to be m the soil. The cross amounts to saying in labor, small item in its

DISADVANTAGE  
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## The No

This is the o adaptable for an the farm. It is ing sizes: 1, 1 1/2, and 10 horse po strong, simple an with all troubles can run a Novo e right, water-coo guaranteed not to ing. Hundreds tains are using the wearing outfits, a spring season is over their farm.

The Novo is the engine in America showing argument best. When you b fit from the Nio Co. you get a Nio also get the best made. A Novo en Grand Sprayer trerful combination making thousands fruit growers and These engines or p separately or com for full descriptio catalogues—Nioa Co. Limited. BR

## The Advantages of Manure Spreaders

N. C. Campbell, Brant Co., Ont.

THE actual money value of farm manure when properly applied to the soil is often not fully appreciated. In many cases it is allowed to accumulate in the farm yard from whence it is removed more as a matter of necessity than for its fertilizing value to the soil. The older settled sections of our country can profitably make use of all the manure that is available. More could be used to advantage if it were to be had. It is, therefore, apparent that as farmers must aim to make the farm manure bring the greatest returns. To obtain this result the modern manure spreader should be used whenever conditions permit.

The spreader is an expensive machine to install, and while it might not be wise for farmers to go into debt in order to secure one still we believe that a spreader is a profitable investment, and represents a wise expenditure on the part of those who have any considerable quantity of manure to spread. Many kinds of farm implements are considered valuable, and in fact indispensable, simply on the grounds of saving labor. With some implements the work they do could be done just as well by hand, provided that sufficient help of the right kind could be secured at the proper time. Not so with the manure spreader. It is not only one of the greatest labor-savers, but it also enables the farmer to apply the manure in such a manner as to be much more valuable to the soil. The increased yield in crops amounts to much more than the saving in labor, although this is no small item in itself.

### A DISADVANTAGE OF HAND WORK

When spreading manure by hand, it is impossible to avoid heavy spreading. The manure can not be so thinly and evenly spread as with a good spreader. Even the best hand spreading gives some plants altogether too much manure, while others get none. A manure spreader not only spreads manure more evenly, but it will make given amount of manure cover more land than where hand spreading is practiced. Under the old system of hand spreading, the top-dressing of field crops was practically out of the question. Since, however, extensive experiments

### The Novo Engine

This is the one engine that is most adaptable for any and every use on the farm. It is built in the following sizes: 1, 1½, 2½, 3½, 4, 5, 6, 8 and 10 horse power. It is very strong, simple and powerful, built with all troubles left out. Any man can run a Novo engine. It is an upright, water-cooled engine, and is guaranteed not to break from freezing. Hundreds of farmers in Ontario are using these engines on their mowing outfits, and when the mowing season is over, for other work on their farm.

The Novo is the most widely copied engine in America, which is a convincing argument that it must be the best. When you buy a spraying outfit from the Niagara Brand Spraying Co. you get a Novo engine. You also get the best spray pump that is made. A Novo engine and a Niagara Brand Sprayer truly makes a wonderful combination. These outfits are making thousands of dollars for the fruit growers and farmers in Ontario. These engines or pumps can be bought separately or combined. Write us for full descriptive literature and catalogues—Niagara Brand Spraying Co. Limited, Burlington, Ontario.

have been made along this line. It has been found in a majority of cases that manure applied as a top-dressing after the crop is in, and frequently after the plants have appeared above the ground, is of much more value than when plowed under. When applied as a top-dressing, it has a double action. The first rain carries the fertilizing constituents down into the soil directly to the roots of the plants. Then the top coating has a physical action in that it serves as a mulch to prevent the drying-out of the soil. In the case of fall-sown crops, it acts as a protection in winter. Doubtless there are conditions under which top-dressing may not be the best method, but in most cases it will be found to give the best returns.

The manure spreader permits of applying farm yard manure to meadows and pastures land. If spread by hand, manure is of little use for this purpose. It will rake up with the grass the case of meadows, and with the pastures, will cause the cattle to graze. With the spreader, however, a light coating of manure can be applied. This will greatly improve the pasture without causing the cattle to refuse to graze.

### DISTASTEFUL JOB MADE EASY

One of the hardest and most disagreeable jobs on the farm is the spreading of manure by hand. Where a spreader is used, the work takes on considerable interest. In the past, much valuable manure has been wasted owing to the distasteful nature of the work necessary in handling it and the inability to secure sufficient help. A man or boy with a good spreader can do the work of four or five men and do it much more thoroughly. Few machines for the farmer's use offer such a saving of time and labor. Viewed from this standpoint alone, the manure spreader is a good investment. When it is remembered that it will soon pay for itself out of the actual increase of crops, it can be safely said that no implement could offer greater inducements to the wide-awake farmer of to-day than the modern, improved manure spreader.

### The Family Driver

Everyone appreciates a drive behind a fast-stepping roadster, particularly when the buggy is rubber-tired and the springs of the best. It is with such an outfit that one of our folks, a noted breeder of dairy cattle by the way, met an editor of Farm and Dairy at a small station in Eastern Ontario. We enjoyed the drive to our friend's home so the full. When unbiting the editor remarked to his friend on the splendid driver that he had.

"Yes, this little horse is all right and I get all kinds of pleasure out of driving him," was the reply. "When he was a colt I thought him too small and intended to sell him. The district representative, however, when calling around, gave it as his opinion that I should keep it just because it was small. He said that if it were big enough to work I wouldn't have a driver at all."

"I have never regretted keeping my little horse as I have learned to appreciate a real family driver, one that is not always dragged with hard work on the farm and never available in the busy season."

Do the colts go for their feed keenly? If not, there is something wrong with the feeding methods. Perhaps you are overfeeding and neglecting to clean the mangers after each feed.

## CLEAR YOUR LAND WITH



## CXL STUMPING POWDER

The World's Leading Agricultural Explosive

Two Million Pounds used in 1913 by Farmers throughout Canada, for clearing land, sub-soiling, tree-planting and ditching.

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Many Farmers prefer to hire Blasters. Demand exceeds supply, write for our proposition to Professional Blasters.

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### "LONDON" Cement Drain Tile Machine

Makes all sizes of tile from 3 to 16 inches. Cement Drain Tiles are here to stay. Large profits in the business if interested send for catalogue. LONDON CONCRETE MACHINERY CO. Dept. C, London, Ont. Largest manufacturers of Concrete Machinery in Canada.

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For best results, ship your live Poultry to us also your Dressed Poultry, Fresh Dairy Butter and New Laid Eggs. Egg cases and poultry crates supplied. Prompt Returns.

The Wm. DAVIES Co. Ltd. Established 1854 TORONTO, ONT.

## The "New-Way"

The Air Cooled Engine that every careful and practical man buys when he wants the utmost in Reliability and Economy.

Farming Pays—If you have up-to-date Machinery. A "New-Way" Air Cooled Engine is just as far ahead of a Water Cooled Engine as the Automobile is ahead of the Ox Team.

The "New-Way" Engine will not freeze-up—run dry—or over heat.



Don't think that an engine is an engine just because it has a resemblance to one, and the name plate says it has so much horse power.

Buy the "New Way." It has a world wide reputation for economy, durability and efficiency.

It will put more money in your pocket, and keep it there, than any other engine.

Don't be satisfied when you read this ad. write at once for our Catalog B.

## The "New-Way" Motor Co.

of Canada, Limited

WELLAND

ONTARIO

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AND RURAL HOME  
PUBLISHED EVERY THURSDAY

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### CIRCULATION STATEMENT

The paid subscriptions to Farm and Dairy exceed 56,000. The actual circulation of each issue, including copies of the paper sent subscribers who are but slightly in arrears, and sample copies, varies from 17,000 to 18,000 copies. No subscriptions are accepted at less than the full subscription rates. Sworn detailed statements of circulation of the paper, showing its distribution by counties and provinces, will be mailed free on request.

### OUR GUARANTEE

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the reading columns, and because to protect our readers, we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with you as one of our paid-in-advance subscribers, we will make good the amount of your loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in Farm and Dairy."

Refuses shall not ply their trade at the expense of our subscribers, who are our friends, through the medium of these columns, but we will attempt to adjust trifling disputes between subscribers and honorable business men who advertise, nor pay the debts of honest bankrupts.

**The Rural Publishing Company, Limited**  
PETERBORO, ONT.

*"Read not to contradict and to confute nor to believe and take for granted, but to weigh and consider."—Bacon.*

## Farm Machinery

WE live in an age of invention. During the past few years invention has completely modified our social and economic existence. Ingenious minds have applied themselves to the multiplying of human efficiency until now a girl sitting at a machine in a cotton mill can do as much work as a dozen or more experienced women could have done on their hand looms. And so it is in all lines of urban industry.

Agriculture has not been neglected. It, too, has proved a fertile field for the application of inventive genius. When we compare the efficiency of the mower and the binder with the scythe and the sickle, the gang plow with the home-made wooden implement, the threshing machine with the flail, or the mechanical milker with the hand milker, we see how wonderful the producing power of the farmer has been increased. Truly farm machinery has been revolutionary in its influence. Nor have we yet gauged accurately the influence that machinery may have in the future.

## Machinery, Labor and Economy

ONE of the most unlooked for results of the machinery age has been its effects on the labor market. When farm machinery was first introduced it was hailed with enthusiasm by the owners of the soil and with bitter hostility by the laboring class. In not a few instances the first mowers and first binders in a community were destroyed by mobs of laborers. This hostility, however, has largely passed away. Instead of making farm labor too plentiful the opposite has been the case. Never was efficient labor scarcer than it is to-day. The concurrent progress of mechanical invention in the cities has tended to centralize both labor and capital in large centres. The economic advantage that the city employer

has been given by railway rebates, legislative privileges and other methods, have enabled him to drain both labor and capital from the country districts. Our best laborers, country born and country bred, have largely left us. Hence the farmer is forced to turn more and more to machinery to solve his difficulties.

Machinery indeed affords us the only way of making a man earn his wages. Implements now being placed on the market make it possible for one man, with the assistance of 50 per cent. more horse power, to do the work done by two men years ago. In this class comes such implements as the two row corn cultivator, the double disc harrow, the wide sweep drag harrow, the gang plow, the hay loader and the mechanical milker. It stands to reason that the farmer who is making the most efficient use of his labor by means of wide working implements, can afford to pay larger wages than his less progressive neighbor and is thus in a position to attract and hold the best labor of the community. The adoption of such a method of increasing human efficiency is the only way in which we can hope to compete with the city employer for the services of men to help us work our farms.

## The Size of Farms

ARE the farms of the future to be landed estates or of small "family" size, as they are to-day? This question frequently comes up for discussion when farm machinery problems are under consideration. A superficial examination would seem to indicate that the large farm is inevitable. Investigations conducted by Prof. G. E. Warren, covering five hundred and eighty-six farms in Tompkins county, N.Y., showed that on farms of thirty acres or less there was a net loss of \$7.52 an acre. Farms of thirty-one to sixty acres netted a loss of \$1.47 an acre. The first gain was shown on farms of sixty-one to one hundred acres, and it amounted to only fifty-five cents an acre. The profits gradually increased until he found the farms of over two hundred acres returning an average profit of \$2.38. If we leave out of consideration certain small districts where the land is being divided into small fruit farms, we find that the tendency all over America is toward the larger unit.

But is the large farm as desirable from the social view point as from the economic? Do we wish to see in Canada a small class of landless proprietors and a large class of landless laboring men? We believe that all who have the best development of their country at heart will admit that the best citizenship is that consisting of the largest possible number of freeholders tilling their own soil and owning their own homes, with a minimum of landless drifting men. The tendency towards the large farm is a tendency towards a new feudalism which would be equally deplorable in its effects to the old feudalism of the middle ages. Eventually it would mean in our pleasant country districts the rule of landed corporations.

Providing that the price of land may be kept within the reach of the small proprietor, may not cooperative ownership of farm implements offer a solution of this vexed problem? Already we have numerous instances of where farmers have combined in the ownership and operation of threshing and silo filing outfits. Would it not be equally possible to extend the application of the principle and have practically all the larger farm implements owned cooperatively and thus give to the small proprietor all of the mechanical advantages of the larger one combined with the social advantages that go with the small farm? Is not this the greatest field yet opened for the application of the cooperative principle?

## Railways that Cooperate

ENGLISH railway companies seem to have a high ideal of the service they owe to the communities through which they pass. In an address at the last convention of the Eastern Ontario Dairymen's Association, Prof. Dean told of English railroads that have made special effort to build up a retail trade between farmers along their lines and the people of the cities through which they pass. These railways carry hampers of agricultural produce at low rates and deliver them right at the consumer's door. They even help the farmers to advertise their goods in the nearest market.

We can hardly expect our Canadian roads to follow the example of the English companies in this particular. It is not necessary. A first class Parcel Post system such as is now in operation in the United States, would do more to facilitate a producer to consumer trade than the best assistance of a railway company. In one way, however, railways could cooperate with the farmer much more effectually than they do. Why could not special produce trains be run through the summer months similar to the milk trains which run into our large cities? On an average it takes almost a week to get a car of farm produce 80 miles by freight and this renders the shipment of perishable produce by freight impossible. At the same time express rates are too high for any but the tender and high priced fruits. A produce train that would deliver perishable products to the city within a few hours would be an advantage to both producer and consumer. Farm and Dairy respectfully submits this idea for the careful consideration of the freight managers of Canadian railway companies.

## Soils that Require Lime

IT is impossible to grow alfalfa satisfactorily where the soil is deficient in lime. We believe that the lack of this necessary soil ingredient explains the failure of alfalfa in many sections of Eastern Canada. Recently we talked with many farmers in Durham county who had experimented with this crop and not one of them had had really first class success. It had not occurred to any of them that their soil might be deficient in lime.

Durham county, in common with many other counties in Ontario, is somewhat out of the lime stone area. It is similarly situated so far as soil ingredients are concerned, to many of the Western States where alfalfa was first considered an impossible crop but now with lime applications it help it is one of the most successful and popular of all the crops grown. Farm and Dairy believes that every farmer who has found it impossible to get a stand of alfalfa would do well to experiment with applications of lime or land plaster at a small area. Mother Nature has distributed her favors fairly liberally but she has made some omissions which we must correct. For instance, soils in the Maritime provinces are somewhat deficient in phosphorus. Many British Columbia soils require applications of potash. Similarly we believe, many Ontario soils are in need of lime, particularly if alfalfa is to be grown.

## Farm Furrows

MR. MACDONALD may be wrong in his intentions re the 2700-pound cow, but he's dead right when he starts to talk banking and the advisability of higher interest on deposits & government savings banks.

Some farmers will go further out of their way to pacify the hired man than to oblige their wives; they are morally certain that the good wife will leave them in harvest time; the hired man not.

## Farm M

A. J. The great and coming fifty years American farmer, to all his progress, the most of saving of of prod

## Something

If newspapericals could how would it with our and your not only, but that y them for the satisfi sires.

They help you you ness they They keep is being do good. Ofte fillment of need.

Many of ily on the pear from Dairy. As thing along in a new pi up what ou say. You that appeal you write f or cat- der.

I may I say you Dairy" fiers. They find no vertisements age, and it even while t you are wait

Keep this ttements in a complian you; are fer advertisement by letting th you respond their annou live on your

This week and Dairy" to you. Will the centre o shall it puts every one of engines. If ped with one to go over the remain on th ally become a bey that do men."

The key nu tells you the in full touch a line for a the gasoline "a better b comes to pu you will have knowledge of engine, and can make it

And lastly, kindly men "FARM A "A Paper the

**Farm Machinery and Power**

A. F. Woods, Minnesota

The great agricultural, industrial and commercial expansion of the last fifty years has forced every class of American business men, including the farmer, to economize labor. Not in all the history of the world has such progress been made in the development of tools and machinery for the saving of time and labor and the cost of production as during the last cen-

tury in America. The prevention of waste of human labor on the modern farm is not only a great economic gain, but it has lightened the drudgery of farm labor and added intellectual stimulus. The value of the regular farm hand is more determined by his skill and directive ability, his honesty and reliability, rather than by his brute force.

While on some farms there is too little machinery and horse-power used to cultivate the land properly and save human labor, on others there is too much. Careful statistical studies have shown that horses are employed on an average only about three hours a day. At least two-thirds of their available energy—therefore, goes to waste, making the cost of the energy used very high. The same is true of expensive tools which are used only for a short period during the year. . . . A farmer needs to figure very carefully before investing in cornshellers, shredders, threshers, power plows, etc., especially if the use of this kind of machinery can be obtained by hire at a reasonable rate or cooperative ownership arranged. The latter method will doubtless be the final solution.

The use of wide tires on wagons has made hauling easier and improved and packed rather than cut ruts in the roads. The farmer who still uses narrow tires for heavy loads is not only wasting time and horse energy, but is guilty of cruelty to animals and the destruction of the public highways. The relation between weight of load and width of tire and the maintenance of roads in each section should be carefully considered and fixed by local regulations.

**How a Record was Made**

G. W. R., Compton Co., Que.

May Rilma did it! Did what? Why, took the world's yearly butter record away from the Holstein breed and gave it to the Guernsey. I guess black and white fanciers thought they had a monopoly on that record and their cows have certainly been doing great work, and I can admire a good cow, no matter what her breeding. As an admirer of the Guernsey, however, I was glad to see my breed holding the championship for a year at least, and I would like to give some facts, gathered from various sources, regarding the making of this record.

The first question that the average dairyman will ask is, How was May Rilma fed during the test? May Rilma was kept in a box stall and milked three times a day—four a.m., noon and eight p.m. She was fed 18 lbs. daily of the following mixture: 250 lbs. bran, 100 lbs. gluten, 50 lbs. cotton seed meal, 50 lbs. beef pulp and three pounds molasses; alfalfa hay, clover hay and ensilage at liberty. On January 24th last her owner, E. B. Cassatt, Berwin, Pa., started to feed her 16 lbs. of carrots daily.

May Rilma did not make her record in spurts. She is a stickler. She is still running along 50 lbs. of milk a day and she has never given over 65 in a day. How is that for A 1 on persistence? Her milk now is testing over six per cent fat and her total for the year of 1,059.55 lbs. of butter fat is being steadily increased, as her per cent fat test was low during the first month, and she is actually producing more butter fat during her 13th month than she did at the beginning of the test. Likewise she is producing more now than she did a month ago.

I don't know how long my favorite breed will hold this record. Probably it will cause the black and white men to get a spurt on. If it does so, this record will have been of advantage to both breeds.

**Something about Advertisements**

If newspapers, magazines and periodicals contained no advertisements how would you like it? Already I hear you say "What's wrong with our papers this week?" You would protest against their omission, and your reason would be that they not only make interesting reading, but that you absolutely depend upon them for direction and assistance in the satisfying of your needs and desires.

They help you far oftener than perhaps you think. In their suggestiveness they help you and teach you. They keep you informed as to what is being done, or provided for your good. Often they offer a direct fulfillment of something you keenly need.

Many of you, I know, depend heavily on the advertisements that appear from week to week in Farm and Dairy. As stockmen you read everything along that line. If interested in a new piece of machinery you look up what our manufacturers have to say. You scan them all, and those that appeal to you are answered—you write for information, samples, or for catalogues, or you send an order.

May I say in this connection that I hope you always mention "Farm and Dairy" when writing to advertisers. They want you to do so. They find no evidence that their advertisements are being taken advantage of, they are apt to withdraw them and the loss is shared by you, even while they are offering just what you are waiting to buy.

Keep this in mind always. Advertisements in your favorite paper are a compliment to you; are useful to you; are for your advantage. So keep advertisements in the farm papers by letting the advertisers know that you respond to the offer made in their announcements. Advertisements are live on your appreciation.

This week you will find in "Farm and Dairy" a page of special interest to you. Will you turn to it again—the centre of the issue. In a nutshell it puts you in touch with nearly every one of the makers of gasoline engines. If your farm is not equipped with one already you will want to go over these carefully, for if you remain on the farm you will eventually become a buyer of "a little chore man" that does the work of three men."

The key number under each "cut" tells you the page where you can get in full touch with each firm. Drop a line for a catalogue, and study up the gasoline question. You will be "a better buyer" when the time comes to purchase and, moreover, you will have a good deal better knowledge of the workings of a gas engine, and the scores of ways you can make it work for you.

And lastly, in writing will you kindly mention that you saw it in—"FARM AND DAIRY"  
"A Paper that Aims to Serve You!"

**Ideal Green Feed Silos**

Are built to give you many years of silo satisfaction

ONLY THE BEST GRADE OF CANADIAN spruce, especially selected for our exclusive use, is employed in the construction of Ideal Green Feed Silos.

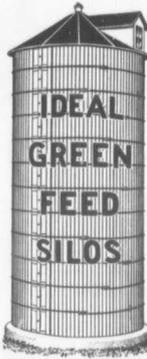
ALL LUMBER IS THOROUGHLY AIR-DRIED and after being finished is saturated with an especially prepared sealing solution, used exclusively by the De Laval Dairy Supply Co., Limited, which prevents rot or decay, reduces the tendency of the staves to swell or shrink, and prevents the acid in the ensilage from injuring the staves.

THIS SEALING SOLUTION WITH WHICH all our silo lumber is treated adds from two to three times to the life of our silos compared with other silos not so treated.

ALL OUR STAVE WOOD IS OF UNIFORM size and age thus insuring an even swell and shrinkage throughout.

ALL IDEAL GREEN FEED SILOS ARE hooped with round iron hoops every thirty inches apart and the hoops at the bottom where the strain is greatest are made heavier. Only malleable iron lugs, made after our own exclusive process, are used. These are much superior to cast iron by reason of their greater ability to resist the action of our Canadian frosts.

THE MATERIALS AND CONSTRUCTION throughout of the Ideal Green Feed Silos are of the very best, and everyone contemplating the erection of a silo this year will find it to his advantage to get our specifications and prices.



Doors are only 6 inches apart, can be removed instantly and are always air tight.

Dormer window facilitates filling silo clear to the top. All sizes furnished.

**Be Sure and Get Our New Silo Book**

**DE LAVAL DAIRY SUPPLY CO., Ltd.**

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA  
MONTREAL PETERBORO WINNIPEG VANCOUVER



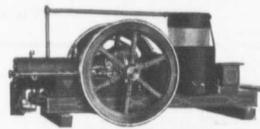
It conquers distance—at lowest cost. Think of it—thousands of Ford owners are traveling for less than two cents a mile. The Ford has given the freedom of the "open road" to the man of moderate income.

Six hundred dollars is the price of the Ford runabout; the touring car is six fifty; the town car nine hundred—f. o. b. Ford, Ont., complete with equipment. Get catalog and particulars from any branch or from Ford Motor Co., Ltd., Ford, Ont., Canada.

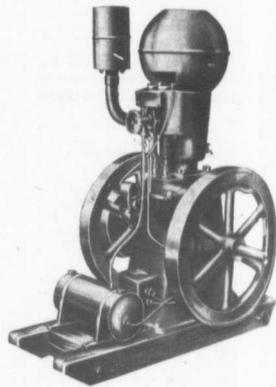
# TYPES OF GAS, GASOLINE AND KEROSENE ENGINES THAT MAY BE PROFITABLY HARNESSSED ON YOUR FARM



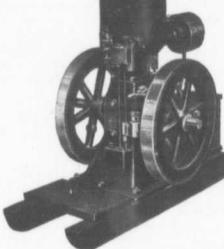
The "STAR-RITE" is a comparatively new engine to the Canadian market, and is put out by the Empire Cream Separator Company of Toronto. It is hopper-cooled, has suction feed for gasoline, and the larger sizes have jump-spark dual ignition—thus always insuring a spark. Simplicity of construction is strongly emphasized in every size, which run from 1/2 H.P. up, and are equipped to perform any work within their power from the churn to the portable sawmill. (See page 51).



The "ALPHA" engine of the De Laval Dairy Supply Co., Ltd., is a new engine to the Canadian market, but is an engine embracing the most up-to-the-minute requirements of a gas engine as set forth by its engineers. The "Alpha" engines are equipped with a magneto requiring no batteries for either starting or running, and are built with the precision and care shown in the manufacture of a high-grade watch. They are adapted to any of the uses to which a gas engine can be put, and are ready for work at any time, at any place, and in any weather.—(See page 39).

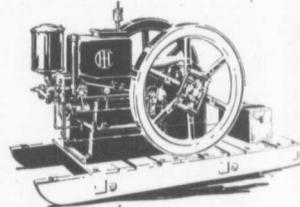


The "LISTER" Gasoline Engine—The "Lister" is a high class English-made engine, moderate in price. Every part is fitted with Bosch High Tension Magneto Ignition, the best and surest method of producing a spark—absolutely no battery trouble, no running down, no renewals. Unique system of self-oiling—impossible to "seize"—starts up instantly and easily—every time. Made by the firm who have sold 50,000 Melotte Cream Separators in Canada during the past 15 years.—(Page 37).

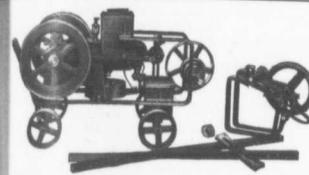


In the make up of their "London Engine" the London Gas Power Co. of London, Ont., have attained the following worthy features: As few number of working parts as possible. No piping or pipe connections. No harm if frozen solid. Guaranteed. Has the advantage of both water and air cooled. No packed joints to give trouble. Light in weight for power developed. Spark oiling with enclosed crank case. Jump spark high class ignition. It is an engine that has stood the test of service. (See page 8).

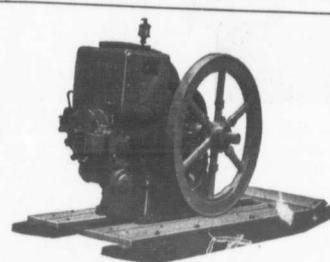
The "NEW WAY" is an air cooled type of gasoline engine that is becoming well known for its good work. With this engine the danger of freezing is entirely eliminated; the cylinder is completely oiled, and all wearing parts are automatically oiled. On the piston are five rings, insuring no loss of fuel. The engine is fed by suction from the tank in the base of the casting. The bearings are larger than ordinarily and close together, especially on the fly wheel shaft, all bearings being completely enclosed, keeping out dust and grit. The "New Way" is manufactured by the New Way Motor Company of Canada, located at Welland, and is made in all sizes from 1/2 to 12 H.P. It is adapted to every line of farm work, and will run on either gasoline or kerosene.—(See page 17).



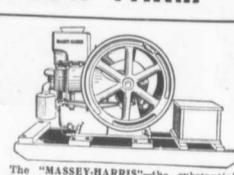
"H C" hopper-cooled engines, from 4 to 12 H.P., are specially designed to operate on kerosene, distillate, oil or gas oil. They will operate equally well on gasoline, naphtha, benzine, or motor spirit. They are so simple in design, but at the same time there have been no parts omitted to save expense which would add to the value of the engine. These engines are carefully built and tested, and interchangeable parts can be had for any part of the engine that will fit as good as the original part. Every engine is designed for hard work, and is run with a generous overload capacity.—(See page 13).



"GILSON" Engines differ from all other makes. The complete line shaft with five interchangeable pulleys and belt lightener all as part of the equipment of the engine itself, gives any speed from 150 to 1500 r.p.m. This feature has appealed strongly to users. The truck is a great benefit, as the whole outfit can be moved around by hand to any machine. The manufacturers claim higher economy in this engine on account of the incorporation of the long stroke principle, generally adopted by the leading manufacturers of automobile engines. A direct connected gear driven pump-jack (no bolting required) is a feature worthy of consideration.—(See page 15).



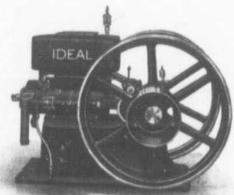
FAIRBANKS-MORSE, Type H, 6 H.P., 4 Cycle, Farm Engine. Specially constructed to meet all power needs of the average farm. Powerful, serviceable, durable, economical, dependable—strong points that the makers are prepared to prove.—(See page 29 and 31).



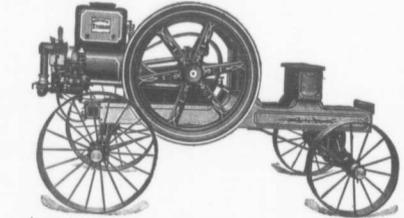
The "MASSEY-HARRIS"—the substantially constructed, powerful, little engine put out by a firm whose name and machinery are known the world over. It is a cylinder, water-cooled engine, the cylinder, cylinder head and water-jacket section from the tank in the cast-iron base. They are made in every size mounted in any way desired, and adapted for every farm task—in fact include every improvement of the up-to-date gas engine—yet so simple that any one can operate.—(Page 14 and 27).



The "NOVO" is an upright type of water-cooled engine—simple, yet powerful. The hopper is guaranteed not to break from freezing. It is the engine that goes with the Niagara Hand Sprayer sold by the Niagara Hand Spray Company of Burlington. After the spraying season the engine may be used for any other work on the farm. Size 1 to 10 H.P. (See page 17).



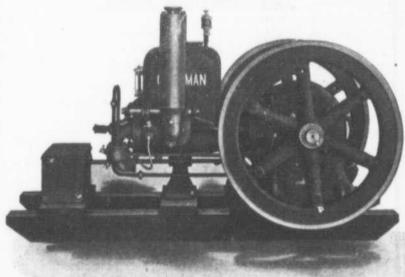
BRANTFORD "IDEAL" gasoline engine scarcely needs an introduction to Farm and Dairy readers. It is put out by Decid, Shapley & Muir, the oldest and largest makers of gasoline engines in Canada. The "Ideal" is the result of 16 years' experience. It is a four-cycle engine, and water-jacketed from end to end. The type of governor allows for a change of speed to any rate while still running. All bearings are hand-rubbed, phosphor bronze. One of the latest improvements of this engine is the almost noiseless muffler. The "Ideal" is considered by many experts as one of the best made—in all sizes from 1 1/2 to 40 H.P.—(See page 23).



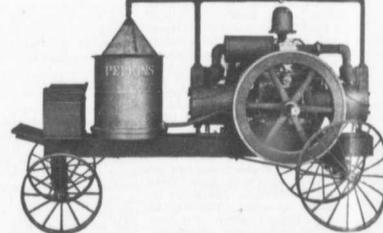
A popular type of gasoline Engine is the one illustrated above, known as the RENFREW STANDARD, sold by the Renfrew Machinery Co., Limited, of Renfrew, Ontario. It is so perfectly balanced that it will run at full speed on a level floor without "creeping." It starts without cranking, too, and this feature has made a big hit. Another excellent feature is the fly ball type of governor, wide range of speeds and also allows the speed to be varied at will while engine is in operation. The Renfrew Standard is also equipped with large bearings, a very simple carburetor, easily-accessible valves, and is made in all sizes in stationary, portable and semi-portable types.—(Page 35).



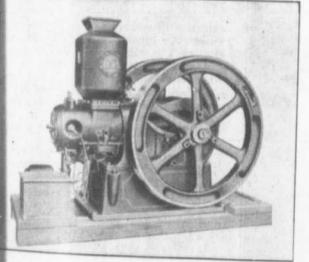
The engine that will run on cheap fuel is becoming popular. ELLIS Engines are specially designed to use common coal-oil, and can be adapted to practically any work from pumping water to running the small tractor. It is a very light engine in proportion to the power developed, and has a very wide range of power, with fuel used only in proportion to the work done. It requires no crank-packing, has force-feed lubrication, and will run equally well in either direction. The cylinder heads are removable, like on Ford automobiles, and have a double Ford cooling system. The "Ellis Nine" is the most economical and most powerful engine of its rating on the American market.—(See page 34).



The "CHAIPMAN" is the only engine with all the controlling mechanism on one interchangeable plate (only 20 pieces). The valves and gasoline pumps are operated by ball-bearing cams. No working parts are exposed to grit, and dirt, thus insuring longer life. The governor is centrifugal in type, and placed inside the cylinder casting where the oil is always kept warm. The three point bearings allow for perfect operation of the engine, even though placed on an uneven barn floor.—(See page 29).



"THE PERKINS"—Perkins engines are made in all sizes suited to farm work. Their 12 and 20 H.P. two-cylinder mounted engines, as shown, are noted for their smooth running—little or no vibration, and are specially adapted for silo filling, and other farm work, on account of their simple, yet durable construction, light fuel consumption, and yet not cumbersome in size. The gears in the engines are steel cut; bearings, phosphorus bronze, and drop-forged from open-hearted steel. Cylinder and piston ground to a smoothness. Behind this firm are 29 years' experience in gasoline engine construction.—(See page 31).



The "Rumsey-Olds" is a gasoline burning engine, a most economical one, too. Those who prefer to use gasoline for fuel will find the Rumsey-Olds well worth their consideration. It is of simple, powerful and long-lasting construction, and utilizes every drop of fuel to the greatest possible advantage. It is an engine that has stood the test of service for more than thirty-three years, under every possible condition. There is nothing but solid metal about the Rumsey-Olds—it is of known value. The Rumsey-Olds is made in sizes from 1 1/2 to 60 horsepower and with any desirable style of mounting.



The "MONARCH" is another of the high class type of gasoline engine specially suited to farm work of all kinds. The Canadian Engines, Limited, Dunnville, Ont., specialize on gasoline engines. The "Monarch" is simple of operation, has a locking lever to prevent waste of fuel; a cut-out lever to allow easy starting, and a sight-gauge glass on the protected gasoline tank on the side of the base. It is built in every size for any service.—(Page 15).

"Chore-boys for Progressive Farmers"

KEEP THIS ISSUE TO REFER TO WHEN YOU ARE READY TO PURCHASE AN ENGINE

"Hired Men that Come Packed in a Crate"



LIFE like every other blessing, derives its value from its use alone. Not for itself, but for a nobler end the eternal gave it; and that end is virtue.—Johnson.

## His Daughter-in-Law

By ELLEN ADA SMITH

"FATHER," said Tom Yeatman firmly, "now that mother's gone you can't live in London all by yourself. You must come to the farm with Rose and me. You like the country, and you've always enjoyed your visits to us."

This was quite true, but as Tom's father knew, a visit had usually a well-defined beginning and end, where as an indefinite board-residence might not always run so smoothly always. Tom's wife had been glad to see Tom's parents come on their annual visit, but she more than suspected that they were equally glad to see them go, which is, after all, nothing uncommon.

Mr. Yeatman liked his daughter-in-law, who was a pretty brown-eyed woman, and he respected her highly for the change she had made in Tom, who before falling in love had shown signs of being an engaging, lazy sort of chap. But the coming of Rose into his heart and life had changed all that, and he was now a steady industrious farmer, working early and late for her and his children. She had done wonders for Tom—not a doubt about it; and she was as industrious in the house as Tom was out of it. She kept only one little maid, and she managed her house and a large dairy with a tireless energy. She was inclined to be a bit shrewish with her tongue certainly, but big Tom wouldn't be hag-ridden, and in his east-going way was master in his own house.

"It is very kind of you, my boy!" the widower said hesitatingly, "but Rose might find me a little in the way. You see, she is such a busy woman, and you have three children."

"My dear old dad!" cried Tom affectionately, "if we had as many children as the woman who lived in the shoe, we should still have room for you! Besides, Rose expects you. She was saving the spare bed when I came away."

The old man winced a little as he looked round the familiar suburban sitting-room, as though he had not anticipated being plucked up by the heels quite so soon. If Rose was airing his bed, Rose meant him to come; and, after all, he could not live solitary in the house which had sheltered him and his wife for so many peaceful years. He must go somewhere, and why not to his only son's? There seemed nothing better to do—indeed, nothing so good.

"Well, well!" he said with a sigh, "it is very kind of you both, and we will try it for a time, at any rate. It is not as though I couldn't pay my way, is it?"

"Father!" expostulated Tom in a hurt way, "I am not thinking of that."

"No, dear lad! but I am. I couldn't wrong you and yours by

eating your bread without paying for it."

"All right, father: we won't quarrel over that. And when shall I tell Rose to expect you? Wouldn't it be better to return with me now?"

James Yeatman shook his head, and for the second time looked in a forlorn, unhappy way round the familiar room.

"I couldn't just yet. It will take a little time to—break up the old home."

With regard to creature-comforts Rose Yeatman's reception of her father-in-law was well-nigh perfect. A roast duck graced the evening meal, his room was the nicest in the house, and his feather bed of the very best goose down.

But although she had given him of her best, Rose's welcome had been official. She had not kissed him, and her condolences had been very cut-and-dried—not a doubt about it. He might feel himself a guest of con-

sideration, but she did not make him feel one of them. This coldness was hardly perceptible at the very first, because Tom and the children made such a clamour of welcome. But it was there, and the old man, made sensitive by grief, knew that it was there, and by slow degrees began to regret his action in coming.

"Father insists upon paying us five-and-twenty shillings a week," Tom explained to Rose when the two were alone. "I think it is too much, and that he ought to keep more for his personal use. He hasn't more than a hundred a year, all told."

"A pound would have done," said Rose shortly. "As it is, it will be a job to give him his money's worth."

But it would have been quite easy, if she had allowed the old gentleman to slip into the cosy family life and be one of them, only this she would not do. The sunny best kitchen, with its genial open hearth of logs, tempted him to sit there all morning with his paper and read out some of the news to Rose as she prepared the dinner. Instead of this he was located in the best parlor facing north, with a fire expressly lighted for him and for him alone. She was doing her duty by him certainly, but hardly in love.

For his years, Mr. Yeatman was an active man, with more knowledge of gardening than most Londoners possess. It would have given him real pleasure to flat hoe the potatoes first and round hoe them afterwards. He would have rejoiced to fetch Rose the soft rain water from "over across," to break up her kindling-wood, and trot about in loyal service, which would have put him in better heart and warmed him up.

But she told him he "musn't be in the works," and when this robust hint to keep to himself was not taken,

she adopted other methods to show the guest that his place was in the parlor. If he brought a little earth from the potato patch into the outer kitchen she would follow him up with a broom. If in fetching the soft water he wasted ever so little on the floor, she would be down on her knees with a house flannel following in his tracks.

Now even a self-respecting sheep dog but would resent being followed up in this fashion, and although she was a painfully neat and tidy woman, she knew better than to treat Tom after this fashion, although he was far more than his old father. He would only laugh at her and tell her she was an old maid spelt.

Unfortunately old James was not in a position to laugh at her, and it irked him terribly to have himself enforced upon him in such a way. Once when Rose found him with his coat off, polishing happily away at his own boots, her face flushed burningly.

"You are not to demean yourself after any such fashion!" she cried angrily. "You to clean your own boots, and paying us what you do!"

But for once he held his ground, looking at her steadily and mildly. "My dear Rose! I should only demean myself, as you call it, if I let you or your busy little maid do anything for me that I can so easily do for myself."

By the next morning he found the brushes hidden away from him, so he had to give in. Thrown back on himself, he had to take his exercise on the country roads, and he found them both dull and lonely. He felt that his room had been a mistake, but he hadn't knees where else to go, and he knew that his going would hurt Tom terribly. Of course Tom was nearly everything to him, and he knew that if things he could do for the children, she were troubled by none of their mother's scruples at setting grandpa to work. His limitations might have fretted him terribly if he had felt himself unable to go, but now, as he could not help knowing that he paid amply for what he had with a substantial margin of profit—for actual living is very cheap as a farm—he stayed where he found himself.

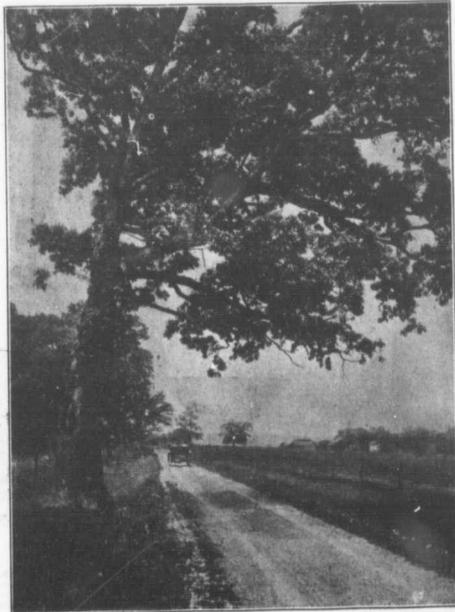
He could not understand Rose, but he extended her a gentle magnanimity, a most kindly forbearance which doubtless still more rubbed her up the wrong way. Just because they got on each other's nerves the observed each other narrowly, and he was totally unaware of the secret and grudging admiration which he extended from her.

She was invariably nicer to him on Sundays; possibly the day of rest soothed her strenuous spirit, and when they all sat in church and so could see the gentle white head behind the little Eileen—grandpa's special pet—she knew that it was good for them all to have such a benign influence amongst them.

Moreover, she grasped the fact that James Yeatman was of far finer material than even Tom. She recognized that the patient old man was of the aristocracy of humanity, and vastly the superior of them all. How was he to know that she had the children that if they wanted in manners and to be considered gentle folks when they grew up they must try and be as like grandpa as she could.

(Continued next week)

\*\*\*  
We men and women, as children of God, are not made primarily for happiness, but for duty. Do your duty faithfully, fully, cheerfully, sweetly, not grimly, stoically, dogmatically, hopelessly—and happiness will come.



The Lure of the Automobile

## The Upward Look

"Why?"

Shall not the judge of all the earth do right?—Genesis 18: 25.

Do you remember in Macbeth when the news of the slaughter of his innocent wife and children was announced to Macduff?

"Let not your ears despise my tongue for ever, which shall possess them with the heaviest sound that ever yet they heard—Your castle is sur-prised."

"Your wife and babes savagely slaughtered."

"My children, too?"

"Wife, children, servants, all that could be found."

"M—wife killed too? All my pretty ones Did you say all? All?"

"At one fell swoop?"

"Did Heaven look on and would not take their part?"

How often a question like this has occurred to each one of us!

A friend whose younger sister had suddenly been stricken with a fatal illness and who, after a week of unconsciousness, was taken to her heavenly home, said defiantly: "How could God have taken Mary? She and I were one, and she was all I had. All week I have been thinking of all I would have to tell her, when she knew me again, and now I will never be able to tell her. Why did God do it?"

In the presence of such bitter grief as that it seems cruel even to suggest comfort. All that one can do is to show one's sorrow and sympathy. Over and over again to the sorrow-broken heart comes the question, "Why? Oh why did God allow it?" Sometimes later, we learn the answer sometimes never in this life, but can-our being?

Once in a very dark time this homely illustration was a great comfort to the writer. Someone saw first the wrong side of a rare, fabulously expensive carpet in which was no beauty whatsoever. Then the right side was shown with the most wonderful harmony of color scheme and beautiful intricacy of pattern. So in our lives, could we but see the whole as our loving heavenly Father does, it would call forth the grateful acknowledgment, surely "the Judge of all the earth has not only done right" but has done the kindest thing possible, in changing many of the elements of my life plan, which had seemed so essential to my happiness. —I.H.N.

### A Paying Investment

With the Household Editor

What every housewife needs in the home are a number of "little giants" to take away the drudgery and up-to-date "giants" or labor-savers nowadays is the one-horse power gasoline engine. It never

grows weary nor complains of aches or pains, but goes right on with what-ever work it is doing until it is com-pleted. It can be used in many ways, such as pumping water, sawing wood, churning, turning the separator, turning the washing machine and wringer, or running the sewing ma-chine.

We hear men condemned very often for not providing more of these conveniences for their wives, but we hard to decide just where the fault lies. Oftentimes the wife will deny herself many things in order that her husband may be enabled to buy more stock or farm implements. It seems as though women have to be educated to a fuller appreciation of their own value before they are willing to go to the expense of installing these labor-savers.

Another excuse that is sometimes offered by both the farmer and his wife for not installing some labor saver is that it is for use in the house only, and therefore will not add to the family income. While it may not prove a money-maker as far as dollars and cents are concerned, it will add materially to the comfort and happiness of the housewife and may save many a doctor's bill, and in this way money saved will be money made.

A good one-horse power gasoline engine can be purchased for about \$50 or \$60. Why not plan to use this month's milk or cream cheque for

such an investment and thus enable the housewife to conserve her strength and have more time to enjoy her home? Why not talk it over with your husband at any rate?

### The Mother's Symphony

By Fanny Waugh Davis

To do the best I can from morn until night,

And pray for added strength with coming light.

To make the family income reach al-way,

With some left over for the rainy day;

To do distasteful things with happy face,

To smile, instead of frown at fate,

Which placed me in a family always late

To mend; to do the sewing, mending and

The thousand small things always near at hand,

And do them all always with a cheerful heart,

Because in life they seem to be my part;

To know a place for everything and keep

It there; to make, to answer ques-tions,

To be the mainspring of the family clock,

(Or that effect), and see that no tick-tock

Is out of time, or tune, or soon, or late;

This is the only symphony which I Can ever hope to operate.



"What's flour *gluten*, Bud?"  
 "It's what makes your dough *rise*, Rose."  
 "Yes"—she encouraged.  
 Added Bud very sagely:  
 "Makes it *rise* in the mixer and *expand*  
 "in the oven. It's the *elastic* part of  
 "flour—*absorbs* all the water and milk  
 "—and things."  
 Rose grew interested.  
 "FIVE ROSES, said Bud, is exceedingly *rich*  
 "in gluten. I s'pose because it's *all* made  
 "from *Manitoba* wheat. Takes up a lot  
 "*more* water — makes those *fat* loaves —  
 "*lasts longer* too."  
 "Saves *money*, doesn't it?" asked Rose.  
 Bud in a big voice:  
 "The fat loaf makes the fat *post-hole*!"  
 Use FIVE ROSES *always*.  
 And Rose said YES.

# Five Roses Flour

Not Bleached



Not Blended



## YOU CAN SLEEP LATER

And still breakfast on time by using a

### New Perfection WICK-FLAME FRAME Oil Cook-stove

No fires to kindle—no wood or coal to muss with. Just touch a match to the wick—then you have all the heat you want, when you want it. Lessen the labor in the kitchen. 1, 2, 3 and 4 burner sizes, and a new stove with Fireless Cooking Oven. All hardware and general stores.

Use Royalite Oil for Best Results



### THE IMPERIAL OIL CO., Limited

Toronto Quebec Halifax Montreal  
St. John's Winnipeg Vancouver



### Making Ice Cream at Home

Would you kindly insert in your valuable paper recipes for making ice cream in small quantities at home?—E. O. Hechler, Co. Que.

When pure cream is used for making ice cream half the number of quarters that the can will hold will be sufficient as the beater will make it light and spongy so that it will nearly fill the can. When using milk the can may be three-fourths filled.

To make ice cream from pure cream dissolve in two quarts of pure fresh cream, 12 to 14 ounces of best white sugar, flavor with whatever flavoring you desire, strain into the freezing can and freeze. Another method is to take one pint milk, yolks of two eggs, six ounces sugar, one tablespoon of corn starch, scald until it thickens. Add to this when cool, one pint whipped cream and the whites of two eggs beaten stiff. Sweeten, flavor and freeze.

If one desires to make ice cream without using cream take two quarts of rich milk, bring to the boiling point, stir in two tablespoons of arrowroot or corn starch previously rubbed smooth in a cupful of cold milk. Remove from the fire, add four eggs and three-quarters of a pound of sugar well beaten together. Stir all well together and then set aside to cool. Flavor and freeze.

### Need of Home Waterworks

The income from the farm cannot be used to better advantage than in making home life comfortable and pleasant. Indeed, money has little utility if it does not bring those higher things of life that make us better citizens and more efficient workers in the earth's vineyard. There is no more desirable improvement in our country homes than water under pressure for culinary, lavatory and bath. The expense is so small when compared to the advantages to be had in securing it, that the wonder is why more homes are not supplied. It must be that we are not as much interested in the comfort and convenience of the home as we are about the crops and the live stock.

When the weather is warm and dry, the demand for home waterworks is more urgent. The tired housewife finds her strength failing, but she is forced to carry water into the kitchen, often drawing it from a deep well with rope and pulley. The laundry work is a problem because water is inconvenient and the bath also neglected. The farm hands also neglect their personal appearance and comfort, since bathing facilities are inadequate.

A system of waterworks not only relieves the overworked mother of drudgery, but it affords an opportunity for teaching the children cleanliness and care in their personal appearance and the principles of economic household administration.

The reservoir, pump, pipes and fixtures for the installation of waterworks in the country home are not expensive and most of the necessary labor can often be performed by the farm hands. The work of plumbing may be done in the winter when the ordinary work in the fields can not be done.

Times have changed and the standard of living increased. Every mother has an ambition to rear her children under healthful environment and she should have the cooperation of her husband in making home life elevating. To get the most out of farm life and to enjoy the comforts of the home, nothing contributes more to this end than a home waterworks system.—Maritime Farmer.

Beauty as well as utility should mark the home improvements.

## OUR HOME CLUB

### The Farmer and Rural Depopulation

A great deal has been said and more has been written about rural depopulation, but after all is it any wonder that people leave the farm? The farmer and his wife work very hard and long to pay for and improve their farm and rear their children, and when after long years of waiting to have everything paid for, and when they are nearly worn out, 'heir being scarce and inefficient,' they find that they are still a long way from being master of the situation. Then they decide to sell the farm and place what money they have on interest, while the good man secures a job in town at an average wage.

I venture to say that the average farmer in Ontario does not make five per cent interest on his investment and wages for himself and his wife. If he has the price of 100 or 150 acres of land along with the sale price of stock and implements, why is he not better off to invest in a city mortgage on the farm he has just sold, and work for wages himself? His hours will not be so long as when on the farm, nor if they are he gets paid for overtime, and he never has to worry about money to pay hired help, etc.

In this way his money is bringing him the hard cash without working for it. He is not working so hard as when he was on the farm, and his employe does the worrying and suffers the losses, or makes the gain, as the case may be; it matters not to him.

The wife now finds that she is getting rested out and can't dress-making for others if she has been so fortunate as to have learned the trade in her younger days (and most of them have for they have found it necessary to use their dress-making on the farm). If not able to sew she can always take in boarders, for she has always boarded all the men that worked on the farm, even while building house, barn and all buildings, besides the agents 'too numerous to mention,' who happened along just at dinner time. If the wife takes up this work she finds that for the first time in her life she recovers a little more than her board and clothes for her work.

One of our Home Club members has said that all farmers are stingy. I do not believe this for I could point out a dozen of my near neighbors who find it necessary to keep their money in the bank 'for safe keeping,' and they all run a joint account with their wives.

The farmer is a manufacturer, and if the government would bonus him as it does some other manufacturers, he could perhaps make more than a bare living out of his farm and could then afford his car and a very much needed and well deserved holiday. But some one may say 'why bother with the car and take his holiday?' Because he cannot afford it without going into debt for it, and I believe farmers as a class are very much afraid of debt. If more farmers could afford these luxuries they would not lose much time in securing them.

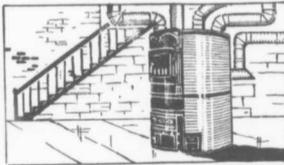
I would like to see some of the men who sit in their office chairs and write long articles on 'High Cost and Rural Depopulation,' 'Keeping the Boy and Girl on the Farm,' 'Prosperity of the Farmer,' and so forth, go to the country with say \$2,000 or \$3,000, buy 100 acres of good land, also stock and implements, then start in with such hard

help as of leaving the farm for if he wish there is to be the farm business. He the mercy deals with small pay-manufacture line so w be affected. True, the wide, wide price to be or so health as the con pay too de farm and rural. Rural make the feel badly, a little mo than when it.

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## "No Cold Floors Next Winter"

IT'S mother and the kiddies that enjoy a well-heated home.

Do you realize how much it means to them to use a little care in choosing your furnace. We go to a great deal of pains to tell everything about the Hecla clearly. We issue a little book to explain fully.

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# HECLA

WARM AIR FURNACE

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Why work in wide-out-of-door. Tills, of Havo decided in favor

her turn at the market. "Say we're going well parties." That was t thing. These district of old high for that given itself o and to party referred to w had studied fo by he could shins had m cleared that be "going out in right on atten

help as our Canadian Government is helping the farmers to, and in five years (or we will give him 10 or more if he wishes) to report the fortune there is to be made in farming.

The farmer is about the only manufacturer today who is not in a combine. He is the only one that is at the mercy of every other man he deals with, and he never will get equal pay for equal work with other manufacturers until there is a combine so wide that every farmer will be affected.

True, there is no place in the whole wide world that is so good a place to bring up the boys and girls, or so healthy and pleasant to live in, as the country. But too many men pay too dear for the luxuries of the farm and the name of being a farmer. Rural depopulation should not make the farmers who are still at it feel badly. It just means that we get a little more for the finished article than when there were more producing it.

Let the farmer cooperate with the consumer of his products and do away with some of the retail merchants and commission men. Then, and not till then, do we expect to get what is really due us.

I would like to hear the opinions of some of our Home Club readers on this subject.—"The Doctor's Wife."

**Where They Missed It**

A group of young people were talking the other evening regarding the success that had come to one of their number who had secured a responsible position. He was not by any means the strongest of the group, physically, nor had his opportunities been of the best, but he had won out by keeping at it in his spare time. "It's great the luck that has come to him," one remarked. "Why, I could beat him hands down at school. He never seemed to go out much, and here he is away ahead of the rest of us." The leader of the group had

ties as he thought would keep him feeling up to his work. Little by little he added to his store of useful knowledge and to his skill till one day he saw an advertisement in the paper asking for such service as he had been preparing himself to render. He made application for the position and was asked to visit the firm in order to be tried out. To his delight he passed the tests, and now he is in the place of responsibility and in the line for promotion. All he has to do is to keep on keeping on in the way he is going and his future is assured.

But what of his chums who chose the other way? They dance a little



**A Sitting Down Job**

better than they did last fall. They play cards more skillfully. They have more parlor graces. They have made a few more acquaintances of such people as frequent dances and habitually play cards. They have been at late suppers. For one or two even ings in the week they have not been in bed till two in the morning. Many of them have van faces, and are talking tonics of some sort or another to remove the "run down" feeling. They have done very little serious reading. They have acquired little, if any, additional skill in any useful handicraft. They have not sought the company of the big men and women who are getting things done in the world. They have done scarcely anything to add to their efficiency in getting the world's work done. As they themselves acknowledge, they will soon be fit for little else than party going.

Seriously, is this a wholesome condition of affairs? No one would be guilty of a tirade against any wholesome amusement in any form, but is it not in place for all who love the best things in country life and who are solicitous for the welfare of the young life of Canada to ask why so many indulge in mere amusement to the exclusion of time and opportunity for doing the things that become young men and women who become brains and who are capable of getting somewhere that is worth going to? The insane lust for amusement that has handed the life of the town and the city bids fair to lay its blight upon the fresh, vigorous life of the country to the peril and loss of all concerned. It is too bad when young people spend a whole winter in acquiring expensive tastes that may afterwards become springs of discontent and in forming acquaintances that may prove to be a sorrow to them while they are above the ground.

When we ask why these young people might have done the answer is not far to seek. In addition to an abundance of wholesome fun they might well have taken a course at a business college, have made use of

(Concluded on page 26)



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of your farming operations and illustrate that record with Kodak pictures. An album of Kodak pictures, with explanatory notes on methods of tillage, drainage, fencing, building, breeding and the like will make a valuable reference work that will help you plan for the year to come. Experience is the best teacher—but you need records of such experience. Let the Kodak help.

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**Where Breezes Blow**

Why work in the hot kitchen when the wide-out-of-doors invites you when the Mills of Huron Co., Ont., has evidently decided in favor of fresh air and cooling breezes.

her turn at the talking when she remarked, "Say, if we keep on the way we're going we'll be good for nothing but parties."

That was the secret of the whole thing. These young people lived in a district of old Old Ontario that stands high for natural advantages, but which for the last winter or two has given itself over to party making and to party going. The young fellow referred to was the exception. He had studied for an occupation whereby he could make a living. His chums had made fun of him and declared that he was the loser by not "going out more," but he had kept right on attending only so many par-

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to any Canadian man or woman with red blood in their veins. I want representatives in every part of the country for the liveliest, most honest, and most efficient proposition ever offered. No experience needed. It solves the bathing problem. No plumbing. No water-works required. A boon alike to country and city dwellers. Full length baths in any room. Folds in small roll, handy as an umbrella. Now, I want YOU to handle your county.—Demonstrating tubs on liberal plan. I'm positive you can make more money in a week than you ever made in a month before.

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one of the short courses at the O.A.C. or the Macdonald Institute. Had they been obliged to remain at home there are the various excellent correspondence courses offered for a score of occupations that have proven of immense advantage to those who have made use of them. Besides, there are good books and magazines that are specially designed to help those situated just as they are today. Fun has its place and farm boys and girls have earned their full share of it. But while this is the case young people and their guardians do well to remember that fun may come too dear, and that when fun runs into dissipation it ceases to be of any value and becomes a menace.

"Uncle Sam."

**My Summer Stove**

Mrs. S. R. G., *Huntington Co., Ont.*

"Why don't you wash on the porch?" asked Mr. S. R. G. one hot day last summer. "It's nice and shady out there and I am sure that it would be cooler than here in the kitchen."

I suggested that he take the thermometer and try the two temperatures. He found, to his surprise, that the kitchen was just two degrees cooler than the shade porch. Of course it is more convenient to wash in the kitchen, where everything is handy, and when it is cooler in addition we have something to be thankful for. Do you ask how it is possible that our kitchen is cooler on wash days? I don't wonder that you are surprised, but then I did not explain that we have been using a kerosene oil cook stove and water heater for a couple of years.

Every woman in this neighborhood used to regard the hot cook stove as a necessary evil. One day one of our neighbors, who is always doing something unusual, came home with a kerosene oil cooker. His wife had so many nice things to say about that cook stove that soon some of the rest of us had invested also, and now everyone in the neighborhood that can afford an oil cook stove and isn't too prejudiced to give a new thing a trial, has one.

Here are a few of its advantages. It is cooler to work with than a range, and does not heat up the room appreciably. It involves practically no work in caring for it; just scratch a match and you've got your heat. Unlike the stove it is not dirty. The men folk appreciate our oil heater also. Mr. S. R. G. used to light the kitchen fire in the morning one of the trials of his life, as it delayed him in getting to the stable, where there are so many chores to do, as is always the case with the dairy farm. Now I can come down and have full heat on in less than a minute.

Now as to the expense. Probably the farmer who has lots of wood on his place can provide fuel for the cook stove cheaper than kerosene oil for a modern, up-to-date heater. We have no wood on our farm and have always had to buy coal, and we found that kerosene comes cheaper than wood and coal do. We could not well get along without our heater.

An Irishman and a Scot were arguing as to the merits of their respective countries. "Ah, well," said Sandy, "they tear down an old castle in Scotland, and found many wires under it, which shows that the telegraph was known there hundreds of years ago."

"Well," said Pat, "they tear down an old castle in Ireland, and begorra there was no wires under it, which shows that they knew all about wireless telegraphy in Ireland hundreds of years ago."



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BY **LYDIA MARIA GURNEY**

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This volume should be in every household. The recipes are simple, inexpensive, and if followed closely success is assured.

"Things Mother Used To Make" can be had through "Farm and Dairy" for only 50c. Address:

**Farm and Dairy Peterboro, Ont.**

June 4

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For Fe and in Dairy children

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# Fashions of the Moment That Please

*Farm and Dairy patterns shown in these columns are especially prepared for Farm and Dairy's Women Folk. They can be varied upon to the limit. Dress and Dairy no order please be careful to state just we must measure for each age for address all orders to Patterns Dept., Farm and Dairy, Peterboro, Ont.*

As we follow the trend of fashion it is interesting to note the various expressions of opinion on the new style features. One expression which contains a great deal of truth is that the dominant note of spring attire is "fussiness." There is more fussiness about many new models than has been evident for some time. In many cases this feature appeals to the feminine heart and her love of pretty things.

As summer approaches, however, the tendency is to get away to a certain extent from so much of the elaborate effects and more interest is attached to the wash fabric materials. A considerable amount of the material classed as wash fabrics this spring would scarcely stand the test of the laundry, and as this would be entirely unsatisfactory for us who live in the country, we will do well to rely upon the more serviceable materials, such as chambray, gingham, linen, ratine or crepe cloth.

A becoming and attractive style of spring coat for the small girl which may be developed in either woollen or some of the summer fabrics, is that shown in 1930. The fronts are slightly lapped and may be closed low or high at the neck edge. Five sizes: 6, 8, 10, 12 and 14 years.

Daintiness rather than elegance is the chief requisite in selecting frocks for the little maid. In design 9907 we show a simple, easy-to-make dress which may be finished with a standing collar or round neck. Embroidered voile in a pretty shade of light blue has been suggested as appropriate for this model. Four sizes: 4, 6, 8 and 10 years.

For the house dress a plain skirt with a blouse waist usually takes the lead. When making a wash dress it is well to first shrink the material and set the color before making up. A little touch of contrasting material on cuffs, collar or belt makes a plain dress very attractive. Design 9912 is cut in six sizes: 32, 34, 36, 38, 40 and 42 inches bust measure.



An apron design that is good for lawn, percale, gingham, chambray, or seersucker is shown in 9911. This attractive model is cut with waist portions and a yoke that combines a short sleeve. The garment is comfortable and affords ample protection for the dress worn beneath it. Six sizes: 34 to 44 inches bust measure.

This simple little design, 9930, of girl's apron, is so easy to develop that mother's girl may be glad to try making it alone. For home, cooking school or play time this design will prove very satisfactory. Five sizes: 4, 6, 8, 10 and 12 years.

There is a large variety of models for children's clothing that are pleasing, and the mother should have no difficulty in selecting suitable styles for her little girl's summer frocks. In design 9925 we show a splendid style for the growing girl. White linen combined with blue and white percale could be used for this model. Crepe voile with ratine for trimming in the new blue or rose shade is also pretty. Four sizes: 6, 8, 10 and 12 years.

A pretty gown for youthful and slender figures may be fashioned from design 9928. The waist is simple and becoming. It is belted at the back and may be finished with sleeves in wrist length, or short as in the large illustration. The skirt is gracefully draped in front and finished in the back with plaits. The tunic may be made with or without one or both ruffles. Four sizes: 14, 16, 17 and 18 years.

As the warm weather approaches one naturally thinks of taking a holiday; it may be only for a few days or probably several weeks. A very essential part of the summer wardrobe is a lounging robe or kimono. In 9915 we show a splendid model. The right front is shaped and lapped over the left and trimmed with a pretty collar. The skirt is fitted with tuck darts at the back. Crochets, lawns, dimities, silks or soft wools are suitable for this design. Six sizes: 34, 36, 38, 40, 42 and 44 inches.

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## Interest on Deposits at Government Banks

J. A. Macdonald, Carleton Co., Ont.

The lowest price at which the Dominion Government can get money to-day is about 4 1/2 per cent, or very nearly that. Why does not the Dominion Government borrow the money needed or at least a large part of it, from the Canadian people through the Government savings banks?

Money has seldom or never been worth so much in Canada or elsewhere as it is today, and yet all the Government pays for it at the savings banks is a pittance of three per cent. Three per cent. might have been warranted many years ago when the Government could borrow in London any amount at less than three per cent. Conditions have long since changed. The Government cannot now borrow at four per cent, and yet the Government goes to London and offers almost 4 1/2 per cent, while all it will pay at home is three per cent. As a result of the low interest paid at the savings banks, people deposit very little in these banks in late years.

But that is not the worst. The chartered banks, following the lead of the Government, also pay only three per cent., and which they immediately lend out at eight per cent., if not, in many cases very much more. Is it, then, to favor the banks at the cost of the people who deposit that the

rate of interest has not been raised in the Government savings banks? Undoubtedly this is the reason.

The banks, which really are the manufacturers, control the Government as they control almost everything here in Canada today. Six Canadian banks control, at the present time, the ready money of the nation, and they can wreck any enterprise that refuses to do their bidding, including probably the Government itself. We have the abuse of interlocking directors. Prominent bankers are interested in business undertakings, and naturally extend credit to these enterprises in which they are personally concerned.

The Canadian depositor to-day is the real victim of the present banking system. Surely it is time the Government broke from the shackles of the Canadian bankers' trust and set about paying depositors at least four per cent. on their savings accounts. The chartered banks like the express companies and parcel post would all have to follow and the hundreds of thousands of us who have a little money in these banks would benefit. It looks as if the Canadian oxopus was the banks of the country with its tentacles reaching out everywhere, but most firmly planted at Ottawa.

## A Treatise on the Unearned Increment

E. A. Parsons, Ottawa, Ont.

**A** MATTER that I have been following in Farm and Dairy editorials, is the matter of land values increasing. That much used term, "unearned increment," seems to roll out from your pen with as much ease as from the tongue of the Socialist orator. After all, what really determines the market value of all commodities in practically all cases except the law of supply and demand? In the city when it begins to get crowded so that say 10' men are after a certain lot that I might own, where formerly there was only one inquiry, why is it not natural that I should raise the price? Is this not the same principle as the farmer who, instead of marketing his produce as soon as harvested, keeps it in his barns until the following spring or summer, in the hope that when the supply is smaller and the demand fully as great that he will receive a lot more for it? I think it is; and you know this is done every year; you know also of whole sections holding back their hay for six or months, with the expectation and very often the realization of 30 to 50 per cent better prices being obtained; this is all "unearned increment"; it is simply the same material held long enough, till some one will want it had enough to pay his price. And we are all in business, for all the money we can honestly make out of it.

How about the report of the Western Grain Growers' Association, in which they brag of the thousands made by them in buying a certain lot in Winnipeg? More unearned increment! But this time it goes to the benefit of the farmer, so we have not heard them kick. Really Mr. Editor, it seems to be all because some one else has made the money that we hear all the kick from the farm journals. To be frank, I venture to state that if you felt sure that a certain piece of land in your town would bring you in five years 100 per cent profit or more, if you had the price, you would jump at it, and would not feel that you had in-

creased the cost of living to any one or made it any harder for the farmer to make a success of his calling.

Did you ever know of farmers who owned farms, which, when the city grew out near them, were able to sell out, for market gardening or dairy purposes, at five times the original cost, and this after making a good living out of the land? Is this unearned increment? Should this not be allowed? Did you ever hear of the farmer, on whose property, or that of his neighbor, some mineral was discovered? Should he be expected to sell out at about the original cost, plus a good interest? I think not, and this in spite of the fact that he never owned the minerals at all. Do not farms now sell for from three to four times what they did 10 years ago, and still being used for farm purposes?

Are not all these the same as the cases you have been repeatedly referring to with the exception that the unearned increment in one case goes to the farmer and the other to the city man? It is all off one piece to me. In what case would you put the farmer who, on account of a change in the tariff in a foreign country, have been able to realize a tremendous price from their cattle and dairy stock? Has anyone been hawking about the principle of this and terming the farmer an unscrupulous speculator, living on the unearned increment, at the expense of the poor beef-eaters of the city?

Now, Mr. Editor, I guess you will say that I must feel a great deal better after getting all this off my system and probably I will; you can print this letter or throw it into the waste basket. Yours for a bigger, better, more progressive, more united country.

Rock salt in a corner of the pasture will prove a good investment for the dairyman.

Mixed breeding is careless breeding and never gets the dairy farmer anywhere, unless it be to the poorhouse.

## Stop! Look! Read!



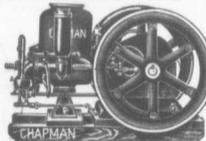
This Plate controls the operation of the Engine. Only twenty pieces.

In selling you a Chapman Engine, we save you, during the life of the Engine, from \$5. to \$500.

The most expensive Gasoline Engine built have not dispensed with the services of an expert. Yet we can save you this cost, and the loss of having to wait days for an expert when there is work to do.

You want to know how. That plate you see in the demonstrator's hand solves the problem.

MANUFACTURERS OF Windmills, Gasoline Engines, Feed Grinders, Saws, Pumps, Tanks, Water Basins, Stanchions, Stalls, Well Drills, Pressure Tanks.



Write for Engine Catalogue A.

ONTARIO WIND ENGINE & PUMP CO. LIMITED

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Branches - Montreal, Winnipeg, Calgary



Handing Out Horse Power

The best lubricant for wagons is

Mica Axle Grease

Saves repairs and makes hard roads easy.

"It's the Mica that does it."

THE IMPERIAL OIL CO., Limited

Montreal  
Toronto

St. John  
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## Running water on the farm



A Fairbanks-Morse Pneumatic Water System like the one pictured here, can be quickly and easily installed on any farm.

It will furnish you with an abundance of running water for the bathroom, kitchen, laundry, stables, creamery, and for sprinkling the lawn and garden. At the same time it affords you ample protection from fire.

Can be inexpensively operated by hand, motor or small oil engine.

The "Handy" force pump which is a part of this system is easy to operate and will last for years. Tanks are made of boiler steel tested to a pressure of 125 pounds. Any size from 220 gallons up. Send for free booklet, "Fairbanks-Morse Water Systems."

We can supply you with farm engines from 1 h.p. up, sprayers, lighting systems, farm scales, hand and power tools, etc. Particulars on request. Address Dept 42

The Canadian Fairbanks-Morse Co., Limited

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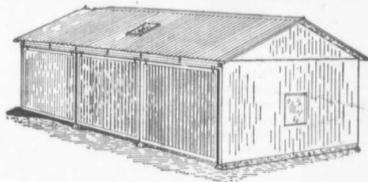
Toronto  
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Canada's Departmental House for Mechanical Goods

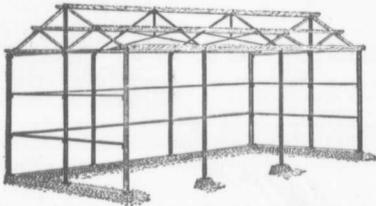
# Protect Your Implements



Now we offer the man on the farm Ready-made Out-buildings; Ready-made Implement Sheds, Carriage Houses, Storage Buildings—Buildings of metal with heavy steel frames.

Whatever you want a building for—or whatever size—we have one ready to ship to you, ready for you to erect, without help if you like. The parts are ready to put together. We do the cutting and fitting in our factories, numbering the pieces so that any man can put them in place and have an everlasting building of iron and steel, wind-proof, weather-proof—fire-proof and lightning-proof.

Sliding doors on double bird-proof tracks, open singly without disturbing the other doors. The whole front of



Ready-made Buildings may be opened. Doors are sent you from the factory with all hardware in place. Wired glass and metal windows in roof and gable ends supply plenty of light. These windows are built in the sheets of corrugated iron, so that there is no trouble fitting them into the building.

Eaves and roof ends are completely covered in sealing the building tight against weather and dust.

## READY-MADE FARM BUILDINGS

**Steel Frames Metal Covering**

Strongly bolted and welded Steel Frame. No chance of sagging or caving in with wind pressure. Whole front opens up.

The frames of Ready-made Buildings are bolted to wooden blocks set in the concrete foundation. Corner posts, end and side posts are heavy 4-in. channel steel with strong angle braces. The covering is our famous Acorn Brand corrugated iron.

Putting together a Ready-made Building is a neat, sturdy job—one that will do service for generations.

*Write for a booklet with full explanation of how every part is made for strength, and how easily Ready-Made Buildings can be put up—and how quickly you can have a building on your farm after you decide to order.*

The **Metal Shingle & Siding Co.**

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Consolidated factories at:  
PRESTON TORONTO MONTREAL  
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The **Metal Shingle & Siding Co.**  
Preston, Ont. Limited

Please send your free book **Ready-Made Buildings.**

.....C.C.

# A Farmer and a Mechanical Genius

The Improvements that One Farmer has Installed Himself



A Farm Home Completely Equipped With Modern Conveniences

Wesley Elliott, Durham Co., Ont., is a mechanical genius. Among other things, he has installed a complete water system and bathroom in his home, doing all the work himself and hence securing these conveniences at a minimum of expense. The windmill at the end of the house pumps the water into an overhead tank in the garret.—Photo by an editor of Farm and Dairy.

TWO men were overheard recently discussing the annual cost of an auto. Both had automobiles of the same make, and both had purchased them at the same time. One placed the cost of his car for a year at \$100. The upkeep of the second one was three times as much. As they compared expenses it came out that the first auto owner had studied his car until he was himself able to repair all small breakages and keep the car in first-class running order. The second owner confessed that he was still unacquainted with the intricate points of his car, and every time anything went wrong it was rushed around to the garage for repairs. Repair expenses accounted for a good deal of the \$300 charge against his auto.

This is somewhat aside from our subject but it illustrates an important point. Often times the profits or loss from the farm are determined by the ability of the farmer to attend to small things himself rather than by calling in expert assistance. Farm machinery is an increasingly important part of farm equipment. Proper attention to the repair of farm implements and farm power necessitates a considerable amount of mechanical ability. If a man who does a mechanical turn were hailed as a man of genius, and sent off to the city in order that their talent might not be wasted. There is now, however, a large place for these boys right on the farm. One of these boys of a mechanical turn who elected to stay on the farm was Wesley Elliott. He is now a man in the prime of life, and is still found on his farm in the township of Clarke in the County of Durham.

News of Mr. Elliott's genius reached the ears of the editors of Farm and Dairy, and one hot day this spring I started out for Mr. Elliott's farm. A good part of the Elliott farm is hilly, in fact, lies at an angle approaching very closely to 45 degrees. Many of the roads in the township are on the same slant, and, to add to the troubles of a man who rides a bicycle, they are sandy. Hence I was pretty well "played" before I fully reached "the place on the hill with the two windmills, one at the

house and the other over the barn." But my chat with Mr. Elliott was worth the labor of reaching his home, complete notwithstanding conveniences. Household conveniences came in for first inspection. Mr. Elliott was called from the fields, but before he arrived Mrs. Elliott and I examined a complete water system in pantry and kitchen, and a well equipped bathroom as one would find in any city residence. The water is heated in the range in the dining-room, which is kept going continuously in winter, and in which a wood fire can be quickly laid when water in quantity is required in the summer. All of these conveniences were installed



A Sample of Good Home Plumbing

This is a partial interior view of the bathroom installed for Mr. Elliott in his farm home. The work is just as well done as the work that comes from the hands of a professional city plumber.

by Mr. Elliott himself, who had by this time arrived to tell us something of their installation. "I had a little experience in plumbing," remarked Mr. Elliott in reply to my question. "Never served an apprenticeship or anything like that, but just picked it up by practical experience. I put in this water system five years ago this fall. We have an overhead tank of 275 gallons capacity. The water is pumped into the tank by the windmill, which is seen just outside the door."

In estimating the cost of the water system, Mr. Elliott placed the piping and fittings at \$30, the three pieces in the bathroom at \$45.50 and the hot water boiler at \$8.50. "One needs a good set of pipe tools and a good supply of braces and bits to do this work," said Mr. Elliott. "In my shop out in the woods I have a full equipment of all such tools and they are always coming in handy."

Mr. Elliott is proud of his household conveniences because they represent (Concluded on page 38)

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**The Makers' Corner**

Butter and Cheese Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making and to suggest subjects for discussion.

**Inspector of Weighing Appointed**

J. A. Ruddick, Dairy Commissioner. The Hon. Martin Burrell, Minister of Agriculture, has appointed Mr. J. E. D. Garreau, "Inspector of Weighing of Butter and Cheese," in accordance with the recommendations made by the Royal Commission, which inquired into this question a short time ago.

Mr. Garreau is now ready to investigate complaints of excessive "short weights" or discrepancies between the marked weights of butter and cheese and the weights as found by the Public Weigher at Montreal. Cheese factories and creamery salesmen and receivers of butter and cheese are requested to notify him at the Department of Agriculture, 223 Commissioners Street, Montreal, Que. (Phone Main 4145) if they have any complaints to make respecting the weighing of these articles.

The Inspector has instructions to keep in touch with the Public Weigher at Montreal, and in cases where he finds any evidence of excessive short weight it will be his duty to investigate without special request. He will also act as a referee in the matter of quality.

**The Practical Side of Grading\***

Geo. H. Barr, Chief of Dairy Division, Ottawa

Most of the cream is delivered to the creameries in Alberta only twice a week, by the patrons themselves, by train, or on cream routes. The cream, delivered by the patrons, or by train is, of course, graded from the patrons' cans upon arrival at the creamery. On the cream routes, the haulers take a sample of the cream at the farms usually in a four-ounce bottle in much the same manner as is done in Ontario. At the creamery these samples are warmed to 98 or 100 degrees and thoroughly mixed before the composite sample is taken. The balance of the sample is used for grading.

\*Extract from an address before the W.O.D.A. Convention at Stratford.

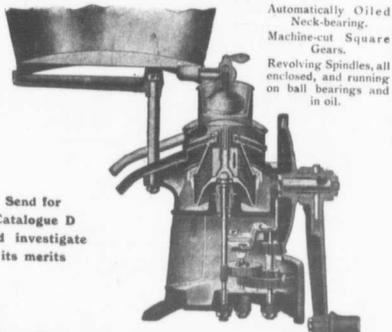
Cream which is not clean, which is lumpy, which is very stale, old, bitter or musty in flavor, should not be accepted.

In Alberta the Government provides a system of grading and selling the butter from any creamery in the province. The Saskatchewan Government is going to adopt a similar system this year. The butter is shipped to a central cold storage, where it is graded and sold by the Dairy Commissioner. A detailed statement of the grading and defects is sent to each creamery immediately after grading, so that every butter-maker knows exactly the standing of his butter each week. This system of selling is scarcely practical at the present time in Eastern Canada, where there are so many large creameries. I would, however, like to say that, I believe, there is a splendid opening for the creameries in Western Ontario, which will grade the cream and adopt a system of shipping their output to a central warehouse where the butter will be graded and sold under recognized standards of quality. It is not necessary, however, to grade the butter to make the grading of cream a success. Grading the cream and paying a premium for first grade is simply a business arrangement between the creamery management and the patrons in regard to the method of dividing the money due the patrons, and need not interfere with selling the butter.

How to pay the patrons. The total receipts for butter, less manufacturing and other expenses, will equal the amount of money due the patrons. We will suppose a creamery has in the payment period 8,000 pounds of fat, which, after deducting manufacturing charges, nets the patrons 30 cts. a pound or \$3,400. In this 8,000 pounds of fat there is 6,000 pounds of what we want to pay a premium of two cents a pound. The money would be divided as follows: First deduct the premium to be paid on first grade cream from the total money; then divide the total fat into the balance, which will give the average price per pound of fat in second grade cream. The pounds of fat in second grade cream multiplied by the price per pound will equal the amount to be paid for second grade cream fat. The price per pound of fat for second grade cream, plus two, will equal the price per pound of fat for first grade cream. In some cases the second grade cream is churned separately, but this is not the general practice.

**POINTS OF EXCELLENCE**  
EMBODED IN  
**THE PREMIER CREAM SEPARATOR**  
SELF-BALANCING BOWL

Rustless Aluminium Discs, few in number, yet providing ample skimming surface.



Send for Catalogue D and investigate its merits

Automatically Oiled Neck-bearing. Machine-cut Square Gears. Revolving Spindles, all enclosed, and running on ball bearings and in oil.

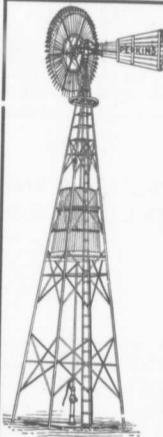
**The Premier Cream Separator Co.**  
Winnipeg TORONTO St. John, N.B.

**WE Make Butter WE Furnish Cans**  
Want CREAM WE Pay Express  
WE Pay Every Two Weeks

Write us  
**BELLEVILLE CREAMERY, LTD.**  
Belleville, Ontario

We have only a limited supply of those **Al Quality Henry Boker Razors**. They are being offered for One New Subscription to **FARM AND DAIRY, Peterboro**

**Best Value Ever Offered**  
— The —  
**Gasoline Engine Public**



The time is now come when the farmer is looking for the best value for his money. We have it when we offer you the **PERKINS GASOLINE ENGINE**—the simplest, most durable and easiest started on the market. Lightest in fuel consumption. Working parts are made as good as skill can make them.

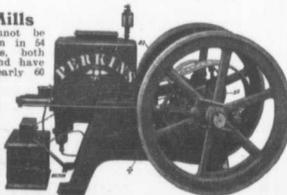
Perkins' Cylinders are made from close-grained grey iron. The interior of cylinder is not only bored, but ground to a glassy surface. Piston is also ground. Gears are steel cut. Crank, drop forged from open hearth steel. Bearings are of the very best material.

Write us for prices and terms

**Perkins Wind Mill & Engine Co.**  
LONDON, ONT.

**Perkins Wind Mills**

for pumping purposes cannot be excelled. We build them in 24 different sizes and styles, both wood and steel wheels, and have been building them for nearly 60 years. We build the steel wheel, and build them good as they can be built, but when the question is asked, "Which is best mill to buy?" our answer is the wood wheel on a steel tower which makes the very best job that money can buy. Write us for descriptive literature.



**Up-to-Date Transportation in Norfolk County**

The Excelsior Creamery, Simcoe, Ont., is only one of many creameries scattered throughout Canada that have adopted the motor truck both for collecting cream and delivering butter at the station. We have yet to hear of the first instance where a motor truck has been discarded in favor of the older system of cream collection.

# We Leave Mapleton Farm

## 55 Females

## June 10

## 5 Males



# These



"With all my life before me"

"It like produces like - then I should make 50 lbs. or more"

# Are



# Some

## 35 Females under 3 years

**SARAH JEWEL HENGVELD 5rd**  
"For 3 years I held the Canadian Championship and established the first 30th. Record. My dam was the first 100-lb. cow in Canada. And I did more—See Catalogue."

## 20 Yearlings Daughters of Count Hengveld De Kol



# Grand-Daughters



"We are all bred to a Son of Pontiac Korndyke"

"My sire has proved his worth"

## Count Hengveld De Kol (Former Herd Sire)

Proven by his works and blood—a daughter of Sarah Jewel Hengveld 3rd and a full brother to Hengveld De Kol—118 A.R.O. daughters.

His oldest 3-yr.-old daughter has 24.33 lbs.—oldest 2-yr.-old daughter, 18.45. Could you ask for anything better? Then buy some of his 20 daughters on June 10.

## YOU HOLSTEIN BREEDERS

who know good breeding, know that the blood to produce world records, have been crossed of Pontiac sons on Hengveld De Kol blood. These two blood lines form the backbone of this breeding herd. Twenty yearlings are grand-daughters of Jewel Hengveld 3rd, who with her dam today hold the highest combined record for Canada. At private sale they brought \$2,000 and \$1,500 respectively.

**THIS** is the class of animals you will be bidding on at Iroquois on June 10th. If you need something choice, you cannot afford to be anywhere but at Mapleton. Come and buy young stock that will produce Records and Wealth for you.

**THE CATALOGUE** will give you every detail about this sale—send a card for one to-day. Rise up these animals that are open to you but once. Decide to come to Mapleton—Remembering that this is strictly a breeders' dispersal sale—every animal faultless and a bona fide member of herd and every one must be sold on the above date.

N.B.—For our visitors a free 'bus will meet all trains at Iroquois (G.T.R.) up till 1 p.m. You may rest assured we'll make you comfortable at Mapleton. Lunch at noon. Bids by wire, 'phone or mail will be given every attention. Mail a card for catalogue.

# W. D. HAMILTON CLARK HAMILTON

THOS. IRVING, Auctioneer

IROQUOIS

ONTARIO

### OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS FROM MAY 1ST TO MAY 15TH, 1914

- Mature Class**
1. Wadman's Country, 17756, 5r 4m, 234.1; 550.6 lbs. milk, 26.40 lbs. fat, 33 lbs. butter. Colony Farm, Coquitlam, B.C.
  2. Celia De Kol, 14982, 5r 2m, 230.3; 545.9 lbs. milk, 24.10 lbs. fat, 30.12 lbs. butter.
  3. Riverview Susie De Kol, 12965, 5r 2m, 44.1; 431.5 lbs. milk, 21.10 lbs. fat, 26.37 lbs. butter. F. Hamilton, St. Catharines.
  4. Canary Colantha Queen, 11454, 5r 10m, 15d.; 428.6 lbs. milk, 20.32 lbs. fat, 26.15 lbs. butter. Geo. T. Prusse, Ostrander.
  5. Topsy Pietertje Soldene, 15003, 5r 11m, 11d.; 630.2 lbs. milk, 19.57 lbs. fat, 34.46 lbs. butter.
  - Fourteen-day record, 5r 11m, 12d., 1296.6 lbs. milk, 38.00 lbs. fat, 49.50 lbs. butter. P. J. Sallee, Lachine Rapids, Que.
  6. Marjorie Pride, 16074, 6r, 0m, 8d., 429.4 lbs. milk, 19.15 lbs. fat, 25.29 lbs. butter. Geo. T. Prusse, Ostrander.
  7. Quidee Pauline Lillih, 10078, 5r, 5m, 5d.; 547.9 lbs. milk, 18.33 lbs. fat, 25.92 lbs. butter. J. M. Joyce, Naponee.
  8. Popsy 3rd's Victoria, 7730, 7r, 2m, 19d.; 427.1 lbs. milk, 17.74 lbs. fat, 22.10 lbs. butter. F. Hamilton, St. Catharines.
  9. Bessie Spink's Princess Clothilde De Kol, 4330, 10r, 10m, 15d.; 409 lbs. milk, 17.0 lbs. fat, 22.56 lbs. butter.
  - Fourteen-day record, 11y, 10m, 15d., 1466.6 lbs. milk, 50.25 lbs. fat, 63.15 lbs. butter. T. W. McQueen, Tillamook.
  - 20 Dairy Women Popsy, 11582, 5r, 12m, 26d.; 510.7 lbs. milk, 17.11 lbs. fat, 21.39 lbs. butter.
  - Fourteen-day record, 5r, 11m, 26d., 1200.3 lbs. milk, 35.29 lbs. fat, 41.97 lbs. butter. J. Alex. Wallace, Sincere.
  11. Daisy Albino De Kol's Duchess, 428, 11y, 11m, 45.9 lbs. milk, 15.63 lbs. fat, 19.45 lbs. butter.
  - Fourteen-day record, 11y, 11m, 56d., 1205.3 lbs. milk, 35.29 lbs. fat, 41.97 lbs. butter. J. Alex. Wallace, Sincere.
  12. Bonheur Belle, 11155, 5r, 11m, 14d., 423.7 lbs. milk, 14.99 lbs. fat, 18.74 lbs. butter. F. Hamilton, St. Catharines.
  13. Clinton Aggie, 14033, 5r, 8m, 14d., 444.9 lbs. milk, 14.02 lbs. fat, 18.26 lbs. butter. John McRae, Hawke, Que.
  14. Clinton's De Kol, 1478, 10y, 2m, 17d.; 450.9 lbs. milk, 14.29 lbs. fat, 18.26 lbs. butter. John McRae.
  15. Meethilde's Jewel De Kol, 409, 10y, 1m, 11d.; 427.6 lbs. milk, 14.50 lbs. fat, 18.15 lbs. butter. J. Alex. Wallace, Sincere.
  16. Evangeline De Kol, 9009, 7r, 534 lbs. milk, 14.14 lbs. fat, 17.69 lbs. butter. Fig. Wood, Mitchell.
- Senior Four-Year-Old Class**
1. Popsy Hengveld's Springbank 2nd, 16197, 4r, 6m.; 578.7 lbs. milk, 18.7 lb. fat, 23.73 lbs. butter. T. H. Dent, Woodstock.
- Junior Four-Year-Old Class**
1. Duchess Wayne Calumny 2nd, 1951, 4r, 1m, 14d.; 576.3 lbs. milk, 15.4 lbs. fat, 20.28 lbs. butter.
  - Fourteen-day record, 4r 2m, 13d., 1253 lbs. milk, 45.71 lbs. fat, 57.13 lbs. butter. Walburn Rivers, Ingersoll.
  2. Zaria Clothilde 3rd De Kol, 446, 4r, 5m, 5d.; 617.4 lbs. milk, 25.10 lbs. fat, 32.87 lbs. butter.
  - Thirty-day record, 4r 2m, 24d., 1324.8 lbs. milk, 29.03 lbs. fat, 115 lbs. butter. Colony Farm, Coquitlam, B.C.
- Senior Three-Year-Old Class**
1. Clrde Queen De Kol, 16663, 5r, 2m, 24d.; 426.7 lbs. milk, 17.70 lbs. fat, 22.78 lbs. butter. Geo. T. Prusse, Ostrander.
  2. Johanna Rue Indule, 19799, 3r, 8d., 194.; 502.1 lbs. milk, 18.81 lbs. fat, 19.73 lbs. butter. John McRae, Hawke, Que.
  3. De Kol May Queen, 20584, 3r, 10d., 509.2 lbs. milk, 13.31 lbs. fat, 15.39 lbs. butter. John McRae.
- Junior Three-Year-Old Class**
1. Cannary Topsy Soldene, 15003, 5r, 10m, 24d.; 554.3 lbs. milk, 16.76 lbs. fat, 23 lbs. butter.
  - Fourteen-day record, 5r, 3m, 24d., 1380 lbs. milk, 42.82 lbs. fat, 53.45 lbs. butter. P. J. Sallee, Lachine Rapids, Que.
  2. Alice Pietertje Schulling 2nd, 265, 5r, 10m, 12d.; 486 lbs. milk, 13.29 lbs. fat, 16.21 lbs. butter. The Wood, Mitchell.
- Senior Two-Year-Old Class**
1. Bessie Spink's Princess Clothilde De Kol, 465.8 lbs. milk, 15.32 lbs. fat, 19.35 lbs. butter. David Caughell, St. Thomas.
  2. Fanny De Kol, 2778, 5r, 3m, 27d.; 546.3 lbs. milk, 10.36 lbs. fat, 13 lbs. butter. Geo. T. Prusse, Ostrander.
  3. Fanny De Kol's Clothilde Bessie, 3003, 5r, 2m, 22d.; 552.5 lbs. milk, 9.72 lbs. fat, 13 lbs. butter. Colony Farm, Coquitlam, B.C.
- Junior Two-Year-Old Class**
1. Fireburn Queen De Kol, 2593, 5r, 2m, 6d.; 482 lbs. milk, 15.33 lbs. fat, 18.75 lbs. butter. Benj. H. Thomson, Bobart, Sask.
  2. Aggie Popsy Meethilde, 2278, 5r, 0m, 12d.; 375.9 lbs. milk, 11.50 lbs. fat, 15.85 lbs. butter. Walburn Rivers, Ingersoll.

(Continued Next Week)

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O.K.—J. K. O.

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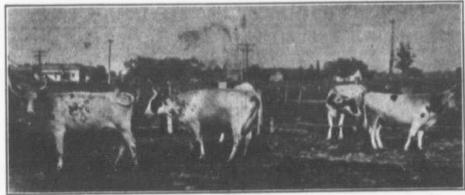
**AYRSHIRES**

**SUNNYSIDE AYRSHIRES**  
Imported and Home-Bred, are of the choicest, breeding of good type and have been selected for production. THREE Young Bulls dropped this fall, sired by "Nesher Hall Goodtimes"—2665—(Home-Bred), as well as a few females of various age, for sale. Write or come and see.  
W. W. LOGAN, Howick Station, P.O. (Phone in house) 1-1

**LAKESIDE AYRSHIRES**  
A select lot of Young Bulls, all aged, sired by the following:  
Barcheate Cheerful Boy (Imp.), 2879 (1791)  
Wheland Bonnie Boy (Imp.), 2372 (8778)  
Morton Mans Planet (Imp.), 2379 (8774)  
Auchenbraun Sea Foam (Imp.), 2878 (1885)  
Imported Dams—Record of Performance Dams—  
Proprietor: Manager  
O. D. B. MONTGOMERY D. MCARTHUR  
Dominion Express Bldg. Philipburg, Que. (Montreal)

**HOLSTEINS**  
**ELMGREST HOLSTEIN FRIESIAN**  
A FINE FACTS  
Everything of milking age in Record of Merit. Every animal a persistent milk and regular breeder.  
Every animal over six months of age Tuberculin Tested, May and end July 1914, and found free from tuberculous.  
I have more stock than I can pasture at present and will price right your pick of Jr. 2-yr-olds up to 15.60, senior 2-yr-olds up to 25.00, come up to 2.17. Send for photo, breeding, price and tuberculin chart also a few registered Chloro-date Pills for sale.  
W. H. Cherry, Haldimand Co., Ganest, Ont.

**PURE-BRED HOLSTEIN BULL CALVES FOR SALE**  
Sired by King Hengerveld, Kanadia, whose grand dam, Fairview Queen, Keweenaw, gave 108 lbs. milk in one day.  
No. 1. Born Sept. 12, 1913. Dam at 3 years of age gave 1035 lbs. milk in 10 mos. Price \$75.  
No. 2. Born Jan. 1914. Dam at 3 years of age gave 1010 lbs. milk in 10 mos. Price \$50.  
No. 3. Born Feb. 20, 1914. Dam gave 815 lbs. in 7 mos. Price \$45.  
No. 4. Born April 27, 1914. Dam gave 870 lbs. as a 3 year old. Price \$55.  
No. 5. Born May 14, 1914. Dam gave 815 lbs. as a 3 year old. Price \$55.  
These are neatly marked, well developed and exceptionally good-bred.  
JNO. B. WYLIE - - - ALMONTE



One of the First Good Starts that he Made

Just outside of the village of Howick, in the 50-acre farm of Geo. Hay, Mr. Hay was, but he is starting with the best, but composed entirely

of the Chateaugay district of Quebec, is a young male, starting in a small His dairy herd is necessarily a small one, of pure-bred Ayrshires.  
—Photo by an editor of Farm and Dairy.

**AYRSHIRE NEWS**  
Farm and Dairy is the recognized exponent of the Dairy interests of Canada. Breeders of Ayrshire Cattle and all members of the Canadian Ayrshire Breeders' Association are invited to send items of interest to Ayrshire breeders in this column.

**CANADIAN AYRSHIRE HISTORY**

Wm. Stewart of Menie, Ont., is one of the veteran Ayrshire breeders of the continent. During the course of his presidential address at the recent annual meeting in Toronto, Mr. Stewart gave reminiscence.

"Our Association," said he, "has made remarkable progress since I last delivered my address as President at the annual meeting held in this city in 1894. You will pardon me if I become reminiscent for a few moments. Then, we were working under the old Agricultural and Arts Association, with Mr. Henry Wade as secretary. In those days we could leave home in the morning, come to this city, do the business of the association in about two hours, and return home the same evening. It was a small concern in those days, six or seven of us sat around the table in the old Albion Hotel. The principal breeders were Thos. Gray, of Oshawa; James McCormack of Rockton; Thos. Ballantyne of St. Mary's; Joseph Yull, of Carleton Place; Mr. Cunningham, of Norval; Mr. Wains, of Byron, and myself.

number of splendid animals in our Herd Book, but had also an appendix in which we recorded animals that did not trace to importations. This appendix was a great hindrance to our progress. It practically prohibited sales to the United States as these animals could not be recorded in the American Herd Book. After a great effort we threw out the appendix and all animals therein recorded. Then we began to grow. New members joined and all animals therein recorded. They were manifested on every hand. The success of Canadian Ayrshires in winning 90 per cent of the prizes at the World's Columbian Exposition, held in Chicago in 1893, was a great advertisement to the breed in Canada. Sales to the United States continued to increase from year to year, even under the drastic regulations imposed by the authorities at Washington.

"About this time David Morton, of Hamilton, imported some fine Ayrshires from Scotland which set the wheel going afresh for a time. We soon discovered that the two Herd Books in Canada were a great detriment to our best interests, as American purchasers were dubious about the correctness of our certificates. Our younger breeders saw this and came to the conclusion that the only remedy was a united association and one herd record for all Canada. This was consummated in due time without any one herd record, as considerable opposition came from some quarters. We now have one grand Canadian Ayrshire Breeders' Association for the Dominion.

It was uphill work then. We had a success and healthy growing condition of our Association is largely due to the enthusiasm and untiring efforts of our secretary."

**MISCELLANEOUS**

**WANTED**  
Fifty Milch Cows to freshen before July 1st; grades—any breed; must be large, roomy cows and heavy milkers. These will be subjected to the Tuberculin Test, State Inspection and we will send a man. Address  
**OTTAWA DAIRY Limited**  
OTTAWA

**WANTED**  
Young Calves to rear for beef. State Price given f.o.b. and breeding.  
**JNO. G. MORRISON**  
R. R. NO. 2 - BEAVERTON, ONT.

**FOR SALE**  
Sixteen-month-old Bull, whose dam and sire's dam best day's milk average 101.4 lbs. For particulars apply to  
**WALLACE H. MASON**  
R. R. 4 - SIMCOE, ONT.

**AYRSHIRES**  
**TANGLEWYLD AYRSHIRES**  
The leading H.O.P. herd, High lactators; average test for herd 14 per cent. butter-fat.  
Choice Young Bulls and Bull Calves for sale, all from H.O.P. stock.  
**WOODSIDE BROS., ROTHEBY, ONT.**

**Burnside Ayrshires**  
Winners in the show ring and dairy tests. Animals of both sexes, imported or Canadian bred, for sale. Long distance Phone in House.  
R. R. NESS - HOWICK, QUE.

**Better Than A Windmill For Pumping**

A Windmill only pumps water when it pleases the WIND to blow. The Renfrew Standard pumps water whenever it pleases YOU to have it pumped.



A Windmill costs a good deal of money, while a pump Jack attachment for a Renfrew Standard engine costs only a few dollars.  
Pumping water is only one of the many uses to which the Renfrew Standard gasoline engine may be put on the farm. Our booklet and circulars show many other ways in which you may use this engine to advantage.

The Renfrew Standard is the most talked about, and the most favorably known, gasoline engine in Canada today. The very fact that it starts without cranking in all kinds of weather would be cause enough to bring about widespread discussion. But there are other reasons for making people talk. There is, for instance, the remarkable simplicity of construction. So simple, a young boy can understand and run the Renfrew Standard. Has no pipes or fittings to leak or freeze, no cooling pumps or fans to get out of order.

Then there is the governor of the fly-ball (steam engine) type that allows speed of engine to be varied at will, without stopping the engine. And a carburetor of wonderful simplicity. And valves so arranged that the gases explode as perfectly as a cartridge in a shotgun. Other features, too, which are fully described in our booklet. Write for a copy.

GOODERMAN  
The thousands  
reached at Go  
May 20, \$100  
Elliott, (Winn  
Pontiac, Panlin  
that famous an  
beautiful half  
splendid confa  
stimulation. Her  
eyes should mak  
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The largest of  
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\$22.00. One of  
Prime Cream Pa  
24 pounds. T  
average 825;  
eight three-year  
weirde, \$26;  
heiter calves, 875

**GOODERHAM SALE A SUCCESS**

The thousand dollar mark was reached at Gordon Gooderham's sale on May 20. \$1,047 was the sum that W. Elliott, Chateaufort, Ont., paid for Nicole Pontiac Pauline, a yearling daughter of that famous sire, Pontiac Korudyko. This splendid conformation and grand scale.

Her dam being a 25-lb. cow, she should make a name for herself both as a producer and in the show ring. The largest Canadian De Kol, which that Lady Summerville De Kol, which was knocked down to H. F. Lea, Concessionist, for \$1,000. This five-year-old has fine scale and quality and should

win. Another high priced one was the 20-lb. cow, Lady Vincent, which went to W. Elliott for \$725. A yearling two-year-old heifer with splendid crown two-bone was bought by D. B. Tracy, Cobourg, Ont., for \$425. Another two-year-old heifer, Hilda Wayne of Manor, went to Cross Farm, St. John, N.B., for \$400. The foregoing does not include all the bargains were picked up, especially among the mature cows. These as a available we would like to enlarge upon the feature of the sale. Young breeders particularly are apt to be frightened away from sales when they read of the high prices going. Some of the best bargains are at the lower figures, which are never featured in print. The matrons of the herd that have proved their worth, and are still good for some years' service are the ones that the young breeder should take up with while he is gaining experience.

The arrangements for feeding the crowd at noon were simple and convenient. Each one received a lunch done up in a neat cardboard box and also a cup of coffee. A feature that could be imitated in any way in which the cattle are catalogued and sold. It should be possible to have the cattle properly catalogued according to families and then sold in the same order as in the catalogue. This would save time and confusion.

All the animals offered were in splendid condition. The 52 head sold for \$12,000. One of the heaviest buyers was Prime Cross Farm, St. John, N.B., with averaged \$275; five four-year-olds, \$260; eight three-year-olds, \$265; three two-year-olds, \$260; 10 bull calves, \$74; two heifer calves, \$75. Following is a detail-

**ed list of all purchases of \$200 and over:**

Mature Cows: Queen De Kol Posch, J. Moore and Son, Peterboro, Ont., \$350; Cubana De Kol Princess 2nd, Holtby, Port Huron, Ont., \$300; Jessie Pauline Posch, McUtchen, Oshawa, Ont., \$250; Mountain Girl, Prime Cross Farm, St. John, N.B., \$200; Lady Summerville De Kol, H. F. Lea, Concession, Ont., \$100; Queneville, Ont. \$200; Black Diamond, Prime Cross Farm, \$350; Lady Starline, W. G. Hill, Queneville, Ont., \$200; Quencie, L. F. Hamilton, St. Catharines, Ont., \$335; Lady Vincent, of Elliott, Unionville, Ont., \$725; Mercenia of Gampelittown, W. Elliott, \$200; Gasmamy of House Pauline, Prime Cross Farm, \$250; Nicole Pauline Friend, J. A. Stanton and Son, New Woodstock, N.B., \$300; Fourdyke, F. Hamilton, \$225; Court De Kol 2nd, E. H. Carman, Meaford, Ont., \$200; Fockje Pieterjee Belle 4th, Prime Cross Farm, \$225; Three-year-olds, Hilda Wayne of Manor, P. C. Farm, \$400; Emma Korudyke, Prime Cross Farm, \$370; Meaford's Gem 2nd, P. C. Farm, \$340; \$300; Emma Korudyke De Kol, P. C. Farm, \$370; Bonalavo Lyons Johanna D. K., P. C. Farm, \$225.

Two-year-olds: Countess De Kol Calamb, Holtby, \$260; Mercenia Pontiac Posch, D. B. Tracy, \$225. One-year-old heifers: Nicole Pontiac Posch, W. Elliott, \$1,000; Pontiac Johanna Niz. H. Smith, Manchester, Ont., \$210.

**THE CANADIAN H-F, YEAR BOOK** Farm and Dairy has just received a copy of the Canadian year book, containing a list of all official and semi-official and milk records of the Holstein-butter and milk records of the Holstein-Friesian Association of which have been admitted to the Record of Merit and Record of Performance, together with a list of all record cows under their sire and under their dams, with the proven sires of such sires and dams and also the highest record cows in each division. This hand book is most conveniently arranged and cannot but prove of great assistance to all scientific breeders. The hand book is edited by W. A. Clemons, St. George, Ont.

The Shire Horse Society of Great Britain will offer two of their valuable \$250 gold cups at Calgary Exhibition this year for best registered Shire stallions and best registered Shire mares. Similar cups were offered at the Canadian National Exhibition, Toronto, in 1913.



**Clearing Sale**  
OF  
**Pure Bred Holstein Cattle**  
Tuesday, June 16, 1914, 2 p.m.

AT  
**Frome View Holstein Dairy Farm**  
A fine Dairy Herd including many Show Animals and some with R.O.M. records.

- Herd consists of
- 15 Mature Cows
  - 1 5-yr.-old Heifer
  - 9 2-yr.-old Heifers
  - 4 Yearling Heifers
  - 9 Heifers
  - 11 Bull Calves
- Herd Bull **VEEMAN KING DE KOL 2nd**
- R.O.M. Dam, **QUEEN XANTE**, 7 day record of nearly 26 lbs. butter. His Sire, **IDALINE PAUL VEEMAN**, has 10 R.O.M. daughters, 1 heifer better than 20 lbs. of butter as a 2-year-old.
- I have given up the farm, hence my herd goes to the highest bidder. Trains will be met at Sheldon the morning of Sale and at Talbotville at noon on L. and L. E. Traction, which runs hourly from London to St. Thomas.
- TERMS:—\$100.00 and under Cash; above that sum 3 months credit on approved joint Notes without interest, or a discount of 6% off for cash on all sums entitled to credit.

**NEIL MCGUGAN, Prop.**  
**SHEDDEN, R. R. No. 3 - ONTARIO**  
MOORE and DEAN, Auctioneers  
NOTE—Farm is 2 miles from Shedden and 4 miles from Talbotville.

**WHERE THE "LISTER" LEADS**

The Value of a Gasoline Engine depends upon the Quality of Materials and Workmanship employed in its construction—

With the "LISTER" Engine you get—

- RELIABILITY**
- ECONOMY**
- SIMPLICITY**

The "Lister" starts instantly, and owing to special automatic lubrication, Bosch Magneto Ignition (no batteries to run down), the very best design materials and workmanship, runs perfectly with practically no attention.

Not only does the "Lister" use the minimum of fuel and lubricating oil, but the design and quality of all its working parts are such that the cost of upkeep is very small indeed.

Any person of average intelligence can start, work and manage the "Lister." No lamp to adjust, no waiting to start. All parts easily accessible. No danger. No extra insurance.

10,000 users say so!

10,000 users have proved this!

10,000 users will tell you this!

**HENCE ITS WONDERFUL SALE AND POPULARITY**

The "Lister" has time, money and worry-saving features not to be found in any other make. You have only to see the "LISTER" at work and compare it with others to realise its superiority.

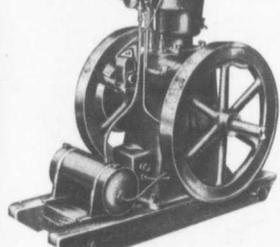
Write for Catalogue K—also for our 1914 Catalogues of

**MELOTTE CREAM SEPARATORS, LISTER LIGHTING AND PUMPING PLANTS**

**R. A. LISTER & CO. LIMITED, STEWART ST. TORONTO**

Branches at WINNIPEG, Man., and 82 Water Street, ST. JOHN, N.B.

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# Cheaper Farm Power



A Home-Made "Ellis" Tractor

Don't use gasoline in your farm engine; it is too expensive. Get an engine that will run on ordinary cheap coal oil, and you can more than cut your power bills in two. Six gallons of cheap coal oil are as powerful as seven gallons of high-priced gasoline. Ellis Engines were designed especially to run on this fuel, and they are giving the best of service to hundreds of users in all parts of Canada.

# ELLIS ENGINES

are used to solve every power problem on the farm. Cheaper than horses or hired help. Can be had in sizes for every purpose from cream separating to silo filling and threshing. They are light in weight in proportion to power, making them very easily moved; they operate equally well in either direction. No carburetor to get out of adjustment and cause trouble. The simplest, strongest, most durable engine on the Canadian market today. Any hard farmer can make his own tractor with an Ellis Engine at very low cost.

Every engine equipped with patent adjustable throttle, giving three engines in one; force feed oil; eight feet fuel supply; ball-bearing governor adjustable while running; double duty cooling tanks, and other exclusive features.



An "Ellis" Sawing Outfit

Write today for information on this remarkable engine. It is sent anywhere in Canada on 30 days approval, freight and duty paid. Drop us a postcard asking for big new catalogue and opinions from users in all parts of Canada.

## Ellis Engine Co.

90 Mullett Street

DETROIT - MICH

## PONTIAC KORNDYKE

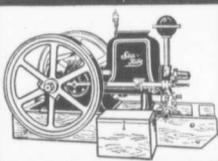
RING SIGES and KING WALKER

are the three greatest Holstein sires. Sons of King Sigis Walker combine the blood of these great sires.

Only one for sale and that from the only cow in the world that has two 30-lb. daughters and herself a 30-lb. cow.

A. A. FAREWELL

OSHAWA, ONT.



# "STA-RITE" GASOLINE ENGINES

Every "Sta-rite" engine is built to live up to its name.

It's not an easy job to build an engine that will always "Sta-rite," but we think we have succeeded.

By painstaking attention to every detail of construction we have eliminated the troubles usually incident to carburetion, ignition, cooling and the other things that keep many an engine from "staying right" on the job.

The "Sta-rite" starts right and finishes right—does any task you set it to quickly and economically, without a kick.

Clip the coupon and send for the "Sta-rite" book—it tells how we took the trouble out of gasoline engines.

If you are interested in a Separator ask for the book on Empire Disc Separators or Baltic Separators—the Baltic is a machine for small dairies—the smallest size selling at \$15.00.

We have some unoccupied territory in which we would like to hear from reliable agents.

THE EMPIRE CREAM SEPARATOR COMPANY OF CANADA, LIMITED.

TORONTO & WINNIPEG

Address: 110 Dundas Street West, Toronto, Ont.  
 Write for literature.  
 Name \_\_\_\_\_  
 Title \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_  
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# MARKET REVIEW AND FORECAST

Toronto, Monday, June 1.—The trade situation looks better than it has for some weeks. Wholesalers report that country representatives here are more optimistic and freer in their buying. This renewed optimism may be traced in large measure to the prospect of good crops in the last week particularly. Eastern Canada has experienced splendid growing weather, with frequent showers and warm sunlight. Through the Maritime Provinces the spring so far has been unusually cold and backward, but there, too, conditions are now improving. Money lenders report a good demand at 6 1/2 to 7 per cent for real estate mortgages. The latter figure is on city property. Farmers can occasionally get money at five and one-half per cent from local lenders.

### WHEAT

Quotations are steady at about last week's levels. As usual the crop killers have been at work, but reports of heavy rain in the winter wheat belt seem likely to have done more damage to wheat speculators than to wheat crops. In the worst season not more than two per cent of the crop was overkilled this year and it cannot be expected to affect quotations very seriously. On the whole conditions are in the shape of a bumper wheat crop in the West. In Ontario prospects are not so good. No. 1 Northern wheat is now quoted 1 1/2, No. 2, 95c; Ontario wheat, \$1.03 to \$1.05.

### COARSE GRAINS

Oats are the most active feature of the coarse grain market, and there has been lively trading with both United States and European points. Corn shows a tendency toward higher. Other quotations are normal, with steady trade: Oats, C.W. No. 2, 42c; No. 3, 41c; Ontario, No. 2, 41c; No. 3, 40c; No. 4, 39c; No. 5, 38c; No. 6, 37c; No. 7, 36c; No. 8, 35c; No. 9, 34c; No. 10, 33c; No. 11, 32c; No. 12, 31c; No. 13, 30c; No. 14, 29c; No. 15, 28c; No. 16, 27c; No. 17, 26c; No. 18, 25c; No. 19, 24c; No. 20, 23c; No. 21, 22c; No. 22, 21c; No. 23, 20c; No. 24, 19c; No. 25, 18c; No. 26, 17c; No. 27, 16c; No. 28, 15c; No. 29, 14c; No. 30, 13c; No. 31, 12c; No. 32, 11c; No. 33, 10c; No. 34, 9c; No. 35, 8c; No. 36, 7c; No. 37, 6c; No. 38, 5c; No. 39, 4c; No. 40, 3c; No. 41, 2c; No. 42, 1c; No. 43, 1/2c; No. 44, 1/4c; No. 45, 1/8c; No. 46, 1/16c; No. 47, 1/32c; No. 48, 1/64c; No. 49, 1/128c; No. 50, 1/256c; No. 51, 1/512c; No. 52, 1/1024c; No. 53, 1/2048c; No. 54, 1/4096c; No. 55, 1/8192c; No. 56, 1/16384c; No. 57, 1/32768c; No. 58, 1/65536c; No. 59, 1/131072c; No. 60, 1/262144c; No. 61, 1/524288c; No. 62, 1/1048576c; No. 63, 1/2097152c; No. 64, 1/4194304c; No. 65, 1/8388608c; No. 66, 1/16777216c; No. 67, 1/33554432c; No. 68, 1/67108864c; 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Power for Milking Machine

Do you think a two and one-half H.P. gasoline engine would be strong enough to operate a milking machine for 20 cows? F. E. B., Hastings Co., Ont.

much gasoline into the priming. Shut off your gasoline feed; and grind a few times; then try again from the beginning. Too much gasoline sometimes "floods" the engine. That is, the gas produced has too much gasoline fume and too little air or oxygen, and so won't explode.

But, as a rule, these troubles are all simple little matters which a comprehension of the engine will help you to avert. It is as easy as to keep the bottom of the test-biscuits from burning. The main trouble is: it looks so complicated that you say "some of the men can run that contraption." But it is easier to construct an engine from skipping stitches than to master a stubborn sewing machine; and yet, the latter is but a toy in your hand.

Can a Woman Run a Gasoline Engine?

(Continued from page 2)

by preference and save the strain of jumping. But then there would be no spark; and so, the engine would not run.

Electricity must have, for best circuiting, copper; and the smaller the wire the more the current is checked, just like clogging a water pipe for water. For that reason, all wire connections must be fastened tight and no dirt be allowed between joints. When the engine is running beautifully, and all of a sudden it stops, look for a battery wire shaken loose.

Then, again, batteries won't last for ever. To-day the up-to-date range has a thermometer. You use one in making butter. Why do so many people go without an electricity thermometer, an ammeter? Two dollars will buy a good one; and get the merchant to show you how to test a battery. One bad cell, like one stopped water pipe, will spoil a whole set. Test them frequently and remove and replace any cell showing less than nine amperes. At a pinch, if you have no extra cell, wire up with the balance.

You may at times have trouble in starting. You perhaps squirted too

Pleased with Power Windmill

Fred F. Bell, Peterboro Co., Ont.

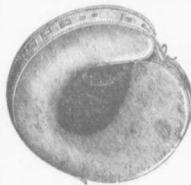
We consider our 14-foot power windmill as cheap a source of energy as one could well desire. True, it is not always reliable. We do not have the wind ever-day, but in winter when we use it most, the wind seldom goes back on us. We grind grain pulp roots and cut straw or hay with our windmill. It doesn't take much power to cut roots, a very light wind will do that, so it is only once in a while that we have to pulp by hand. The grinding of the grain takes the greatest power, but we never run out of chopped feed as we always keep a good supply ahead. The plates for the grinder are practically the only expense that we have in connection with our mill.

Our mill closes itself against the wind and we have to pull it into the wind when we wish to do any work. We consider this an advantage as there is then never any danger of the mill running away.

The Season Has Just Opened

For

Base Ball



This ball is made of good material, strongly stitched, will stand for a lot of hitting about

and the boys are starting to dig out their last year's outfits. How often do they search for these without any success, or when they do find them, see that they are was good enough for them last season

Here is a dicker that every boy will be glad to own

altogether used up, or that what is not this season.



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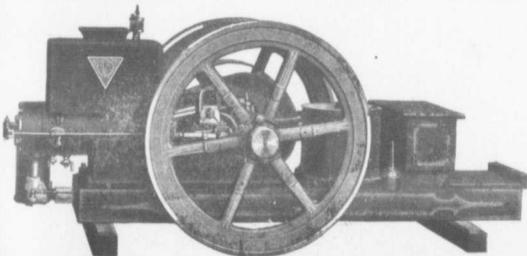
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It starts and runs on a slow speed magneto. That means you have no batteries to fuss with or to exhaust themselves.

You just give it a supply of gasoline or kerosene, oil it up, give it a pull, and away it goes and saws your wood, cuts your fodder, grinds your feed, pumps your water, runs your cream separator or your washing machine, or anything else you want it to do. No worry, no bother, no tinkering—just plays along like a steady well-broken horse.

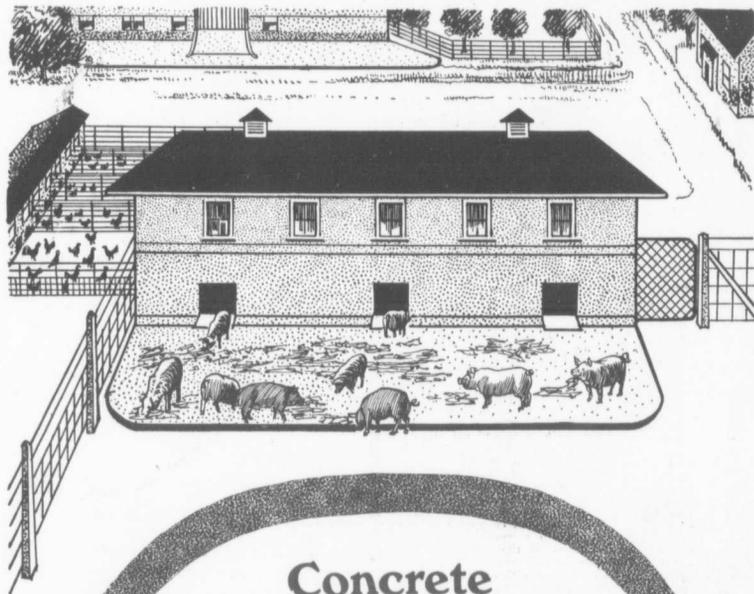
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