

FARM and DAIRY & Rural Home

TORONTO, ONT.

Automobile Number

1917

Comm. of Conservation
Jan 13
Asst. Chairman



Under the Wishing Tree in Prince Edward County, Ont.

ISSUED EACH WEEK

Address all Correspondence to

Lubricating Oils

By B. D. Stockwell, in Farm and Fire.

I HAD heard the admonition "The best is the cheapest in the end" as often as anyone. But experience had taught me that a good average grade of most articles was the most economical "buy." So shortly after I bought my car, gasoline being high, I decided to keep down my operating expenses by getting a medium grade of oil.

Accordingly, when I found oils to vary in price from 30 to 80 cents a gallon I decided to try a 45-cent oil, and bought five gallons of it. Nor did I rely entirely on my own judgment. I was informed by my dealer that he sold lots of it for my make of car and had never had any complaint. The car ran nicely, but I noticed that for every ten gallons of gasoline the car consumed I used over half a gallon of oil.

But my dealer said that was about the average experience, and so I dismissed the matter from my mind. Several months elapsed and I was getting good satisfaction from my car, except the occasional fouling of a spark plug when I made a longer trip than I had expected and found my oil was getting low. I accordingly stopped at the garage which from its appearance appeared first-class and got half a gallon of oil, paying 30 cents for it. This oil was added to the old oil in the crank case and I started on my way.

Imagine my surprise when my car started off with a sputter I had never noticed before. On the return trip it took the hills like a bird, and with the throttle set back a notch it made my usual running speed on level ground. On one particular hill that is the terror of the touring public I made a better showing than I had ever been able to get from the car.

Cuts Oil Consumption in Half.
The next morning, on consulting my oil gauge, I found the car had used but half its usual consumption of oil, and the truth began to dawn. The small amount of good oil that had cost at the rate of 60 cents a gallon had been responsible for the good results observed the day before, and the oil wasn't "burning up" so fast.

A few days later I mentioned the incident to a local automobile dealer. "We pay a dollar a gallon wholesale for the oil we use in our demonstrating cars," he remarked, "and we get some wonderful performances. But it doesn't do any good to tell the average automobile owner to use high-grade oil. He'll pay good money for a nice-looking automobile and get the best tires because they add to the looks of the car, but you'd be surprised to know how stingy he is about lubricating oil."

"There are lots of cars running around that are using oil that doesn't cost over 25 cents a gallon. Those are the cars that are always fouling their spark plugs and filling up with carbon. When all oils look about the same, it's hard to convince a man that there's much difference in the lubricating quantities or lasting qualities. Personally I prefer a 65-cent oil" (he mentioned the trade name) "and a five-gallon can lasts me about six months."

Here is another incident: A hardware dealer had purchased a nice seven-passenger touring car and had learned to run it. So one beautiful day he invited his friends to take a ride. The oil in the car had been nearly used up during his lessons, so he poured in some ordinary gas-engine oil that he had at the store. He started out proudly, but had gone less than a quarter of a mile when the engine stopped. It failed to respond to priming and the usual methods of starting. Finally he phoned for a service car, which towed him to the garage. The spark plugs were found to be loaded with soot, but when the crank case

was drained and cleaned and new oil put in he was soon on his way.

What Good Oil Does.

A good automobile oil must answer the following requirements: Must not evaporate through the greater orifices. Must be thick enough to prevent dirt from "seizing," and thin enough to give the rated horsepower. Must leave behind the least amount of carbon. Must remain liquid in freezing weather. Must be durable and reduce friction to the lowest possible amount.

Some motors, especially of the splash type of lubrication, require the same oil to do its work at temperatures ranging from 1,000 degrees to the piston head down to 150 degrees in the crank bearings. Thus a good oil must be the result of many tests and experiments.

Most motor-car users buy oil in five or ten gallon lots, but if you have not been getting perfect satisfaction or have been using an excessive amount of oil, it is a good plan to try a gallon each of different kinds until you find a good one.

Low-grade oils turn black quickly, and show a heavy sediment. Some of those which show low resistance to heat contain sulphur compounds which are decomposed by the heat into a number of chemical substances one of which is sulphuric acid. It is so dilute that its effect on bearings may be considered negligible, but the pitting of exhaust valves and their seats is due largely to the hot sulphuric-acid fumes.

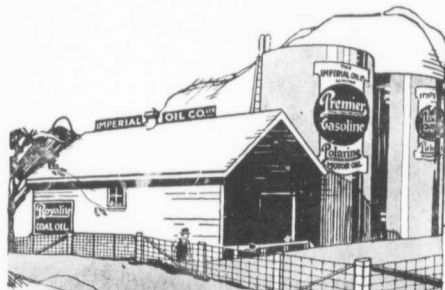
Carbon deposits on the cylinder walls and piston heads may be reduced to a large extent by taking care not to keep the oil level in the crank case any higher than is needed to secure good lubrication, also by using an oil of suitable body, not too light nor too heavy. Either one is objectionable. Carbon trouble and a dark exhaust when observed together indicate too light an oil. You are also likely to have loss of power due to too thin seal around the piston rings.

Some oil companies publish lists of the different makes of automobiles and the oils suitable for each, both winter and summer. But cars even of the same make differ somewhat in their oil requirements, and the best method is to try a gallon or two of the kinds recommended as most suitable. To do this, first drain off the old oil in the crank case. Flush out with kerosene, running the engine half a minute under its own power, put in the fresh oil, and wash the result on the hills, in speed and in gasoline consumption.

Meeting the Fuel Question

THE high cost of gasoline, which is still the only successful source of driving power for the automobile, is the chief obstacle in the way of a continued expansion in the motor market. The aim of the manufacturer now is to evolve an engine which will use less gasoline and at the same time develop an undiminished power. Mr. George Gray, of Gray & Sons, of Chatham, speaking to The Toronto Globe on this mentioned the trade name "and a point recently, said that he expected to see perfected within a short time an electric equipment which would enable a car to run half time on gasoline and half on electricity.

Both in engine development and electric systems great progress has been made during the past year, and Mr. Gray is of the opinion that the next twelve months may see a greater forward stride than has been taken by the inventors in the past decade. The successful substitution of fuel alcohol for gasoline is also expected shortly as the result of the diligent work being done by chemists both in Canada and the United States. With the gasoline problem solved, a serious barrier in the way of motor industry will be withdrawn.



OVER 600 Imperial tank stations dot the Prairies and the Eastern provinces, so located as to give the quickest service to the farmer. There is one near you. The agent at that station will give you courteous, prompt attention, will tell you the right oil for each machine on your farm.

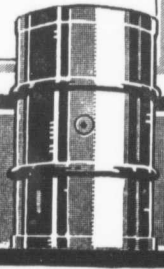
All our oils are supplied in steel barrels and steel half-barrels — convenient, economical. No waste. You use every drop you pay for.

AN OIL FOR EVERY FARM MACHINE

	<p>For Gasoline Engines, Tractor, Auto or Stationary POLARINE OIL STANDARD GAS ENGINE OIL</p> <p>For Kerosene Engines, Tractor or Stationary POLARINE OIL HEAVY IMPERIAL KEROSENE TRACTOR OIL (Recommended by International Harvester Co.)</p>
	<p>For Open Bearings of Farm Machinery PRAIRIE HARVESTER OIL —very heavy body, resists cold, won't thin out with moisture</p> <p>ELDORADO CASTOR OIL —a thick oil for worn and loose bearings</p>
	<p>For Steam Cylinder Lubrication, whether Tractor or Stationary Type CAPITOL CYLINDER OIL —the standard product for steam cylinder lubrication</p>
	<p>For Grease Cup Lubrication of Bearings THRESHER HARD OIL —a clean solidified oil high melting point</p>

The Imperial Oil Company Limited

BRANCHES THROUGHOUT CANADA



We Welcome P...

Trade increased

VOL. XXXVI

THE tire man...

castings and tubes is one...

vice. The other fa...

and this is up to...

There are several...

them innocently in...

insufficient inflat...

ing class. Statist...

manufacturers, in...

cent. of all the tire...

prematurely, did a...

tion. The tire its...

weight of a car. A...

cushion inside to...

consists of air und...

is forced to susta...

exactly in proport...

deficiency in the...

sure.

Results of Underi...

The first result is...

weight above, be...

longer properly s...

flattens the tire o...

It rests on the c...

Then, when the ca...

in motion, every pa...

tire, on reaching t...

must assume this u...

flattened shape. E...

must bend out a...

back again at ever...

ing consists of sev...

of fabric united as...

by the rubber wh...

been vulcanized...

and through. Wi...

side walls bend in...

through under...

these fabric layers...

pull apart, separat...

each other. The st...

ditions which caus...

to pull against ea...

new cause them to...

chafe." This produ...

tion and heat. Th...

ent layers soon we...

ther out, and as a...

weak to sustain the...

gives way with a "...

A "

"stone bruise" f...

for which underin...

When a tire encou...

a car track or any...

bruise" frequently f...

inflated. Under the...

pressure, not offer...

objekt sinks into t...

FARM AND DAIRY

& RURAL HOME



We Welcome Practical Progressive Ideas.

The Recognized Exponent of Dairying in Canada

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. XXXVI

TORONTO, ONT., JULY 5, 1917

No. 27

How To Secure a Maximum Mileage From Tires

Some of the Points in Tire Maintenance That Are Too Often Neglected

THE tire manufacturers try to make perfect casings and tubes. A perfect casing and tube is one of the factors of good tire service. The other factor is protection against abuse, and this is up to the motorist.

There are several kinds of tire abuse—most of them innocently inflicted by the car owner—but insufficient inflation is more damaging than anything else. Statistics compiled by the leading tire manufacturers, indicate that more than 75 per cent. of all the tires that have gone out of service prematurely, did so because of insufficient inflation. The tire itself is unable to sustain the weight of a car. It is the function of the air cushion inside to do this. When this air cushion consists of air under insufficient pressure, the tire is forced to sustain part of the weight itself, exactly in proportion to the deficiency in the air pressure.

Results of Underinflation.

The first result is that the weight above, being no longer properly sustained, flattens the tire out where it rests on the ground. Then, when the car is put in motion, every part of the tire, on reaching the bottom must assume this unnatural flattened shape. Each side must bend out and then back again at every revolution. The body of the casing consists of several plies of fabric united as a whole by the rubber which has been vulcanized through and through. When the side walls bend in and out through underinflation, these fabric layers in time pull apart, separating from each other. The same conditions which caused them to pull against each other now cause them to rub and chafe. This produces friction and heat. The different layers soon wear each other out, and as soon as one place becomes too weak to sustain the inside air pressure, the tire gives way with a "blowout."

A "Stone Bruise."

A "stone bruise" is another cause of a blowout, for which underinflation is indirectly responsible. When a tire encounters a round stone, a brick, a car track or any similar blunt object, a "stone bruise" frequently follows if the tire is improperly inflated. Under these conditions the internal air pressure, not offering sufficient resistance, the object sinks into the tire forcing it inward at

B. H. BRAMBLE, The Goodyear Tire & Rubber Co., Toronto, Ont.

this one place. The tread comes into actual contact, but its elasticity allows it to adapt its shape so that it usually suffers no injury, unless the object be sharp and cut it. But the effect on the fabric is more serious. It is not elastic and can't stretch; consequently, if the object sinks in far enough to produce enough strain, it must break.

Naturally that ply of fabric receiving the greatest strain is the inside one, for it undergoes the greatest distortion, and for this reason it is the first to break. Seldom, indeed, is any shock violent enough to break every ply of fabric and cause an immediate blowout. Almost invariably it is the inside ply that is fractured at the time. As

in the case of a clincher tire, underinflation usually permits the tire to be rim-cut before the fabric gives way of itself. Bending in and out increases the normal action of the hook of the rim against the clincher bead of the tire.

How to Prevent Underinflation.

Although every year hundreds of thousands of tires on this continent are prematurely ruined through insufficient air pressure, the prevention of this abuse is comparatively simple. Tire manufacturers recommend the pressure of air which should be maintained in different sizes and types of tires. In addition, some manufacturers furnish the recommended air pressure for each size of tire, according to the load it has to carry.

It is quite obvious that an accurate pressure gauge is essential in order to inflate tires to these recommended pressures. A gauge is also necessary to test the tires occasionally so that any reduction in the pressure, due to leakage, can be detected and remedied. A number of reliable and inexpensive gauges are in the market which will pay for themselves several times in reducing tire expense. Too much stress cannot be laid on this point, for it is impossible for even an expert to tell accurately what pressure is in a tire by its appearance.

In this connection the importance of good tubes is worthy of attention. Some tubes fail to hold air for any considerable length of time due to microscopic holes in the rubber which permit a seepage of air. The result is that the car owner finds his tires lose ten or twenty pounds of pressure within a few days after he has pumped them up. The same trouble is sometimes caused through a slight leak at the valve

or, if the tube has been repaired, through an imperfectly applied patch.

The car owner who experiences this trouble is bound to have an abnormal tire expense, unless he does one of two things: Pumps his tires up very frequently so that the pressure never falls very far below normal or, replaces his defective tubes with others which are absolutely leak proof.

Care of the Tread.

Next in importance is the care of the tread. The body of a pneumatic tire consists of heavy



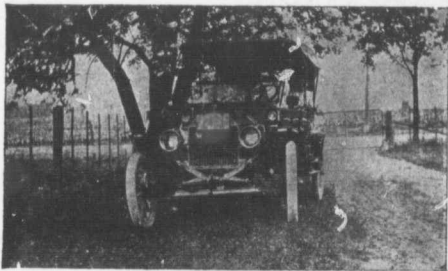
A Medical Diagnosis.

Inquirer—"What's the matter with yer kyar, doc?" Doctor—"Well, it has all the symptoms of grip—irregular pulse, convulsions, and high temperature."—Life.

this is not apparent the tire usually continues to give service, but the broken edges of the inside fabric chafe the other plies. The natural bending of the tire finally breaks the remaining plies, and then the tube forces its way through, resulting in a blowout.

Another condition which frequently results from underinflation is loosening of the tread. Underinflation produces a little roll right in front of the point in contact with the ground, which in time tends to separate the tread from the fabric "carcass."

(Continued on page 12)



"The car is part of the equipment of the up-to-date farm," writes Mr. H. Matthews, Middlesex Co., Ont.



"We have had our car four years, and it is good for years yet."—F. C. Smith, Haldimand Co., Ont.

The Car Has a Hundred Uses Why We Value Ours So Highly

W. H. W., Ontario Co., Ont.

IS the farm a good investment? If the word "financially" had been added to the question I would have felt that the discussion was to be confined to the cash returns of the car investment. Many farmers are like myself, and do not farm only for the long hours and hard work that seems to be the dominating feature connected with too many farms, but farm for profit financially, and enjoy working out schemes and ideas to lessen the farm drudgery and add to its pleasure. In my experience, the light, economical car is a profitable investment. I would not attempt to show that the expensive high power car, with its elaborate equipment and costly upkeep would be profitable to the average farmer, although it may have its place for the man of capital, with prestige and influence to maintain.

In the first place, if the farmer has a good supply of mechanical knowledge (which qualification is a big advantage to an up-to-date farmer) he may purchase a second-hand car that has not been abused at a reasonable figure, and thus reduce the first cost, but if he has no mechanical tendencies he had better stand the extra expense at the start and buy a new car.

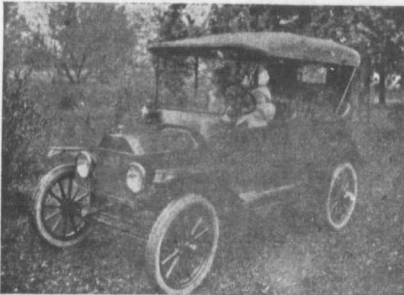
About the first vehicle used by the old settler was the ox cart, and times and methods have advanced from then until the present day perfection of the modern limousine. Our fathers in their boyhood were satisfied with a buckboard and one of the farm horses, while now almost every farm laborer has his covered buggy and driver. From the door we can hear the exhaust of several farm gasoline engines, including a plowing tractor. Was this possible even ten years ago? So the farmer must, in order to keep pace with the advancing age, adopt modern methods, and the auto is one.

Those who handle garden product or draw much milk or cream to a distant point, have no difficulty in making a car a profitable investment financially, but with the other lines of agriculture the paying part of the proposition is not so easily proven, still no other occupation can maintain a car as cheaply. Fine weather finds the horses busy and good roads for the

car. In wet and rough weather horses are idle and can be used on the roads instead of the car, as they have to be fed, and the car is piling up no expense while idle. Other points of advantage are—an outing on fine evenings for wife and family without trouble or worry of a tired horse, and several times the distance to friends, amusements or entertainment. Change of atmosphere and en-



The light car is a profitable investment.—W. H. W., Ontario Co., Ont.



"We use our car for pleasure and business."—"A Farmer's Daughter," Dundas Co., Ont.

vironment for the family, and the enjoying of talented lectures and attending entertainments that tend to improve intellectually and morally, mean health and advancement that cannot be valued in dollars and cents. The owner of a car

(Continued on page 12.)

Use and Pleasure Combined

The Car a Good Investment
JAS. HOTSON, Oxford Co., Ont.

WILL the auto pay on the general farm? As a money investment I am convinced that it will not. Look at it this way: Were I to move off the farm and hire all the work done on it, furnishing stock and all implements necessary to the advantageous working of the farm, would it pay to place an auto there for the use of the foreman? We are taking the foreman as a first-class man, and discussing the auto alone. Under those conditions the auto would be a bad investment. The farm car, to a certain extent, must be taken as a luxury. Also it has money making qualities. Considering it in this double sense we have found it a good investment.

But here again there are limits. Were I struggling under debts I would not look to an auto for assistance, but being relieved of those inconvertible and the auto proves a very acceptable and enjoyable addition to farm life. It reduces the road by more than half and does not require to stop and rest. True, it requires feed and water, and a little oil to keep its joints limber; otherwise it is ready at a moment's notice.

That raises the question of expense in running, which varies with changing conditions. On an 80 mile trip with five passengers I averaged about 26 miles per gallon gasoline; others claim 26 to 30 miles, which would be about \$1 for gas to convey five people 80 miles. To this we must add the wear on the auto, and that depends greatly on the driver.

The tires appear to be the expensive part in running an auto. We purchased our auto two years ago and have travelled nearly 6,000 miles. We have replaced the hind tires, but have done nothing to the front ones. They show very little wear and may run 6,000 miles farther.

Is there danger in driving an auto? I believe there is more danger with the horse. The horse requires constant care or he may take fright and run away, which the auto does not do. When taking my first lessons in auto driving I thought that if the car were only a team of horses I would be all right. But the day was not far distant when I hitched a snappy pair of three-year-olds

with another advanced harvester. All went well, but the order. But along with some one fired a touch of the but dashed. The next corn were cut in rows which convince, or horses are ple our control.

I will give two ca time with the auto. call to Woodstock the turnips, we le motored to the ci with an extra side (22 miles), got in and pulled, topped rows of turnips ac before noon. With have been a late nips.

Desiring a few h and not wishing to on the lumber was a mile trip to Baden got 500 lbs. and three hours.

And now in clos have some sense; and if the driver h a poor and undesir

A Farm After Three "A Fa

THIS is the thi car. Our For year, and all line, oil and great broke a fan belt; co the car yet. We al on tires and never puncture or blowo

Our first year we



Farmers now afford

with another advanced in life to a corn harvester. All went well and the corn was being cut and bound in quick order. But along comes an auto, and some one fired a gun. It was like touching the button and off they dashed. The next 15 or 16 rods of corn were cut in record-breaking time, which convince me that neither auto or horses are pleasant when beyond our control.

I will give two cases of the saving of time with the auto. Having a business call to Woodstock while very busy at the turnips, we left home at 8 a.m., motored to the city and back home with an extra side trip of two miles (22 miles), got into my turnip outfit and pulled, topped and tailed four rows of turnips across a 40 rod field before noon. With the horse it would have been a late dinner without turnips.

Desiring a few hundred of oil cake, and not wishing to spend a whole day on the lumber wagon making a 36 mile trip to Baden, I took the auto, got 500 lbs. and was back home in three hours.

And now in closing: A horse may have some sense; an auto never has, and if the driver has none they make a poor and undesirable team.

A Farm Woman's View

After Three Years With a Car

"A Farmer's Daughter."

THIS is the third year of our five passenger car. Our Ford has paid for itself the first year, and all expenses have been for gasoline, oil and grease, except that last year we broke a fan belt; cost, 30c. Our first tires are on the car yet. We always keep 70 pounds pressure on tires and never had to stop on road for either puncture or blowout.

Our first year we used 99 gallons gasoline, six

gallons oil, and one can grease. The second year, 1916, we used 91 gallons gasoline, four gallons oil, and one can of grease, so you will see we have run our car some.

We use our car for pleasure and business. We can take a trip on Sunday to Ottawa, 40 miles away, leaving home in the morning after milking. It is a two hours' run, but will go faster when we get our new road the Government is going to build. We can go to Church in the city and spend the day, then home for milking. If we went with a horse we would have to spend the night in the city to rest our horse and ourselves. We attended Ottawa Fair, and before we had our car we had to go by train and would get home by



The car's field of usefulness extended.

The farm car as a source of farm power is not a new idea. A device similar to the one illustrated has been on the market for several years and fulfills all the functions of a portable farm power of 12 or 15 horse-power.

five o'clock next morning, spending the time from midnight on the road, and we would be tired for a week. Now we can be home the same evening for milking, and not tired out, but able to do a day's work next day.

We take our produce to village four miles away while our horses are eating their dinner; home again and ready for work when horses are. We have a nice driving horse, but it has been superseded by our car, and we use it now to draw the milk to factory and work on the farm. We enjoy best going with the car in the evening to town and doing our trading, etc. We do all the business we can in the evening.

Last summer we had to go twice to a town 15 miles away for repairs for a mowing machine. We went in the evening and were home at 9 o'clock, and could take a good night's sleep. If we had to go with the horse when the weather was so hot it would have taken all day.

Does it pay to have a car? Well, I guess! We could not do without ours.

In the country distances are long; the auto makes them seem short. At this season the horses are always tired; the auto never is. And we have made as high as 46 miles on a gallon of gasoline.

How About the Used Car?

Is It Wise To Put Money in One?

D. K. A., Perth Co., Ont.

JUST about a year ago now, we, that is, my wife and I, decided that a car was necessary to our happiness on the farm. I suppose it is not chivalrous of me to ring in my wife on this, but she wanted the car just as much as I did, and perhaps a little more. If I remember correctly, she talked more about a car than any other person in the family. I can't say that we needed a car particularly. We live just a mile or two from the



Farmers now afford the most extensive market for moderately priced cars. Scenes such as the above are now common at every rural fair and picnic. —By courtesy Manitoba Dept. of Agriculture.

station. We had a good driver and a rubber tired buggy. But the horse was getting too slow. The autos were whizzing by us on the way to town every time we went out. This hadn't disturbed us very much when said autos were owned by rich city folk, but when our neighbors began to buy autos, and we had to take their dust, well, that was another question. Perhaps, too, it was getting much a case of plain vanity that made us get a car. I only wish our vanity had been powerful enough to keep us from getting a second-hand car.

We priced cars everywhere. We hesitated. When in Toronto we visited a second-hand garage. We had been reading the ads. of this garage man that told of cars as good as new for 50 to 80 per cent. of the first price. All his cars looked fine. They had all had a fresh coat of paint and varnish. We got a light car of a popular make for \$385. We thought we had a prize. We continued to think so till we had the car home and out on its

first trip. But we have never thought so since. Things began to go wrong. We found that a new coat of paint and varnish is about as good a guide to go by in buying a car as paint and powder in selecting a wife. It's the heart that counts; the engine, I mean. We never went out but we got into trouble. Finally we never went out expecting to get home without trouble. Our car was in the garage most of the time. By the time we had driven it 300 miles we had spent \$65 with the garage man. We had gotten a guarantee with the car, but we found the guarantee was no good unless we actually took the matter to the courts, and that was no good either. We had learned by sad experience that when an engine has been badly used for a long time, the depreciation thereafter is something terrible. The only happy feature of the situation was that we had both agreed on the second-hand car; so there were no domestic squabbles over our difficulty.

Finally, we sorrowfully considered our finances,

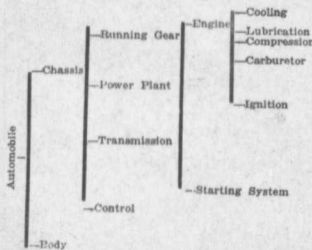
and decided that we could afford it, and exchanged our old car for a new one with \$250 to boot. We have now had our new car for several months. We have not had a bit of trouble. We are enjoying life, our friends and each other. We are glad we have a car even if we don't get dollars and cents out of it. I know that some have bought second-hand cars and that they have given good service. These men must either be blessed with extra good luck or they are extra good judges. It might be all right, too, to buy a second-hand car if you took a good mechanic along with you and secured for him the privilege of taking the car all to pieces before rendering judgment. The most of us, I guess, would be money ahead to buy a new car. And here is a confession the good wife made the other night. She says she always felt kind of cheap driving in that second-hand car—yes, in spite of its new coat of varnish. Well, so did I.

Things the Beginner Should Know About His Car

BESIDE the mere operation and control of an automobile, one must know how to care for the mechanism which is called the chassis. Simply keeping the tank full of gasoline is surely going to reap large repair bills in the future. Proper attention and careful driving will more than double the serviceable life of a car. First learn to drive correctly. Learn to stop and start gradually, to increase tire mileage. Learn to change the gears without noise. This is very important because any grinding or grinding is surely tearing the teeth off the gears, commonly called "stripping the gears." If this cannot be done, the driver should find out the reason. Either the clutch spins too long or not long enough. If the gears grate while engaging first or low gear, while the car is standing still, the clutch brake should be adjusted so that it stops the counter shaft of the gear box. Sometimes different pressures of the foot have to be used in making the various changes in order to eliminate noise.

After learning how to drive properly, the care of the car is of great importance. The chassis should and must have attention at regular intervals, and not when it happens to be convenient, or an early replacement of parts will be required. In the chart herewith there are the principal parts of a motor car, and we must touch on each briefly.

The running gear is composed of the frame, springs, wheels, axles, steer-



ing gear and brakes. Now the care of these is vital, because human life depends upon these things. Examine the springs often for broken



The car has opened a new world to many of us.

M. L. WEIR, Manager, Toronto Automobile School.

leaves and keep the clips tight. Spread the leaves occasionally and insert some graphite grease with a long thin knife blade. The wheel bearings should be greased about once a month, and be sure to adjust the bearings and lock the adjustments before replacing hub caps. Sometimes cotter pins are used as locking devices, others have washers and others have set screws.

Should the front tires show excessive wear, adjust the rod connecting the two wheels until they are "toed in" or cambered about three-eighths of an inch. The steering gear and connections should be well greased, and lost motion should be taken up by the adjustments provided. The brakes must act evenly and positively. Either set should be able to lock the wheels. A little neat-foot oil applied to the bands will stop the screeching and ease off a harsh brake. There is nothing which needs more attention than the tires. Under-

inflation causes the most damage. Always keep your tire up to the proper pressure. Do not run on deflated tires. Keep small cuts filled with some compound to keep out the sand and water.

Care of Transmission.

The transmission is everything that transmits power from the engine to the rear wheels. The first link is the clutch. These are usually of one of three types and the care of each must be given. Keep the leather facing of the cone clutch soft and pliable by the application of a little neat-foot oil about once a month. The main and insert springs should be adjusted so that it engages smoothly. The dry plate multiple disc plates should be flushed with coal oil once a month. The main springs will have to be tightened if the clutch slips. The multiple disc running in oil is a clutch noted for its smooth action, but after a time the oil will become thick and the plates will not separate. Keep the oil thin with coal oil and flush out about twice a year. Then refill with fresh light oil.

Then comes the gear box. This should be kept about one-third full of steam cylinder oil (K.W. 600). About twice a year it should be flushed out and filled with fresh oil. The universal joints, which are simply flexible couplings, should be greased about once every two months. The lubrication of the differential gears is very important. Too much oil will finally work out over the brakes and tires.

Keep it about quarter full of heavy oil or other gear box lubricant. Cup grease is used for all grease cups on the torque tube, steering gear, spring shackles, etc. The control levers are usually lubricated by an oil can.

The Power Plant.

Now we come to consider the power plant. Space does not permit me to elaborate on the details of the various starting and lighting systems, but the most important unit to care for is the storage battery. Keep the plates covered about one-half inch with distilled water (not boiled water), or clean rain water, not caught in a metal dish or from a metal roof. In the latter cases the water would contain traces of iron which would be injurious to the battery. A battery will require water about every two weeks. Then the battery must be kept charged. To test it, use a hydro-

(Continued on page 10.)



A. D. McINTOSH

10,000

The Annual
A. D. McINTOSH

WITHOUT a stormy weather, dust, intense cold, the District enjoys about a trip each year in making his rounds of the county. During months he undertakes drainage surveys, course disputes, locates, establish corn vane, the Home Gard, courage various conditions among the previous winter as the season advances to attend farmers' clubs, exhibitions, breeders' and spraying. The summer finds him in the field, examining plots, examining the work of tractors, and in a couraging advance agriculture and the of more modern labor-saving devices in the season the assistance is given more drainage surveys, numerous competitions, are collected, until the car is sprung. The accompany with his car best he has been making exhibits.

The District

It Means

J. W. STAR

THESE are days of progress for a District as much time going required to do the work. Anything then that road or that will and do more work will to just that of the farmers in his the Representative



A. D. McIntosh, B.S.A., a "Doctor of Agriculture," at a School Fair.

10,000 Miles a Year

The Annual Trip of this Representative
A. D. McINTOSH, B.S.A., Hastings Co., Ont.

WITHOUT noticing such little matters as stormy weather, muddy roads or clouds of dust, intense heat or bit-

ing cold, the District Representative enjoys about 10,000 miles of a trip each year in his automobile in making his rounds 'throughout the county. During the spring months he undertakes to make drainage surveys, settle water course disputes, locate line fences, establish corn variety tests, start the Home Garden Contest, encourage various kinds of competitions among the students of his previous winter short courses, and as the season advances, he continues to attend meetings of farmers' clubs, breeders' organizations, breeders' sales and pruning and spraying demonstrations. The summer finds him judging plots, examining stock, supervising the work of the government tractors, and in a general way encouraging advanced methods of agriculture and the introduction of more modern machinery and labor-saving devices. Still later in the season the school fall fairs are conducted, assistance is given to agricultural society fairs, more drainage surveys are made, results of various competitions, variety tests and experiments are collected, until some night the radiator freezes and the car is synt in for overhauling.

The accompanying picture shows the writer with his car beside a school fair tent wherein he has been making preparations for school fair exhibits.

The District Rep. and His Car

It Means Increased Usefulness

J. W. STARK, B.S.A., Peel Co., Ont.

THESE are days of hurry and strenuous work. It would not now be considered good business for a District Representative to spend as much time going from place to place as is required to do the actual work after he gets there. Anything then that will shorten the time on the road or that will enable him to pay more visits and do more work in the same number of hours will to just that extent increase his usefulness to the farmers in his county. A few years ago, when the Representative had to depend on livery horses

and railway service, it would often spoil two days to attend a meeting in some distant point of the county. Of course, it would necessitate his being away from home at night, whereas now he need seldom be out of town over night except in the winters. This is more convenient for him and incidentally saves the government quite a few hotel bills.

After the office has been open for a few years, and

all the farmers become better acquainted with the work of the Department, both the number of callers and the regular office work increases, and there are more demands for individual visits. One man may want the Representative to look at a crop that is being attacked by some kind of insect. Another may wish a few levels taken for

barn. The Representative would hesitate to take a whole day for each visit or to pay \$1.50 to \$2 for a livery for each of these short trips, yet with the car he is able to run out and make calls on short notice and be there when he is most needed. This also leaves him more time for office work, and he usually finds it a good plan to be in the office a short time each day to answer urgent correspondence and keep in daily touch with everything.

In connection with the organization of school fairs, delivering seeds and eggs, judging plots and taking judges and equipment to the school fairs, the car is very useful. When the stock judging team is being finally coached it is easy to gather up the boys and take them from place to place, and he saves both their time and his own in the busy fall season. Ordinarily the Representative will plan to work a certain district or township on one day, yet with such projects as corn variety tests, potato spraying demonstrations, etc., it is necessary to make a special trip and at 20 miles an hour or less he soon covers the ground. I believe that were the work is carefully planned ahead the Representative can do more effective work alone with a car than if he had an assistant and had to go back to the old horse and rig way.

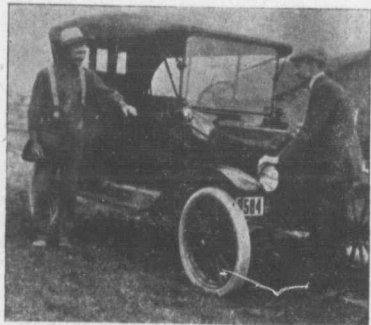
Hitch Your Car to a Trailer

It Increases Its Usefulness

I AM not a farmer. I am a garage man and auto dealer. The most of my customers, however, are farmers, and I find that the most of them would like to make their cars something more than mere pleasure vehicles. One man who comes my way frequently, has marketed his whole tomato crop these last few years by auto in a small city 14 miles distant from his farm. His early potato crop goes to the same market in the same manner. In addition he has a dairy of 20 cows, and in the flush season ships a can of cream from the station three and one-half miles away every morning. "But it is no longer a pleasure car," he told me last spring. "It is so battered with much use that the family is ashamed to appear out in it." He exchanged his old car for a new one of the same make and, along with the new car, he bought a trailer.

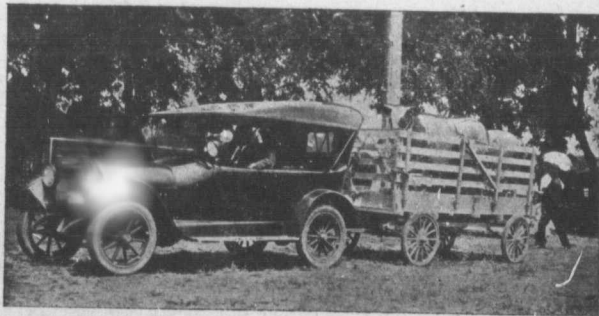
I have sold several trailers in the last year or two, but this is the first one I have sold to a farmer. He likes it fine. As his car is a light one, he got a trailer of just 1,000 lbs. capacity. Even this, however, was more than he could carry on the body of his old car, and with a smaller load he frequently overloaded with resulting garage bills. With a heavier car I would

(Continued on page 8.)



On the road with J. W. Stark, B.S.A., Rep. of Peel Co., Ont.

drainage. A third in a different direction would like some suggestions on remodeling his cattle



Gion Gibson brought these two calves 70 miles to the fair on his trailer.



WRIGLEY'S

Now **THREE** Flavours!

Get a package of the new "JUICY FRUIT"—
See what a joyous, lasting
flavour has been crowded
in to give you a great, BIG
5 cent package of refreshment!



Private Seal—
to guard
the gum!

MADE IN CANADA

Sealed Tight—
Kept Right!



— THE FLAVOUR LASTS —

"Chew it after every meal!"

To Fertilize or Not to Fertilize?

There are two classes of farmers:

- (1) Those who fertilize,
- (2) Those who don't.

Perhaps we might say there is a third class and a big class who have been thinking at long length of starting the use of fertilizers. If you are one of this class sit down right away and send us your name and address. Our Salesman will then call on you and talk the matter over. We sell

SYDNEY BASIC SLAG

which is the ideal fertilizer for Wheat, and it costs the farmer only \$20 per ton.

The Cross Fertilizer Co., Limited
SYDNEY, NOVA SCOTIA.

advise a trailer of 1,500 lbs. capacity. A trailer can be attached or detached in a minute. The appearance of the car is preserved and the family have no reason to be ashamed of it. In fact, when the trailer is used, the family can go along in the car while the load goes along behind. On good roads and fairly level country a car will carry a trailer loaded to capacity at a good rate of speed on high gear and with very little extra consumption of gasoline. Low gear, of course, would have to be used more on grades than were the load on the car itself. I should think that the live stock man could make particularly good use of the trailer in delivering calves, hogs, etc., to purchasers. Their cost is moderate. In fact I believe that over a period of years their cost would be gotten back in the saving on garage bills which result from over-loading the car itself.

POULTRY



Weed Out the Male Birds

THE worker bees put their house in order by killing off all the male bees as soon as their services are no longer required. What a great benefit it would be to the poultry product consumer if the heads of the flock would likewise dispose of the male birds in those flocks that are indifferently managed. The worker bee permits no star boarding to loaf around and consume the product of her labor. The hen is not like the bee in asserting her rights. If she were, then her verdict would be, "Rooster you must die."

There are over 2,500,000 roosters of the various breeds of chickens kept for breeding purposes by the people of our country. Of this vast army, perhaps 160,000 have a right to live for another year of service. One hundred and fifty thousand may be good enough as individuals and in breeding to be used in the increase of their kind. What of the 2,340,000 that are usually permitted to live, birds that consume feed, worry the hens and reduce the quality of market eggs?

The function of the rooster is to develop and distribute germ cells, during a short period of three months, February, March and April. These germ cells should be distributed only to such egg-laying individuals as are desired to perpetuate the breed. The germ cell is a living organism capable of starting a chain of development and here is where the mischief lies if they are distributed where they do not serve their proper function in race perpetuation.

Why Fertilize All Eggs?

The function of the modern hen is to produce eggs, 30 per cent of which may be desired for the increase of the breed and the remaining 70 per cent, for human food. Nine eggs are used for human food where but one is used for hatching. Only one-tenth of the eggs that a hen lays require fertilization. Why fertilize the nine-tenths of the product that is used for human food? The addition of a living germ cell to an egg that is produced for human food does not add anything to its value and may set up a chain of embryo development that will make the egg quite unfit for human food.

Eggs gathered from flocks where the roosters are permitted to run after the hatching season is over, are not desirable for storage. They are not desirable in the pantry during periods of warm weather as high temperatures will start incubation. Eggs in

Ozler Fall Fertilizers

Now
Fertilize the Ground

Two Reasons Why

A Transportation Reason—So the dealer can order out his fertilizer in cars loaded to full capacity, which hold twice as much as average-loaded cars. Just half as many cars are needed—the other half are set free for other uses. Freight congestion is relieved. You stand a better chance of getting your fertilizer.

A Patriotic Reason—So all our industries, all our national resources, all our efforts can give a full measure of war-time service, and so fertilizers can have a chance to increase our national food supply.

Write for Particulars
SOIL IMPROVEMENT COMMITTEE
of the
NATIONAL FERTILIZER ASSN.
Postal Telegraph Bldg. Money Bldg.
Chicago Baltimore

WANTED

Fowl alive, also Ducks, Poultry of all kinds. Best prices and prompt payment. Ship to

WALLER'S

713 Spadina Ave., TORONTO.

A FORTUNE IN POULTRY

Make your egg business purchasing **A CHOICE PEN** on high record. **ROCKAWAY**, Rockaway, Woodstock, Lighthorn or Red. 1017 Market Street, containing 60 photos of stock, buildings, feed and tonic formulae. Our 272 Egg King free.

L. R. Guild, Box 76, Rockwood, Ont.

LUMP JAW

For twenty years the only cure has been Fleming's Lump Jaw Cure. Use it so make sure you get the cure. It is made up of the best of the fall crop. Fleming's Vets' Pocket Veterinary Advice. **FLEMING BROS., CHEMISTS** 83 Church St., Toronto, Ont.



KEEP THEM WORKING

A horse in the field is worth two in the barn. You can't prevent Spavin, Kingbone, Splint, or Curbs from putting your horse in the barn until you can prevent these troubles from keeping horses in the barn very long. You can get

KENDALL'S SPAVIN CURE

at any drug store at \$1 a bottle, 6 for \$5, and Kendall's will cure. Thousands of farmers and horsemen will say so. Our book "Treatment on the horse" free. 115

Dr. J. S. KENDALL Co., Resburg Falls, Vt.

WHITE AND COLUMBIA WYANDOTTES, LIGHT BRAHMAS, & C. WHITE LEGHORNS.

Michael K. Boyer, Box 23, Hammonds, N.J.

the first stage of a desirable for human Segregation. It is an easy fertilization of eggs just an ordinary block of wood mischievous. If of such merit as being boarded for in the next sections, then give his own and the cost of an ordinary rose cents per month.

The

SINCE the days of President of the Teagway and the Segregation Association, to the discussions of the Old Country far points in the practical ideals of the plot changed. In those the walking plow missable, and in implement many to association were v

At that time by land of Canada. The water, and came from the had to be taken drains, hence the ing was of a mu the drainage point from the point of vation. Now our farm land are understood that will carry off not also the water, the ings of the snowfa drains carry off the melting snows, the

All G

If you own an increasing 25% of fatigue by ATTACHMENT convert your weight FARM

This light tr gives you and cultivate labour than obtain by the horses.

Any man or woman young or old can drive TRACFORD, during the h weather.

The attachment are already v soil and imp into Canada in food lots, and demand is growing.

BOYER, G

the first stage of decay are not desirable for human food.

Segregating the Males.
It is an easy matter to prevent the fertilization of eggs. If the male bird is just an ordinary one an axe and a block of wood will prevent further mischief. If the male bird is possessed of such merit as would warrant his being boarded for a year he should be used in the next season's breeding operations, then give him an enclosure of his own and see that he stays in it.

The cost of the feed consumed by an ordinary rooster is about twenty cents per month. Can you afford it?

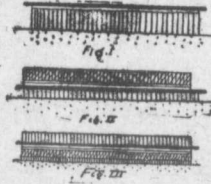
If you keep poultry with profit as your object, can you afford to keep a star boarder for nine months and perhaps have him doing mischief all the time? The 2,350,000 odd, unnecessary male birds are costing the country about \$3,500,000 a year, while enjoying life. These unnecessary birds are at the same time doing about \$10,000,000 damage to the egg-producing business. If every person owning a rooster would manage him as a male bird should be managed, the poultry industry would be benefitted by additional profits, many millions of dollars.—Experimental Farms Note.

The Science of Tractor Plowing

By Louis Simpson.

SINCE the days when the writer, as president of the Counties of Chateaugay and Beauharnois Plowing Association, listened with profit to the discussions and disputations of Old Country farmers upon tickle points in the practice of plowing, the ideals of the plowman have greatly changed. In those days nothing but the walking plow was considered admissible, and in the handling of that implement many then members of that association were very proficient.

At that time but little of the farm land of Canada was under-drained. The water, and especially that which came from the melting of the snows, had to be taken care of by surface drains, hence the quality of the plowing was of as much importance from the drainage point of view, as it was from the point of view of soil cultivation. Now considerable areas of farm land are under-drained, and it is understood that these under-drains will carry off not only the rainfall, but also the water, the result of the melting of the snowfall. If the under-drains carry off the water from the melting snows, the plowman of to-day,



when plowing under-drained lands is relieved of that portion of his work alone demanded by the requirements of land drainage. Such a condition adds much to the economic value of tractor plowing. And, further, should largely increase the yield per acre, as the presence of the furrows required to carry off the water, when the land is not under-drained, must of necessity decrease the yield.

Why We Plow?

Grass sod plowing is undertaken for a dual purpose; first, as prepara-

tory to soil cultivation and, second, for the purpose of burying the old sod and such fertilizers. Whether it be farm yard manure, mineral fertilizers or sod, the whole being used for the purpose of enriching or correcting the soil in which the crop is to be grown, it should not be necessary to point out that both fertilizers and lime are costly, and therefore it is important that when they are plowed under, they as well as the old sod should be placed just where they will do the most good. When deep plowing is desired and when the requirements of soil cultivation alone are considered, the sod and the fertilizer are too often placed where they are of the least benefit, where much of their value is wasted. This may explain, in part, why the results obtained from deep plowing have not always proven to be as satisfactory as was expected. There can be no question but that deep plowing, when properly done and when the depth of cultivable soil warrants, is of immense importance. Lands thus plowed will yield much heavier crops, but this much desired result will not materialize if the sod and the manure are buried too deeply. Hence the importance of what has been designated in a previous article as "Sandwich plowing."

Sandwich Plowing

"Sandwich plowing" requires the plowing to be done in two operations. The first plowing with a light cut, regulated by the eventual depth it is desired to have the sod and the fertilizers, and the second plowing by a deep cut, regulated by the total depth of cultivated soil. Such plowing is, in general, only possible when a tractor gang plow is used. The following diagrams will explain: No. 1 shows a section of sod. Seven inches of cultivable soil covered by two inches of grass sod and manure. This two

inches is indicated by a black line representing the manure, and by the horizontal white spaces representing the sod. The seven inches cultivable soil is indicated by the vertical lines, and the subsoil by dots.

It will be noticed in Section 2 that any manure or fertilizer that may leak out from the dressing applied to the sod, will be caught in the cultivable soil immediately beneath the sod and that this becomes available when the ground is plowed the second time, as shown in Section 3. The soil above the sod, as shown in Section 2, should be once double disked for 3 inches, so that the original under side of the sod may be well broken up. Eventually, either as late as possible in the autumn or early in the spring, the second plowing, taking an eight-inch cut, is made, leaving the soil as shown in Section 3. The soil then on the surface is double-disked down to the sod, thus providing an excellent seed bed.

The Application of Fertilizers

When artificial or mineral fertilizers are used, those containing potash and phosphorus are applied on the sod, as these fertilizers do not quickly become soluble, but those containing nitrogen, whether sulphate of ammonia or nitrate of soda, should be applied at the time of seeding or later. With such preparation of land, with many soils and when ensilage corn is the first crop, it will be found sufficient to give the corn sod one or more good double diskings, without additional plowing, and as, with a tractor outfit, double disking can be done in about one-fourth the time that plowing can be done with three botchers, the cost of double plowing the first year of the rotation, as above described, is soon repaid. But it should not be forgotten that, when plowing grass sod with 14-inch bottoms, cut-

ALL PATRIOTIC FARMERS

All Good Farmers Desire to Increase The Production of Their Farms

If you own a Ford Motor Car you can secure an increased production from your FARM exceeding 25%, with less trouble and bodily fatigue by purchasing a TRACFORD ATTACHMENT with which you can convert your motor car into a light weight FARM TRACTOR.

This light farm tractor will give you better ploughing and cultivation with less labour than you can obtain by the use of horses.

Any man or woman or young person can drive the TRACFORD, even during the hottest weather.

The attachments are already being sold and imported into Canada in carload lots, and the demand is rapidly growing.

For Further Information Apply To

BOYER, GOODE & CO. CANADIAN REPRESENTATIVES Hope Chambers, Ottawa

The attachment only costs \$165.00 f.o.b. Detroit, U.S.A., Canadian import and war duty paid.

You can sell two of your horses or more, if you prefer, and yet give your farm better cultivation.

When not working, the TRACFORD costs you nothing.

On July 18th, at the Province of Ontario Agricultural school at Kemptville a demonstration will be given, when all we claim will be proven to be true. All farmers are invited. We eliminate the hardest work on the farm.

Place your orders before we are sold up.

Many local agents are already appointed. Others wanted, in districts not represented.



TRACFORD

The Standard Detroit Tractor Company
DETROIT, MANUFACTURERS

ing eight inches deep, upon heavy an 8-16 tractor) the time expended in all cases a size with power sub- clay land, it will be found that an 8-16 plowing will be little more than it is to draw a gang plow of three or four feet wide. In such cases it is prob- ably better to use a tractor than a horse. The sow bred to farrow in the fall (when using sizes larger than an 8-16 (say 12-25)) needs more than the usual care.

Things the Beginner Should Know

(Continued from page 6.)

meter and the specific gravity should be from 1,250 to 1,300. Never allow a battery to become or stand discharged. It will ruin a battery, and moreover if the weather is severe, it will freeze. A charged battery freezes at 60 degrees below zero, while a discharged one freezes at 50 degrees above. Never join the terminals of a battery, i.e. short circuit it. This will ruin the plates. Never add acid or electrolyte, because this will deteriorate the lead plates. A coating of vaseline will prevent the terminal from corroding. If the car has an ammeter, see that it indicates "charge" when running at sufficient speed.

All engine trouble may be classed under five headings, viz., cooling, lubrication, compression, carburetion and ignition. Of course, worn bushings, bearings, etc., give trouble, but such are not classed above. Most engines are cooled by water, either by the pump or the thermo-siphon system. Always keep the radiator full of clean water. Drain out the rusty water about once a month. In cold weather do not neglect to use an anti-freezing solution. The alcohol and glycerine solution is the safest solution to use. Lubrication is the most important factor in the operation of a car. Use only good clean gas engine oil and of sufficient body for the particular engine. Always see that there is plenty of oil and never run an engine with an insufficient supply. All cars should have an indicator on the dash, and it is the duty of the driver to see that the oil is being fed to the engine.

Renewing Old Oils.

It is well to drain the oil about every thousand miles. Then put in about two quarts of coal oil and run the motor 30 seconds. Then drain the coal oil and fill the crank case with fresh oil. The engine will run better and it prevents the pipes from becoming clogged. Compression troubles usually occur after 2,000 miles of running. Carburetor will form and the subsequent pitting of the valves, which means loss of power and missing. The carbon may be removed by burning, but a poor operator may ruin both valves and valve seats. Scraping the carbon by hand is the old reliable method. In order to grind the valves, first release the springs and slacken the tappet adjuster nuts. Clean the valve, and then supply a little coarse valve grinding compound to the seat. Turn the valve backward and forward a few times, then lift it up, give it half a turn and repeat the operation. Do this until the pits have been removed; then apply some fine compound and finish off the valve seat. Be sure to remove all traces of compound before finishing the engine. Do not press the valve on the seat while grinding. Do not turn round and round. These cause little grains of compound to cut grooves or rings in the valve seats. Then replace the springs and adjust the expansion spaces to about "0.004." This space is necessary to allow a hot expanded valve to seat properly. (The instruction book should give the proper space and tell the size of the wrenches required.)

The Carburetor.

Strain all gasoline through a chamois. This keeps out hot dirt and water. Always extinguish lamps before filling the tank. If the carburetor does catch fire, shut off the gasoline and race the engine. If the motor has stopped, open the throttle and crank the engine quickly. This will draw all the flames into the engine. The novice should read the instruction book very carefully before attempting to adjust the carburetor. Specific directions cannot be given

Co-partners in a sound INVESTMENT

Farmer and City-Dweller

When they both investigate the matter, find they have a big common need—good roads. Investigating further, they find they are also in accord as to the material of which these roads should be built. It is unquestionably CONCRETE.

The man-in-the-city and the man-on-the-farm are getting together on the road question. They are finding out that what is good for the one is good for the other. They are both beginning to realize that their greatest common need for greater prosperity is the building of more

Permanent Highways of Concrete

All Canadians will ultimately have to awaken to the true facts about Roads. They must eventually realize that our great national road waste is a criminal folly—that the money that now goes into the repairing of old-style roads would build hundreds of miles of Concrete Pavement which needs practically no repairs.

Modern traffic conditions, with the introduction of motor car and motor truck, are forcing these facts on our attention. Why, then, wait until we have thrown away more thousands? Why not at once arouse a nation wide interest that will result in the converting

of our present wasteful, rut-filled, short-life roads into the hard, clean, durable roads which Concrete alone can give us.

A Pavement of Concrete is the only kind that will resist the wear of heavy motor traffic. It has a hard, even surface that is durable as nature's own rock. No holes or ruts will appear in it, no matter how heavy the traffic. It cannot turn to mud in Winter or even in the trying Canadian Spring. It cannot become a dusty road in Summer. Is it any wonder that farmer and city-dweller always agree to invest their money in Concrete Roads, when the true road facts are brought to their attention?

Concrete Facts About Concrete

We will send to anyone who asks us, several interesting books on the subject of Concrete Highways, supporting our claim to the following advantages:

1. Concrete Roads endure.
2. Concrete Roads have even surfaces.
3. Concrete Roads are devoid of ruts.
4. Concrete Roads are free from dust.
5. Concrete Roads are quickly cleaned by rain.
6. Concrete Roads help to keep down the cost of living, by reducing the hauling cost of farm produce.
7. Concrete Roads are reasonable in first cost, low in maintenance cost, and cheapest in final cost.
8. Concrete Roads ensure least wear-and-tear on vehicles and harness, also they are easy on horses because of even gritty surface.
9. Concrete Roads reduce the possibility of accident, because of their non-slip, non-skid, hole-proof surface.
10. Concrete Roads give service 365 days in the year—they are always "navigable" even in the depth of Winter and in the Spring.

CANADA CEMENT COMPANY

40 HERALD BUILDING MONTREAL



Concrete for Permanence

GOOD SAL

George—Don't Mary, that I dislike unauthoritative and lion.

Mary—But, George salesman was so pe dating!—Life.

here, because the here, former makes.

A rich mixture I too much gasoline one contains too much tures caused black smell from exhaust to inhale; carbon tion space; over hensions; preignition loss of power; mis compression cock cause carburetor times erroneously loss of power and will give the begin how rich and lean operation of the en

Ignit

Ignition is the h autom for an under stand, but a modern car is fa than it used to be, a great deal of trou porcelains and beco carbon. First find missing by connect from the terminal top of the engine, ground. Now, if the plug makes no running of the engi nder is not firing. plug, take it apart, move the carbon an with emery cloth. plug has been asse points so that they ond of an inch apar ness of a new five ce all wires of the wh good order and that are tight.

The platinum plug clean and free from platinum film. Be a points perfectly flat, too much metal bec are very expensive. Be adjusted so that break is about one-fif A gauge is usually su kit. Keep the com tributor brushes clea grease.

It is very hard to all the knowledge he brief article, but I h suggestions given an some service in carin

Get a Car and

A. F. Madison, Du

MY decision, after the third car is the best you can make. When you have not spent have merely invested money back with co through what you get sure and good health er every mile travel I know that it is a touring, farmers, and



GOOD SALESMANSHIP.

George—Don't you understand, Mary, that I dislike the Blix car? It's unsubstantial and has a bad reputation.

Mary—But, George, dear, that young salesman was so pleasant and accommodating!—Life.

here, because there are so many different makes.

A rich mixture is one that contains too much gasoline and a lean or weak one contains too much air. Rich mixtures cause black smoke and a bad smell from exhaust which is poisonous to inhale; carbon deposit in combustion space; over heating; muffler explosions; preignition (carbon knocks); loss of power; smoky red flame from compression cock. Lean mixtures cause carburetor explosions (sometimes erroneously called back-firing); loss of power and over-heating. This loss of power and over-heating. This will give the beginner some idea of how rich and lean mixtures affect the operation of the engine.

Ignition.

Ignition is the hardest part of the automobile for the average layman to understand, but the ignition system on a modern car is far less complicated than it used to be. Spark plugs give a great deal of trouble through broken porcelain and becoming clogged with carbon. First find out which plug is missing by connecting a screw driver from the terminal of the plug to the top of the engine, that is, to the ground. Now, if cutting out a particular plug makes no difference in the running of the engine, then that cylinder is not firing. To clean a dirty plug, take it apart if possible. Remove the carbon and clean the joints with emery cloth. Then, after the plug has been assembled, adjust the points so that they are one-thirty-second of an inch apart, about the thickness of a new five cent piece. See that all wires of the whole system are in good order and that the connections are tight.

The platinum points must be kept clean and free from pits by a fine platinum file. Be sure to file the points perfectly flat. Do not remove too much metal because new points are very expensive. Then they should be adjusted so that the maximum break is about one-fiftieth of an inch. A gauge is usually supplied in the tool kit. Keep the commutator and distributor brushes clean and free from grease.

It is very hard to give the beginner all the knowledge he should have in a brief article, but I hope that the few suggestions given above will be of some service in caring for a new car.

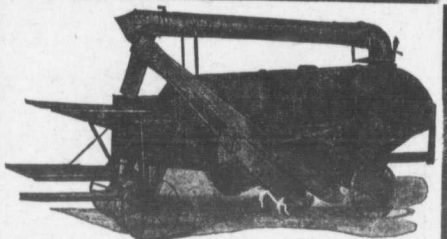
a woman's car. One of those big cars making a hill makes me think of a two hundred pound man with asthma climbing the meeting house steps, lots of puffing and wheezing but little progress. But, say! My car takes a hill like a pussy cat going up a tree on high speed.

A car on the farm is better than an extra farm hand. A farmer using horses on the road spends one-tenth of his life going to or from town, church or neighbors. A car is just as necessary on the farm as a mower or any other farm implement. The car shortens distances and affords a pleasant diversion for the work of the day. It rests a fellow to get out in the car, lean back and take a spin. It is doubly refreshing to the farm women folks. It pumps the lungs of all of us full of pure air, and does us all sorts of good. The car is enabling us to get more out of life. It is a rural necessity.

The Ford is good enough for us or anyone else. Why should a man haul around a big load of cast iron when a Ford will make the same trip with half the expense. I kind of got excited over Mr. Henry Ford turning his automobile plant into a munition factory and invested in another 1917 model Ford car, which makes two that I have. That speaks well for the Ford. My first car is a 1915 model, five-passenger car, and is as good as ever. I have not used the new 1917 model yet.

A fine harvest of pleasure and profits is reaped by the farmer who drives a car. For a trip to town, to the neighbors, for a burry-up drive anywhere on business, or pleasure, just take your little car. I intend having my 1915 Ford made into a truck and put box and seats of car on a sleigh to use when the snow is over the fences. Keep down the high cost of living, farmers, and buy a Ford. You will think it is the best bargain you ever made.

LISTER



You Should Own Your Own

THRESHING OUTFIT

The Lister Ideal Thresher, with or without Lister Engine and with either blower or carrier, is an outfit you can afford to buy.

Low in cost and upkeep, built on simple, practical lines, and as EFFICIENT as the large machine. It offers you all that any threshing outfit can offer.

Write for Catalogue "K."

R. A. LISTER & CO., Limited
TORONTO :: ONTARIO

BINDER SATISFACTION

Your Binder should last you many years—It should cut any crop—It should be light in draft and easy to run. It will be all this if it's a Frost & Wood.

Just remember it's only a small part of your crop that represents your net profit. All the rest goes to pay your expenses. You must harvest every straw if you want to make a profit and do more than just make expenses.

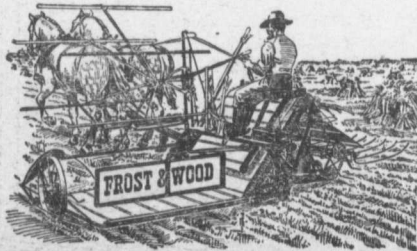
Buy a Frost & Wood Binder and you'll be able to handle any kind of a crop—tall, short

or lodged grain. The hardest work won't discourage it.

It's easy on horses. Carefully fitted roller bearings in every working part insure light draft. Eccentric sprocket wheel—a Frost & Wood feature—eliminates strain on the binding attachment parts and makes "smooth" cutting.

A Frost & Wood Binder is sure cutting, sure elevating, doesn't choke or thresh the grain, is sure tying and splendidly finished. Levers are all conveniently placed, so inexperienced or "young" help can operate a Frost & Wood successfully.

Write to-day for interesting folder to our nearest branch, or see our nearest agent. Built in 5-ft., 6-ft., 7-ft., and 8-ft. sizes.



THE FROST & WOOD CO.
Ltd., SMITHS FALLS
Montreal St. John

For Sale in Western
Ontario and Western
Canada: by

COCKSHUTT PLOW CO.
Limited
Brantford, Ont.

Get a Car and Be Happy

A. F. Madden, Dundas Co., Ont.

MY decision, after running a car for the third summer, is that it is the best investment a farmer can make. When you buy a light car you have not spent any money; you have merely invested it. You get your money back with compound interest through what you gain in utility, pleasure and good health. I have enjoyed every mile travelled in my car. I know that it is a good town car, touring, farmers, and better than all,

How to Secure a Maximum Mileage from Tires

(Continued from Page 3)

fabric. Its tensile strength retains the air cushion inside the inner tube. Fabric would offer but little resistance to road wear, therefore over the fabric is vulcanized a tread of tough, wear resisting rubber. The

motorist who has preserved the fabric by proper inflation and has thus secured good tire mileage, can further increase his mileage by giving the tread the same intelligent care. Cuts in a tire are not, in themselves, dangerous. Just as a cut in the finger is not in itself dangerous; but a cut which is not attended to will permit bacteria to enter the system

and cause infection. In the same way, a cut penetrating the tread of a tire permits foreign substances from the road surface to enter and destroy the fabric.

At every revolution sand is forced into the cut. The cut is soon filled, but the weight of the car above continues to force in more. So it begins to spread out in every direction from

the cut, between the tread and the fabric, separating one from the other. The first result is the so-called "sand blister." These natural causes continue, however, until the tread separation covers a larger space. It is not long before the tread tears loose. Aside from this action, the sand contains moisture which is immediately absorbed by the fabric with which it comes in contact. This rots the fabric and rapidly weakens it. The result is a blowout.

Tires should be frequently inspected for tread cuts, and when cuts are found they should be thoroughly cleaned out with gasoline and then filled with tire putty or repair gum, of which there are several good brands on the market. After 10 or 12 hours, the repair will have dried and becomes an integral part of the tire. The process is a simple one and the time spent in taking this precaution will repay every automobile owner many times.

Other Causes of Tire Ruin

The most dangerous wear to which a tire can be subject is that received when it is used on a wheel that is not running parallel to its mate, a condition designated by "wheels out of alignment." This occurs almost invariably on the front wheels. An accident, improper adjustment of steering apparatus, or even hitting the curb stones diagonally, may throw the wheels out of line so that they point inward or outward, as the case may be, instead of being parallel to each other. Instead of rolling over the ground with a minimum of friction, the tires are then compelled to slide over the ground diagonally, thus grinding off the rubber from the tread as effectively as an emery wheel.

The remedy for this trouble is obvious: Straighten the wheels. Any garage man can do it. An approximate test can be made by adjusting one of the front wheels that when you kneel down in front of it and look back, it just lines up with the rear wheel on the same side. The other front wheel then ought to line up with the corresponding rear wheel.

A peculiar property of rubber, due indirectly to its elasticity, is that it can easily be ground or filed. On the other hand, if simply rolled over even a rough surface it will last almost indefinitely. For this reason suddenly locking the brakes and sliding or skidding the tire will, in a few feet distance, wear them out as much as one place as several hundred miles of service. It is well to make sure that both brakes grip equally. If they do not, the wheel with the tighter band will wear out its tire too soon.

Speeding and the use of stoned roads wear the tires faster than moderate driving on sandy roads.

It goes without saying that oils and grease on tires should be avoided. They act chemically on rubber and cause its rapid deterioration.

The Cost of a Heifer

"WHAT does it cost to raise a heifer to maturity?" asked Prof. Barton, of Macdonald College, and this he answered in his own question. At Macdonald College they have accurate records of 62 head. On a feed basis alone the average cost of bringing these heifers up to three years was \$40.52. The cost of bringing them up to 30 months when they freshen would be about \$50. These heifers were of four breeds—Ayrshires, Holsteins, French-Canadians and dairy Shorthorns.

"We have a difference of \$14.14 in favor of fall calves," remarked Prof. Barton, and they invariably made the better growth. Did we add the charge of labor, buildings, etc., a heifer ready to freshen should sell for \$75 to cover cost of rearing."

The Car-H

(Continued)

also has a large buy or sell, and discounts the right place saves expensively and value of promptly. By attachments he is other machines ready; no time feed or rest.

Of course, the vice a farmer to order to own a should suffice to that would soon after he has been finds it is not cash returns he to wear his old his wife to retire last. The farm investment to m

Experience W

J. P. Griffin

LAST year we once with re our farm th 32 feet. We kn have oorn enough silo, and at the a tremendous er cided to fill one of red and alkali the mower on Ji we cut, while ou green as it ver the same time mower, we also hauling to the ch clover directly fr wagon. The clov silo in the same

There are two very carefully in silo. In the first sufficient moistu be tramped well the silo and it was If we had had a amount of moist sprayed in wat heats tremendous least bit dry w clover, however, moist and there it spoiled.

We were surpris acreage of land silo. The same g the silo with cor also filled the sil we had had a goo were disappointing we would get 15 silo, but we got found, too, that twice as much as silage, completely income, however, filled later, with income.

No Conce

When winter cur what curious to clover ensilage w feeding crop. It long as I was fee along with clove a bite of conce and we feel that w from them than ensilage along wi

We have been te in the neighborho silo will settle th problem, and we could grow 5 our land we row of corn. W of the clover ensi ing. We had used corn. Clover hay no concentrate. to fresh Holstein of milk.



A Pleasant Discovery

After your tires have been running for a while, you'll discover that you get from Dunlop Tires what you cannot get to the same degree from other tires—the safety and mileage you paid for in the first place.

Dunlop Tire & Rubber Goods Co., Limited

Head Office and Factories: TORONTO

BRANCHES:

Victoria, Vancouver, Edmonton, Calgary, Saskatoon, Regina, Winnipeg, London, Hamilton, Toronto, Ottawa, Montreal, St. John, Halifax.

Makers of High-Grade Tires for Automobiles, Motor Trucks, Bicycles, Motorcycles and Carriages; and High-Grade Rubber Belting, Packing, Fire Hose and General Hose, Dredge Sleeves, Military Equipment, Mats, Tiling, Heels and Soles, Horse Shoe Pads, Cements, and General Rubber Specialties.

"SPECIAL" **DUNLOP** "TRACTION"

The Car Has a Hundred Uses

(Continued from page 4.)

also has a larger choice of markets to buy or sell, and benefits of bargains and discounts by being able to be at the right place at the right time. He saves expensive time of men, teams, and value of crop by getting repairs promptly. By the use of power attachments he may use his car to drive other machines. His car is always ready; no time lost waiting for it to feed or rest.

Of course, the writer does not advise a farmer to mortgage his farm in order to own a car. But a few years should suffice to lay aside extras, etc., that would soon pay for a car, and after he has had it for a while, if he finds it is not increasing his direct cash returns he will be quite willing to wear his old suit a little longer, and his wife to retain her last summer's hat. The farm car has proved a good investment to my family and myself.

Experience With Clover Ensilage

J. P. Griffin, Halton Co., Ont.

LAST year we had our first experience with red clover ensilage. On our farm there are two silos 12 x 32 feet. We knew that we would not have corn enough to fill more than one silo, and at the same time we had a tremendous crop of clover. We decided to fill one silo with a mixture of red and alsike clover. We started the mower on July 11 and the clover we cut, while out in full bloom, was as green as it very well could be. At the same time that we started the mower, we also started the teams hauling to the cutting box, forking the clover directly from the swath to the wagon. The clover was blown into the silo in the same manner as corn.

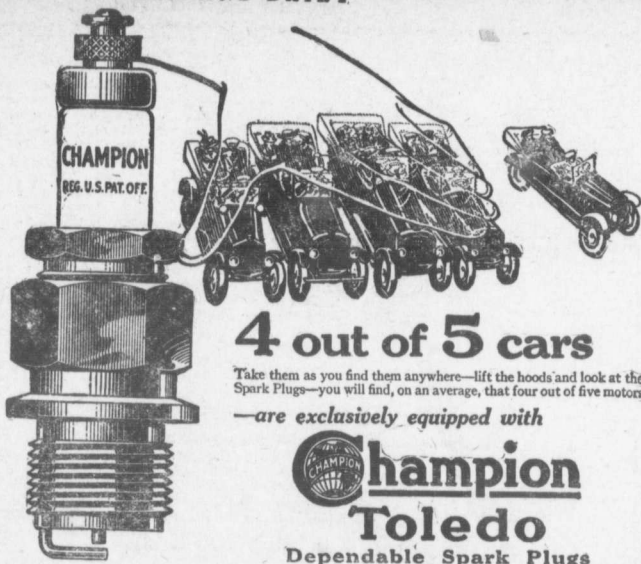
There are two points to be watched very carefully in putting clover in the silo. In the first place there must be sufficient moisture and then it must be tramped well. We had four men in the silo and it was tramped thoroughly. If we had had any doubts as to the amount of moisture, we would have sprayed in water. Clover ensilage heats tremendously, and if it gets the least bit dry would fire fang. Our clover, however, was very green and moist and there was not an ounce of it spoiled.

We were surprised at what a small acreage of land sufficed to fill one silo. The same ground that had filled the silo with corn two years before, also filled the silo with clover, and we had had a good crop of corn. We were disappointed. We had thought we could get 15 acres of clover in the silo, but we got in hardly five. We found, too, that clover settles fully twice as much as corn after the silo filling is complete. Where one has lucerne, however, the silo could be refilled later, with the second crop of lucerne.

No Concentrates Fed.

When winter came on we were somewhat curious to know just how the clover ensilage would pan out as a feeding crop. It was excellent. As long as I was feeding clover ensilage along with clover hay, I did not feed a bit of concentrates to the cows and we feel that we got better results from them than when feeding corn ensilage along with bran and oil cake.

We have been telling milk producers in the neighborhood that clover in the silo will settle the summer feeding problem, and we believe that if we could grow good alfalfa on our land we would not grow a row of corn. We fed a bushel box of the clover ensilage night and morning. We had used the same box for cows. Clover hay was fed at noon but no concentrates. This applied even to fresh Holstein cows giving a large flow of milk.



4 out of 5 cars

Take them as you find them anywhere—lift the hoods and look at the Spark Plugs—you will find, on an average, that four out of five motors

are exclusively equipped with

Champion Toledo
Dependable Spark Plugs

Champion Spark Plug Co. Ltd. Toronto, Ont. Phone 1-120

Fords, Overlands, Studebakers and Maxwells are factory equipped with Champions because exhaustive tests have proved that they insure the greatest efficiency in the performance of these motors.

A size and style of Champion has been developed to give long lived, efficient service in every type of motor—that's why Champions are the choice of over one hundred motor car manufacturers.

The asbestos lined copper gasket protecting each shoulder of the porcelain is a patented

feature that insures dependability under emergency conditions. The porcelain is carefully made and tested to endure, without cracking, the contraction and expansion of cylinder temperature extremes.

Your protection is in the Champion guarantee of "Complete satisfaction to the user—Free Repair—Replacement or Money Back."

Dealers everywhere sell "Champions" for every make of Motor Car, Engine or Tractor. Look for "Champion" on the porcelain.

Champion Spark Plug Co. of Canada, Limited, Windsor, Ontario

S. C. White Leghorn Day-Old Chicks

Order now for our best known laying strain. Pens mated to Barron cockerels. Satisfaction guaranteed. Write for our booklet re Care and Feeding of Day Old Chicks.

UTILITY POULTRY FARM - Stratford, Ont.

LT.-COL. T. G. DELAMERE, Prop.

Peck, Kerr & McDermery

Barristers, Solicitors, etc.

415 Water St., Peterborough

E. A. Peck F. D. Kerr V. J. McDermery

DELICATE MECHANISM

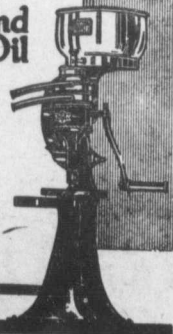
such as the close fitting bearings and adjustments of a hand separator, demands a special lubricant in order to work efficiently.

Standard Hand Separator Oil

is especially manufactured for this purpose. It is absolutely free from all impurities, cannot gum, and besides giving superior lubrication where it is needed, protects the separator from seam rust and corrosion.

Put up in pint, quart, half-gal., gal. and 4-gal. cans. Sold by reliable dealers everywhere.

THE IMPERIAL OIL COMPANY
Limited
BRANCH STATIONS THROUGHOUT CANADA



Get This Free

The Hawkeye-Wrench a Pocket Tool-kit.

It combines six handy tools in one, viz.: A monkey wrench, a pipe wrench, a screwdriver, and three steel dies for threading or re-threading bolts, 5-16, 3-8 and 1-2 inch.

This useful little outfit, given away absolutely free to every subscriber of Farm and Dairy who sends us one—only one paid in advance subscription. Send more than one, and you will get your choice of other premiums or a cash commission if desired.

Circulation Dept.

Farm and Dairy, Peterboro.

Please mention Farm and Dairy when writing advertisers.

Farm and Dairy

AND
Rural Home

"The Farm Paper of Canada's Dairy Farmers"
Published Every Thursday by

The Rural Publishing Company, Limited
Peterboro and Toronto.



SUBSCRIPTION PRICE, \$1.00 a year. Great Britain, \$1.20 a year. For all countries, except Canada and Great Britain, add 50c for postage.

ADVERTISING RATES, 12 cents a line, one flat, \$1.50 an inch an insertion. One page 48 lines, one column 24 lines. Copy received up to Saturday preceding the following week's issue.

Peterboro Office—Huntar and Water Sts.
Toronto Office—311 Bloor Street.

United States Representatives
Stockwell's Special Agency.
Chicago Office—People's Gas Building.
New York Office—Tribune Building.

CIRCULATION STATEMENT.

The paid subscriptions to Farm and Dairy exceed 21,000. The actual circulation of each issue, including copies of the paper sent to subscribers who are not slightly in arrears, is a multiple copies, varies from 22,000 to 23,000 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."

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

The Rural Publishing Company, Ltd.
PETER ORO AND TORONTO

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

Rates on Pure Bred Stock

CANADIAN railway companies are quick within their rights in abolishing the special freight rates on the shipment of pure-bred stock. Whether or not their action is wise one is another question. Farm and Dairy believes that if the freight authorities of the various companies fully appreciated the benefits that accrue to themselves through the wider distribution of good stock, they would be glad to reconsider their action in abrogating the special privileges that shippers of pure-bred stock have enjoyed. In the past, the railways have benefited almost equally with the farmers from the improvement of cattle, horses, sheep and swine that has always followed in the wake of the introduction of pedigreed animals into the neighborhood. Good stock is more profitable to raise; greater profits encourage greater production; greater production means more live stock and more live stock products to ship, and this in turn means more business and greater profits for the railways, and thus they are ready for the encouragement that they have given in the form of low freight rates.

The fifty per cent. rate has played an important part in the distribution of good stock and in establishing pure bred herds all over the country, but particularly has the half rate been an advantage to new and isolated districts. Many of these sections, which now have good herds of their own, would have gotten their start much more slowly and perhaps not at all, had it not been for the concessions heretofore granted by the

railways. And the work is only beginning. Throughout all the immigration areas of Canada the greatest need is more and better live stock. In aiding in the distribution of this stock from the older districts, where the pure bred herds or flocks are more generally found, the railways will be following a far-sighted policy that will result eventually to their own financial benefit.

A \$13,500,000 Loss

THE Dominion Department of Agriculture is our authority for the statement that surplus roosters cause an annual loss to Canadian poultry producers of \$13,500,000. The cost of feeding some 2,850,000 unnecessary roosters that will be kept over is about \$3,500,000. Eggs that are fertilized because of their presence in the flock cause a further loss of \$10,000,000 through depreciation in quality.

This great loss is unnecessary. A few of the very best male birds should be carried over for use in the next breeding season, but they should be put in a yard by themselves and kept there. This, too, applies only on farms where poultry is an important side line; on the average farm it is more profitable to kill the old bird and market him as soon as the breeding season is over. If all roosters were managed as they should be the aggregate gain to the poultry industry would be measured in millions of dollars and the resultant profit to the owner of the average farm flock would be considerable. Swat the rooster!

War Savings Certificates

THE War Savings Certificates, now on sale at every postoffice and bank in the Dominion, present a splendid opportunity for investment, even to the man with a small surplus of money that is not needed in his business. The most recent war loan is being issued in denominations which are within the reach of the man of small means. The certificates can be purchased in three amounts and the principal, plus the interest, is paid back at the end of three years. For \$21.50 invested now the government will pay out \$25 at the end of that time; for \$42—\$50, and for \$86—\$100. This figures out to over five per cent. on the investment, which is two per cent. more than the banks are willing to give on savings deposits; and the security is of the best; the investor is protected in every possible way; the whole wealth of the country is behind it.

The first loans issued in connection with the present war were placed largely through great financial corporations who invested in millions of bonds. The appeal is now addressed more to people as a whole. In making a good investment for himself, the man who has the money to buy certificates is also helping his country, as the financing of the war is becoming an ever increasing burden and our savings invested with the government will aid in the solution of the financial problem.

The Cheese Commission

THE Cheese Commission continues to be the object of attack of county councils and county boards of agriculture, particularly in Western Ontario. This is regrettable as many of these attacks on the Commission are due to a misunderstanding of existing arrangements and perhaps, too, in some measure, to the misrepresentations of interested parties. That the Commission should be the object of such general criticism is doubly regrettable when we consider that the members of the Commission are giving their services for this difficult business without pay or remuneration of any kind. They should

have the cooperation of all, rather than be hampered by misrepresentation.

The point most frequently misrepresented is the claim that the cheese have to be graded and inspected at Montreal and that the factories have to wait for the money until the grading and inspection is complete. This is not the case. The buyers in the country should pay for the cheese, always, even in the past. Many of the protests, too, seem rather absurd in view of the fact that factories are obtaining as high as twenty-one and one-half cents in some places for their cheese, leaving only one-quarter cent to pay freight, warehousing, cooperage, cartage and buyers' profits.

In recent issues of Farm and Dairy the editors have endeavored to clear up the haze that has surrounded the workings of the Cheese Commission. There may be some phases of the situation that are still unsatisfactory to either producers or dealers, or both, but on the whole Farm and Dairy is satisfied, after a thorough investigation of the situation, that the Commission is doing its work well and, considering shipping difficulties, the cheese situation is being well handled. Attacks on the Commission will cease when its functions are properly understood throughout the country.

To Your Humanity

FEW of the many appeals that come to us nowadays have a stronger claim on our humanity than one that is now being made on behalf of the children of Belgium. A committee in Holland styling itself "Oeuvre de la Sainte de l'Enfance Belge," moved by the alarming and ever increasing mortality among the little children in Belgium has since August, 1916, with the authority of the German officials, organized the bringing of starved, consumptive and ailing little ones from Belgium into Holland where they are cared for, clothed, intensively fed, medically attended and homes for a period averaging six weeks, until they are restored to health. They are then returned to their parents in Belgium, having gained in weight some three to four pounds per week and able to withstand for a time the privations to which they are again subjected. At the present time there are 15,000 or more children waiting in Belgium for their turn to go to Holland, and the number increases weekly because of the deportations or slavery of the wage earners. Only a small percentage of these little ones can be cared for on present funds. At best their sufferings are only partially alleviated, but the committee is hopeful that its appeal for funds in Canada for the carrying on of this work and perhaps extending it, will not be made in vain. The cry of Belgium's little children should reach the hearts of all of us, especially those of us who are parents. All donations are to be sent to the Belgian Consul-General at Ottawa, a.s.m., "Oeuvre de la Sainte de l'Enfance Belge."

Corn thrives best on a warm soil and in warm weather. The surface layer of soil is always warmest and for this reason corn roots are found most abundantly in the surface soil. Deep cultivation will cut these roots and thus give the plant a set-back, and may actually stunt it.

Weeds have spent their energies developing fighting power, while the crops have been developed under the most favorable conditions so that they could put all their energies into developing their qualities valuable to man. They have largely lost their fighting power. To allow weeds to grow in the crop is a good deal like keeping sheep and wolves in the same enclosure. Swat the weeds and give the crop the chance that it needs to develop to its full capacity.

The Di-

THEBBE was sent at the Col. J. Z. The speakers: Jno. Kenner, Growers' Grad O'Brien. At ing there was Chilcott in the ney was added. The speaker brought out bert in the extended an "was replied to Stauffer, of Washington tence interest berg an evenb Wm. Lambden ers were R. I. and R. J. Kell.

A full report held attention be given in a Dairy. Mr. K. R. moesty with t ment in the to the young. One point wh be taken to be tora. "Farme "for almost a pression from companies, b their own co perform all s and are very a complain of ance they org. The covve through this)

Farmers'

A WELL A directors' Limited, was head office of It was one of meetings of that has been organized of the movement the directors, training in the ness affairs, al bewildered to various problem. Now, years' experie to see more c conditions, an ing more effici of the Company of the Company find what is e show a greater responsibility. All this is be ness of the Co Financial st ed at the mee tions of the f May or for the year. These n an extremely I had been tran the five month which is satisf when it is con able sum of n wise have be been devoted of the United, whose success with that of Sometimes the profits of the Company. W fore in Farm laws of the C paying a divid cent on the ca

In Union There is Strength

The District Conventions

THE DISTRICT CONVENTIONS were 55 to 60 farmers present at the Bradford convention, Col. J. Z. Fraser was in the chair. The speakers were J. J. Morrison, Jno. Kennedy, president of the Grain Growers' Grain Company, and A. Q. C. O'Brien. At Burford the same evening there were 80 present with Mr. Chilcott in the chair. Mr. C. W. Gurney was added to the previous list of speakers. Ingersoll on June 28th brought out 235 men with E. H. Halbert in the chair. Mayor Buchanan extended an address of welcome, which was replied to by J. C. Freel and F. Stauffer, of the Thamesford and Washington clubs. There was intense interest throughout. At Tilsonburg an evening session was held, Wm. Lambden presiding. The speakers were R. H. Halbert, Jno. Kennedy and R. J. Kelly.

A full report of the addresses, which held attention from first to last, will be given in a future issue of Farm and Dairy. Mr. Kennedy, of course, dealt mostly with the success of the movement in the West as an inspiration to the younger movement in the East. One point which he made, might well be taken as being by Ontario co-operators. "Farmers will stand," said he, "for almost any inconvenience and oppression from private commercial companies, but when they organize their own company they expect it to perform all sorts of impossible things and are very much more quick to complain of any delay or inconvenience they experience through it."

The conventions will continue through this week and next.

Farmers' Business Growing

A WELL attended meeting of the directors of the United Farmers' Cooperative Company, Limited, was held recently in the head office of the Company, Toronto. It was one of the most satisfactory meetings of the Board of Directors that has been held since the Company was organized. In the early stages of the movement it was natural that the directors, being farmers without training in the handling of large business affairs, should often be somewhat bewildered to know how to handle various problems that confronted them. Now, as a result of three years' experience, they are beginning to see more clearly how to deal with conditions, and, therefore, are becoming more efficient in their management of the Company's affairs. The officers of the Company also are beginning to find what is expected of them and to show a greater willingness to assume responsibility than they did at first. All this is helping to place the business of the Company on a better basis.

Financial statements were presented at the meeting covering the operations of the Company to the end of May or for the first five months of the year. These statements showed that an extremely large volume of business had been transacted, amounting for the five months to over \$513,000, on which a satisfactory profit was shown when it is considered that a considerable sum of money that might otherwise have been shown as profits had been devoted to advancing the work of the United Farmers' Company, whose success is closely wrapped up with that of the Company.

Sometimes farmers ask who gets the profits of the United Farmers' Company. We have pointed out before in Farm and Dairy that the by-laws of the Company do not permit paying a dividend exceeding 7 per cent. on the capital stock. Part of the

balance is used to promote the work of organizing the farmers of the province, and the remainder in other similar ways. When it is remembered that the total sales of the Company for all of last year amounted to practically \$400,000, not including transactions in live stock, amounting to about \$100,000 extra, it will be noted that the sales for the first five months of this year have greatly exceeded the sales for all of last year.

It was reported at the meeting that evidence had been received showing that some secretaries of local clubs are not as loyal to the movement as they might be, inasmuch as they have shown an inclination to accept commissions from other firms who have been anxious to secure the business that might otherwise have been sent to the United Farmers' Company.

Up to the present the management of the Central Company has been handicapped through its experience in purchasing goods to the best advantage. This has been due in part to lack of capital and in part to unwillingness on the part of the firms dealt with to give better commissions. A method of improving this situation was discussed at the meeting, and it is expected shortly arrangements will be made which will enable the Company to buy several important lines of goods at least to very much better advantage. The Company is finding out more and more the secrets of "big business," and desiring to use them for the benefit of the farmers of the province. The new offices of the Company at 2 Francis St., Toronto, opposite the city market, have been considerably altered and improved, and during office hours present a busy scene owing to the large volume of business now being transacted through the office.

Service by the Central

THE demand from locals of the United Farmers of Ontario for speakers has been so great that the officers have not been able to attend them all. Lately several meetings have been addressed by Mr. A. Q. C. O'Brien, the directors' auditor of the United Farmers' Company. Recently Mr. O'Brien attended a meeting where some dissatisfaction was being expressed owing to the fact that it had been found that certain companies were willing to sell goods to the club or to members of the club at lower prices than were being quoted by the United Farmers' Company. Mr. O'Brien was asked if he thought that the club should do business with the Central Company at a loss to the local.

The question raised by the club in one that is brought up frequently. It may be well, therefore, to once more set this situation before the members of the United Farmers of Ontario. Mr. O'Brien told the members of the club that he did not expect them to do business at a loss to themselves even with the object of doing business through the Central Company. There was something, however, which he did expect them to do, and that was in respect of sending their orders direct to the other competing firms, they should send their orders to these firms through the United Farmers' Company in Toronto.

For instance, supposing a rival firm quoted lower prices on certain lines of groceries, what he believed they should do was to write the United Farmers' Company telling them that this firm was quoting a lower price and instructing the United Farmers' Company to fill their order through

(Continued on page 24.)

HOT WEATHER

the season when a

DE LAVAL SEPARATOR

saves most over
any other separator
or skimming system



IT'S A GREAT MISTAKE for any dairy farmer without a separator or using an inferior machine to put off the purchase of a New De Laval Cream Separator in the summer months, especially with butter-fat at the present unusually high price.

Great as are the advantages of the New De Laval over all other separators, as well as over any gravity setting system, at every season of the year, they are even greater during the mid-summer season than at any other time.

This is because hot weather conditions occasion greatest butter-fat losses with gravity setting, and render it most difficult to maintain quality of product with any gravity system or inferior separator, while, moreover, the quantity of milk is usually greatest, and any loss in either quantity or quality of product means more.

Then there is the great saving in time and labor with the simple, easy running, easily cleaned, large capacity New De Laval machines over all other methods or separators, which naturally counts for more at this time of the year.

Hence the great mistake of putting off the purchase of a New De Laval Cream Separator in summer, whether you already have a poor machine or none at all, and every dairy farmer should keep in mind not only that a De Laval will pay for itself in a few months but may, if desired, be bought on such liberal terms as to actually save its own cost while being paid for.

Every claim thus made is subject to easy demonstration, and every De Laval local agent is glad of the opportunity to prove these claims to you, in your own dairy, without cost or obligation on your part.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for new catalog or any desired information.

Every New De Laval is equipped with a Bell Speed-Indicator

THE DE LAVAL COMPANY Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermakers. Catalogues of any of our lines mailed upon request. MONTREAL PETERBORO WINNIPEG VANCOUVER 50,000 BRANCHES AND LOCAL AGENTS THE WORLD OVER



PARIS GREEN

The season for potato bugs is here.

Are you prepared?

We have been fortunate in securing a limited supply of Paris Green. Get your order in now while it lasts.

We are still in a position to handle butter and eggs. Get our prices and give us a trial shipment. We pay express charges and furnish crates on application.

There are still a few tons of high-grade Cotton Seed Meal offering.

Give us a trial order for groceries, buggies, wagons, implements, gasoline engines, oats and mill feeds.

Prices given on application.

The United Farmers' Co-Operative Co.

LIMITED

Cor. King and Francis Streets, Toronto

Telephone Main 2237.

Entrance No. 2 Francis St.



SELF-conceit is the undue emphasis that one puts upon the letter "I."

Winning the Wilderness

(Continued from last week.)

"I've a notion I'm the right man to go," Horace Carey answered. "I had experience in the late Civil War, which seems trifling to you fellows at the Presidio. I rode the Plains for some years more when rattlesnakes and Indian arrows—poisoned at that—and cholera and mountain fever called for a surgeon's aid. I have diplomas and things from the best schools in the East. I have also some good military friends in authority to back me in getting a surgeon's place in the army—and, lastly, I haven't a soul to miss me, nor home to leave dreary. If I get between you and the enemy; nobody but Boanerges Peeperville to care personally, and Mrs. Aydelot, as the only other aristocrat in the Grass River Valley, has promised to give him a home. He has always adored Virginia, Thaine, since he could remember anything."

Thaine Aydelot was only twenty-one, of the military habit for experience in reading human nature. Moreover he was alert in every tingling nerve with the anticipation of an ocean voyage and of strange new sights and daring deeds half a world away. Yet something in Dr. Carey's strong face seemed to imply a deeper purpose than his words suggested. When the Ohio woodlands were gorgeous with the frost-fired splendor of October word came to Miss Jane Aydelot of the old Aydelot farmhouse beside the National pike road, that one Thaine Aydelot had sailed from San Francisco with the Twentieth Kansas Regiment to see service in the Philippine Islands. On board the same transport was Dr. Horace Carey, of the military medical staff. That winter Jane Aydelot's hair turned white but the pink bloom of her cheeks and the light of her clear gray eyes made her a sweet-faced woman still, whose loveliness grew with the years.

The kiss of the same October breezes was on the Kansas prairie with the hazy horizon and the infinite beauty of wide level landscapes, overhung by the infinite beauty of blue, tender skies. Boanerges Peeperville, established as cook in the Sunflower Inn, was at home in his cozy little quarter beside the grape arched of the rear doorway.

"Tell me, Bo Peep, why Dr. Carey should enter the army again and go to the Philippines?" Virginia Aydelot asked on the day the news reached the Sunflower Ranch.

Bo Peep did not answer at once. Virginia was busy arranging some big yellow chrysanthemums in a tall cut-glass vase that Dr. Carey had left to be sent down to her when Bo

Peep should come to the Aydelots to make his home.

"See, Bo Peep, aren't they pretty? Set them in the middle of the table there, carefully. The first bouquet we ever had on our table was a few little sunflowers in an old peach can wrapped round with a newspaper. You didn't answer my question? Why did Horace go so far away?"

The servant took the vase carefully and placed it as commanded. Then he turned to Virginia with a face full of intense feeling.

"Miss Virgie, I done carry messages for him all my days." The pathos

why he leff'n Grass River, Kansas, for the Philippines."

CHAPTER XIX.

The "Fighting Twentieth"

Malolos and Bocage's trenches know the Kansas yell.
 San Fernando and San Tomas the Kansas story swell;
 At Guisungto's fiercest battle you flag in honor flew.
 What roaring rifles kept it, all Luna's army knew;
 And high it swung o'er Calocan, Baabag and Maricao—
 "Those raggedy Pops from Kansas" fore God they're heroes now.
 —Lieutenant-Colonel E. C. Little.

Night had fallen on the city of Manila. Before it lay the bay whose waters lapped softly against pier and shipping. Behind it in the great arc of a circle stretched the American line of military outposts, guarded by sentinels. Beyond that line, north, east, and south, there radiated a tangle of roads and trails through little villages of nipa huts, past rice fields and jungles, marshes and rivers, into the very heart of Luzon. Manila was under American military government, but Luzon was in insurrection against all government, and a network of rebellious lines of enemies fretted every jungle, hid in every village, entrenched itself in every rice field, and banked its earthworks beyond every river. While Emilio Aguinaldo, the shrewd leader of an ignorant, half-savage peasantry, plotted craftily with his associates for

sentinel duty. The outpost was nearly a mile away from a bridge on the outskirts of Manila. In the attack imminent, this bridge would be one of the keys to the city, and the command had been given to hold it against all invaders at any cost.

Between Thaine and the bridge was a stretch of dusty road, flanked on one side by nipa huts. On the other side were scattered dwellings, tall shrubbery, and low-lying rice fields, beyond which lay the jungle.

Before the young sentinel the road made a sharp bend, cutting off the view and giving no hint to the enemy around this bend of how strong a force might be filling the road toward the bridge.

Thaine knew that around that bend and behind the rice dykes and in the nearby trenches were Filipino insurgents with finger on the trigger ready to begin an assault. But until the first gun of the first battle is fired, battle seems impossible to the young soldier.

As Thaine turned from the dim road, he caught the glint of starlight on the edge of a rice swamp. He wanted to fight Filipinos tonight, not memories. But the memory of the Aydelot grove and the white lilies opening their creamy hearts to the moonlight, and Leish Shirley in her white dress with her cheeks faintly pink in the clear shadows, still swept his mind and challenged him to forget everything else.

The same grip on a principle, coupled with a daring spirit and love of adventure that has brought old Jean Aydelot to the Virginia colony long ago, and had pushed Francis Aydelot across the Alleghenies into the forests of the Ohio frontier, and had called Asher Aydelot to the unconquered prairies of the big West—the same love of adventure and daring spirit and belief in a cause bigger than his own interests had lured Thaine Aydelot on to the islands of Oriental sea. With the military schooling and unschooling where discipline tends to make a soldier, and absence of home influence tends to make the careless rowdy, the sterling uprightness of the Aydelots and the inborn gentility of the Thaines kept the boy from the Kansas prairies a fearless gentleman. What he was exuberantly pleased with life, as a young man of twenty-one should be. He lived mostly in the company of Kansas University men, and with the old University yell of "Rock Chalk! Jay Hawk! K U!" for their slogan, they stood shoulder to shoulder in every conflict.

Lastly, he was a hero-worshiper at the shrine of his colonel, Fred Funston, and his captain, Adna Clarke; while in all the regiment, the fair face of young Lieutenant Alford seemed to him most gracious. Alford was his soldier ideal type of the best the battlefield may know. And, even if all this admiration did have in it much of youthful sentimentalism, it took nothing from his efficiency when he came to his place on the firing line.

"I wonder where Doctor Carey is tonight," Thaine's comrade said in a low voice, as the two came together in the road.

"What's made you think of him?" Thaine asked.

"I haven't seen him since Christmas day. A young Filipino and I got into a scrap with a drunken Chinaman who was beating a boy, and the Chink slashed us both. 'arey stitched us up, but the other fellow kept a scar across his face, all right."

"I know that Filipino," Thaine said. "He seems like a fine young man. The scar was a marker for him. I'd know him by it anywhere."

"So should I, and by his peculiar gait. I saw a man slip on the beach

(Concluded on page 21.)



Teaching Pussy Table Manners.

of the soft voice was touching. "I wasn't to give this las' one to you less'n he neveh come back. An Mis-Virgie, Doctoh Carey won't neveh come back no mo'. But I kain't tell you yet jus' why he done taken hisself to the Philippines, not yet."

"Why do you think he will never come back? You think Thaine will come home again, don't you?" Virginia queried.

"Oh, yas'm! yas'm! Misteh Thaine, he'll come back all right. But hit's done fo'casted in my bones that Doctoh Horace won't neveh come. An' when he don't, I'll tell you

the seizure of the rich capital of Luzon and dreamed of the autocratic power and heaps of looted treasure that he should soon control.

For weeks in sight of the American outposts, the Filipinos had strengthened their trenches, and established their fortifications, the while they bided the hour of outbreak and slaughter of the despised Americans, and the seizing of the rich booty afterward.

Upon the Tondo road, running north from Manila to Calocan, Thaine Aydelot, with a Kansas University comrade, was doing silent

The

For Ch

FOR God's world to that might be saved. It will last a cry of that night mission town.

The mission once a China Posts and w Chinese insur high, narrow extremely narrow. But representative silties. Such ed, untempt such sin and as our Savior mourned over He met her course with a

One young boy, whose that he had such surround the ushers he the building; mother must grieve if she

Every little around and ing with str ant. At the sary operati was experie personal un

If God had nation, when world to save such as the of us dare greater the sorrow over imperative d greater oppo that Christ them, in up tions and sa

We could appeal at the would ha remain to partaken ers try to re well as the a ter illustrati of Christ in souls and e obtained, the Caul Missio the first mi

Menc

With u

WHILE the group ago the topic discussion. To keep my "because it is to put on a lady reman patches us and it doesn't up. One ca is the grea "me!" said a keeps her w side her wh sees a small does the do done at th our hous o never be do and would of the hous in the mae fax experie

The Upward Look

For Christ and Humanity

FOR God sent not his Son into the world to condemn the world, but that the world through Him might be saved. John 3:17.

It will last for a lifetime, the memory of that time spent in that mid-night mission, in New York's Chinatown.

The mission is held in what was once a Chinese place of worship. Posts and walls are covered with Chinese inscriptions. We sat on very high, narrow, Chinese benches with extremely narrow spaces between the rows. But on these benches sat representatives of many different nationalities. Such a gathering of unwashed, unkempt, ragged men, with just such sin and despatch-marked faces as our Saviour must have grieved and mourned over, wherever and whenever He met them, in his daily intercourse with men and women.

One young man, scarcely more than a boy, whose whole bearing showed that he had not always belonged to such surroundings, was so drunk that the ushers had to induce him to leave the building. It seemed as if some mother must love him. How she must grieve if she knew!

Every little while the ushers went around and sprayed the whole gathering with strongly perfumed disinfectant. At the first sight of this necessary operation, a great thrill of pity was experienced, at the thought of the personal uncleanness that this suggested.

If God had no thought of condemnation, when He sent His Son into the world to save more, than all else, just such as these, how little should any of us dare to condemn. But the greater the feeling of pity for and sorrow over such, the greater is the imperative duty of all that have had greater opportunities to try to do all that Christ would wish us to do for them, in uplifting them, to their conditions and surroundings.

We could not stay for the personal appeal at the end of the meeting. We would have liked also to remain to see the supporters of the help, because the helpers try to reach the starved bodies, as well as the starved souls. But no better illustration of the wonderful power of Christ in transforming sin-burdened souls and characters could have been obtained, than was, at the Jerry McCaul Mission, to which we went for the first mission.—L.H.N.

Send Before Washing

With the Household Editor.

WHILE in conversation with a group of young ladies not long ago the topic of mending came up for discussion. "It keeps me busy trying to keep my clothes in order," said one, "because it takes me such a long time to put on a patch." Another young lady remarked: "I always put my patches on with the sewing machine and it does not take long to sew them up. One can make quite a neat job of a patch that way, too." "My mother is the greatest woman to do mending," said another of the group. "She keeps her needle and thread right beside her when ironing and when she sees a small hole or a button off, she does the job right then and it is done. Mother does all the mending at our house or I am afraid it would never be done, as I dislike it so much and would rather do any other part of the housework." One young lady in the group did not give her "mending experience" until the others had

expressed themselves. It was a wonder, too, as she is such a lovely girl and such a chatterbox. "Well, girls, perhaps you will think I do my mending in a funny way, but I always do it before the articles are laundered. One reason for this is that the patches don't show so much then and it is such a relief after ironing is completed to know that you don't have to sit down and mend half a dozen holes or sew on missing buttons."

This mending-before-washing idea appeals to us as a good one for various reasons. If there is a tear or a rip before an article is washed, it is likely to be larger after laundering and the goods is in correct position and not pulled apart nor raveled, as is likely after it comes from the washing machine. This plan might interfere with the old rule of washing Monday and ironing Tuesday. It seems necessary to give the house an extra cleaning up after Sunday, however, and why not use Monday as pick-up and mending day? Then on Tuesday everything will be in ship-shape for getting off to a good start with our washing, and, best of all, when ironing is completed, a pile of mending will not be staring us in the face.

When we Retire

Mrs. F. McCann, Oxford Co., Ont.

SOME time ago I read an article in the *Household* of the department of Farm and Dairy on the subject of "Shall we Move to Town?" The article suggested that, instead of moving to town when we decide to retire, a better way would be to retain a few acres of the farm and build a home there, so that we may still live in the country. There are several things about this plan which appeal to me.

It is one of my ideals that when husband and I are too old to work the farm, or have made sufficient to keep us comfortably for the rest of our days, that we will not move to the city. There are several reasons why I hold this view. Here are a few of them:

No matter whether living on the farm or in the city, a woman can always find plenty of work to do. I think it is a big mistake, however, for a man who has worked hard on the farm to move to the city with the intention of putting in an easy time and living on his money. I have an uncle in mind who retired and moved to the city when a comparatively young man. He had very little money on the farm, and oftentimes he would not take time to walk, but would run in order to get the most possible done in a day. Uncle is still quite young, but he is so crippled with rheumatism that he walks around like an old man and many times is not able to do the few chores around the house, such as shoveling the snow and looking after the furnace in winter, caring for the lawn and garden in summer. It is my firm belief that if he had not worked so hard and had planned to continue some branch of work when he retired from the farm, he would now have much better health.

Not long ago I heard of a town to which a great many retired farmers had moved. One street was called Widow's Avenue, as there were so many widows of retired farmers living there. This is but an illustration of a well-known fact that very often a farmer's health will break down under the unusual conditions which city life brings about. I know of a farmer who moved to town with the intention of leading a leisurely life and he was contented to be a "gentleman" for a few weeks. First thing we knew however, he was seen sitting out of the back door at six o'clock



MADE IN CANADA

Bread is the cheapest food known. Home bread baking reduces the high cost of living by lessening the amount of expensive meats required to supply the necessary nourishment to the body.

REFUSE SUBSTITUTES.

E.W. GILLET COMPANY LIMITED
WINNERS TORONTO O.N.T. MONTREAL



MANY DAUGHTERS OF THE FARM ARE NUMBERED AMONGST OUR STUDENTS EACH YEAR
Academic courses from Preparatory Work to Junior Matriculation, Teachers' Certificates and First Year University—Music, Art, Oratory, Domestic Science, Social Economics and Canteen, Commercial Work, Physical Training—gymnasium, swimming pool, etc.
ONTARIO LADIES' COLLEGE.
Caldwell from Rev. P. L. Farewell, B.A., Whitby.



Canada needs what You can Save!

"What we have got to do is not only to produce, but to save!"

Sir George Foster,
Minister of Trade and Commerce.

THE part which Canada is proud to play in the Empire's war is costing more than we ever dreamed we could raise. If we are to make good financially, all must help!

If every man, woman, and child in Canada would save 15c a day, and invest it in War Savings Certificates, we could carry the cost of the War.

War Savings Certificates make it easy for everyone to become Canada's partner—bearing a share of the burden—earning, and receiving, a share of the reward.

For every \$21.50 you lend the nation now, you will receive \$25 at the end of three years—an interest return of over 5%. Certificates are issued in denominations of \$25, \$50 and \$100, selling at \$21.50, \$43 and \$86 respectively, at any Bank or Money Order Post Office.



THE NATIONAL SERVICE BOARD OF CANADA,
OTTAWA.

DEAL WITH Farm & Dairy's Advertisers

every morning with his lunch pail under his arm. He couldn't endure the life, and had to get at work of some kind.

So these are some of the reasons why hubby and I are not planning to go to the city when we retire. Instead, we aim to reserve a few acres off the corner of our farm, build a comfortable home and have a good-sized garden and probably some poultry; or we may move to the village, which is almost like living in the country. But not the city for us. Let me divulge another of our plans. Our automobile, which we would

not now like to be without, will hold a still more prominent position in our lives when we retire. It will enable us to not only enjoy the country, but it will put us within easy access of the conveniences and pleasures of city life as well. We can go to church in the city whenever we wish, take advantage of some particularly good concerts from time to time, visit our friends in the city and bring them out to enjoy a breath of fresh air and the many other good things which the country offers. Yes, our automobile will be our right-hand man then, and it seems to me that we should enjoy

life to a much greater extent than if we were to move to the city. How many readers agree with me?

Potato race is always a favorite at picnics and socials. A course of say, 50 yards is marked out, on which the runners are to start. Along each course a row of potatoes is placed. In front of each runner is placed an empty pail. The contestants must run along pick up one potato with the spoon and carry it back to the pail. Then he goes again for another. The runner who first brings back all his potatoes wins the prize.

AMUSEMENTS

Conducted by MARION DALLAS

A Strawberry Festival

DO not attempt to have a strawberry festival too early in the season—wait until the berries are cheap and plentiful; it is only then that they are ripe, red and sweet. If the festival is to be held in a berry-growing district, a very popular feature would be a strawberry exhibit. Invite both farmers and gardeners to send some specimens of their choicest varieties. Arrange each exhibit on a plate surrounded by a few strawberry leaves; beside each plate place a card with the name of the variety and by whom grown, written legibly upon it. Furthermore, have in charge of the table some representative from the Farmers' Club or Board of Agriculture who is sufficiently competent to answer all questions.

When the Festival is Outdoors

A strawberry festival may be most tastefully arranged, if held in the open air, where booths can be erected under spreading trees, and the grounds illuminated at night by colored lanterns. In a small place where extensive grounds are frequently seen, there is almost sure to be some interested worker who is willing to permit the use of lawn or grounds for such an occasion, but the suggestions given below will apply to a festival held in a hall, if the day and evening should prove stormy.

The booths for refreshments, and for the sale of any articles which it may be desired to have on sale, may be effectively and inexpensively decorated with drapings of red cheese-cloth interspersed with plenty of green in the way of ferns, laurel, etc. If evergreens should be abundant, the cheesecloth might be omitted. Amid the green make generous use of artificial strawberry blossoms six to eight inches in diameter.

In the middle of the fancy-work booth hang a donation "strawberry"—a mammoth berry-shaped affair of red denim, the pointed calyx of green calico, and the many seeds represented by irregular stitches of yellow worsted. It will require to be held in shape, if very large, by a light interior framework. It should be filled with packages containing coffee, tea, sugar, spice, raisins etc.—in fact anything usually given at a pound party. Five cents should entitle a person to guess how many seeds the "berry" contains. The record of these guesses is kept, and at the close of the evening, the person who has been most successful has the privilege of saying what shall be the destination of the "strawberry." It may be given to the minister of the church or to some charitable institution.

A Strawberry Information Party

As part of the evening's entertainment, when the festival is held at the church, distribute cards with pencils attached, and with questions concerning the strawberry written legibly upon them. After each question leave a blank space for the answer. Then allow some person with a clear voice to announce that to the person who answers correctly the greatest number of questions in an allotted time a prize will be given. No one is allowed to give or receive assistance; at the sound of a bell all must cease writing and the leader read off the correct answer to each question. Those having answered the questions correctly step forward and receive a check; those having answered incorrectly are called upon to read their answers aloud. This will create much merriment. The prize to be given to the

one receiving be a strawberry
following list of
guide:
How do you
cake?
How far apart
set?
How long be
ripe?
How does it
berries always
boxes?
Why don't you
youself?
Where are the
berry?

Strawb
Strawberries
sale—with the
sugar and crea
one booth. At
large paper pi

Can a Wor
In an adjoint
woman

paper, and pre
Jack Horner, w
and allow peop
ay, to put in t
out a number
guessing contes
cure the numbe
designating the
berries that will
evening.

Two Bright Gar
A novel idea,
quires little exp
lar with the yo
berry race." M
strawberries of
with cotton, an
table. Have an
eight feet away
be to carry fro
other on a sh
many "strawber
any are dropped,
up on the knife
taken from the
not be used to
on the knife. A
strawberry ice
to the one who
For the amuse
children a straw
berries may be p
Each child shou
"strawberry" (e
and, after being
try to pin the
vine where it be
much merriment
val popular with
bers of the churc
How to Prep
The posters to
purpose, as well
rance to the festi
cutting out letter
Give them a coat



Real Daylight Saving

In the harvest time every hour between daylight and dark is worth money to the busy farmer.

You get an early start in the morning intending to do a big day's work, but the

binder, mower or other implement breaks down and you must go to town for the repairs. If you have a Ford you are soon away and its speed clips two hours off the former three-hour journey there and back.

Count up the extra half days that a Ford will save you

during the rush of seeding; haying and harvest. You will find that the Ford will save you a week or more of valuable time on your necessary trips alone.

Many times you will want to take some produce along with you. Then your staunch

Ford is ready to carry a load of 1000 pounds. How handy this would be!

Once you own a Ford and find out the many ways you can use it for business and pleasure you will wonder how you managed without it.

The Ford is an economical investment, and a necessity on every farm.

Ford

Touring -- \$495

Runabout - \$475

F.O.B. FORD, ONT.

Ford Motor Company of Canada, Limited

FORD . . . ONTARIO.

one receiving the most checks may be a strawberry shortcake. The following list of questions serve as a guide:

How do you make strawberry shortcakes?
How far apart should the plants be set?

How long before the berries are ripe?

How does it happen that the smallest berries always get on the top of the boxes?

Why don't you raise strawberries, yourself?

Where are the seeds of a strawberry?

Strawberries for Sale

Strawberries in every form for sale—with the hulls on, without, with sugar and cream, etc., etc., may be in one booth. At this booth have a large paper pie filled with slips of

you need not wait for them to dry. Procure a large sheet of strong paper, put it on the table, and artistically arrange the letters upon it by driving pins through the paper to the surface beneath. Then dissolve a package of dye in water and, with an old toothbrush and stick you are ready for work. Dip the brush in the dye, and by rubbing a stick back and forth over the brush, spit the sheet of paper, letters and all. When you have used up your dye, leave the paper to dry, when you may take out the pins and remove the letters. In the make-up of the posters, alithonies may be used. Fasten small books at the top of the posters, if it is desired to hang them, or they may be pasted to the wall with flour paste.

Music Should be Provided
If possible have some instrumental music—a few strings and a piano. Let the music be simple and of a lively, inspiring character. In almost every congregation there are young people who are willing to contribute the musical part of the program.

The young people of the church should upon occasions of this sort devote themselves to the entertainment of the elder people and be un-mindful of their own. Their reward will surely come. And last, but not least, the young people who have anything on sale should be cautioned not to be too importunate in their demands upon the pocketbooks of the gentlemen who may be present. Too much urging often defeats the purpose which it is intended to serve.

The Car for the Farm Woman

Mrs. F. E. Ellis, Halton Co., Ont. It is evening, a beautifully mild, balmy evening, one of the few we have had this spring. We have just returned from one of our neighboring cities. It was a perfect day and we decided to go off on a shopping excursion and visit some friends in town. Such a lovely time we did have. As we glided along a perfect stone road, bordered by fine old maples, we remarked many times on the pleasure we are having with the car.

A car means independence for the country woman. It used to be that when the motors went flying by our home, I would catch myself visioning where they were going and where they had come from. They seemed almost of another world. Then our car came and now I sit on our veranda and scarcely give them a thought. Why, I can be doing just that same thing, just as fast and send just as big a cloud of dust flying out across the fields. And I pick up my work and stitch away in perfect contentment.

So many women are afraid to drive, and now that the labor problem is so acute, they really never get out except for a short spin in the evening or to church on Sunday, the men of the household being occupied with the farm work during the day. We find the car a great time saver. Very often I take the cream and eggs to the station myself, but as the agent is not always there, the hired man is a good along to handle them. But even so, he can do that much more quickly than with the horse, and every moment is precious on the farm these days. A short time ago we wanted to build a porch and the car was repeatedly brought into service, making rush trips to the planing mill or materials that had not been included in the main order. One day we came home with three bunches of shingles, a lot of half-inch boards and one of my girl friends stored in the back seat. And what a jolly ride we had! Oh, there's no end to the uses of a car, either for business or pleasure.

One day this week I took some friends and we went away up country to a big missionary meeting. We

(Continued on page 11.)



Can a Woman Drive a Car?

In an adjoining column this farm woman says, yes!

paper, and presided over by Little Jack Horner, who may sit in a corner and allow people, after paying a penny, to put in their fingers and pull out a numbered slip. This, for a guessing contest as to who will secure the number nearest to the one designating the number of boxes of berries that will be sold during the evening.

Two Bright Games for Young People

A novel idea, and one which requires little expense and will be popular with the young people, is a "strawberry race." Make forty or fifty strawberries of crepe paper, stuff with cotton, and place them on a table. Have another table seven or eight feet away. The "race" should be to carry from one table to the other on a silver dinner-knife as many "strawberries" as possible. If any are dropped, they must be picked up on the knife before any more are taken from the table. The hands must not be used to get the "strawberries" on the knife. A prize of a dish of strawberry ice cream may be given to the one who wins the race.

For the amusement of the younger children a strawberry plant minus the berries may be painted on a sheet. Each child should be provided with a "strawberry" (cut from red felt) and, after being blindfolded, should try to pin the "strawberry" on the vine where it belongs. This will elicit much merriment and make the festival popular with the younger members of the church.

How to Prepare the Posters
The posters to use for advertising purposes, as well as to adorn the entrance to the festival, may be made by cutting out letters from stiff paper. Give them a coat of boiled linseed oil;

Double the value of your farm--

THE United States Department of Agriculture has been making a study of how good roads benefit farm values with the most astonishing revelations which are applicable to Canada. Several counties in various parts of the country were selected where there has been a wholesale issue of

the construction of a system of good roads. Of course, the bond issue increased the taxes, but at the same time it so multiplied the land value that farmers found it easier to pay the increased taxes than it had been to pay the earlier ones.

Suppose you are saving \$50 a year in taxes on a farm worth \$10,000. Would you not be willing to have your taxes increased to \$100 if the value of your farm was increased to \$20,000? But that is not the only benefit from good roads.

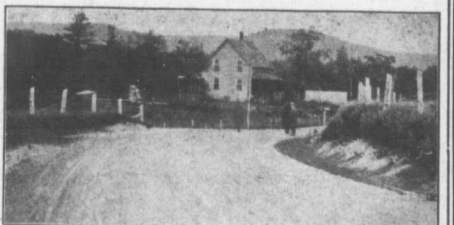
Good roads make possible consolidated schools and better education for your children. Good roads re-

duce the cost of hauling, cases being cited of counties where the reduction in hauling-cost throughout the county was enough in a single year to pay off the entire bond issue. Good roads and big loads bring the farmer closer to the railroad, converting "starvation farms" into prosperous ones, multiplying the shipments from the local freight-station and the corresponding flow of money.

You must build the right kind of roads, however, in your county system. Plain macadam roads without Tarvia treatment cost so much to keep up that they are expensive luxuries. Build Tarvia-bonded roads which are capable of resisting modern automobile traffic, as well as frost and weather, and you will find that good roads are not so expensive after all.

We have booklets which we shall be glad to send to Canadian taxpayers on request.

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



Sherbrooke-Derby Line Highway, near F Lennoxville, Provincial Government of Quebec. Constructed with "Tarvia-X" and slag, in 1915.

FARMERS
SHIP
YOUR
WOOL
DIRECT
TO US

John Hallam TORONTO Limited

The Highest Prices Ever Paid for Wool Are Now Being Paid By Us

Mr. Farmer, you can get more money for your wool by sending it direct to us. In all probability it will come to us anyway at some time, no matter to whom you sell it.

For over thirty years we have been one of the largest buyers of wool in Canada. We could not continue in business for this length of time if we had not treated our customers fairly and pay top prices. We send your money the same day as wool is received, only deducting freight or express charges.

We are now paying for wool as follows:
Unwashed fleece—fine . . . 53c to 54c per lb.
Unwashed fleece—coarse . . . 51c to 52c per lb.
Washed fleece—fine 57c to 58c per lb.
Washed fleece—coarse . . . 55c to 57c per lb.

Ship to-day or write us telling how much wool you have, if washed or unwashed, and breed of sheep clipped from. We will then quote you a strict price and send you shipping tags with full instructions.

When You Write-Mention Farm and Dairy

Warm Summer Days Coming--We Hope

IMPORTANT NOTICE

Farm and Dairy patterns shown in these columns are especially prepared for Our Women Club. They can be relied upon to be the latest and most modern and modern patterns of paper pattern. When sending your order please be careful to state but the latest and most modern and modern patterns of paper pattern. When sending your order please be careful to state but the latest and most modern and modern patterns of paper pattern. When sending your order please be careful to state but the latest and most modern and modern patterns of paper pattern.



WE are beginning to wonder if summer is really coming, or if we are going to be able to wear anything like our summer. So far, the weather has not been much like the weather of the last summer. Who knows, however, but that the weather may favor us during the month and August with very hot weather, such as we had last year. It is well to be prepared for any emergency until the hot weather is upon us, for then it will be too hot to sew, and every warm day we will be bemoaning the fact that we did not use foresight rather than hindsight in connection with this important dress problem.

Wash suits are seen everywhere, and in very bright colors. Many of the smartest are made out of two kinds of material. For instance, the skirt is made from flowered material and the coat from plain, or vice versa. These costumes show the lower portion of the skirt and the jacket of similar material, while the remainder of dress is of white. If we were to select a wash suit of similar material, the high collar dress would make up nicely in some of the flowered materials. The high collar dress would lure with the square yoke effect in front. A crushed silk or satin belt would make the suit and prevent plain in the summer. The blouse dress would make a nice finish for the suit. This model calls for two patterns 10 cents for each. The blouse is cut in sizes from 34 to 46 inches bust measure, and the skirt from 22 to 34 inches waist measure.

2121, Girl's dress--Flowing, makes are receiving much favor, and this model will

no doubt appeal to many a little miss, as it carries good style and has a chic appearance. Note the neat round collar, long or short sleeves and full pleated skirt.

2122, Lady's One-Piece Dress--These dresses should meet with much favor as it is simple, but very attractive. The deep truck running around the bottom is a unique feature, also the facing up the front. A dress made from this model need not be fashioned from expensive material in order to be pretty, as many of the cheaper flowered materials should do good service for such a costume. The style of such shown is very popular. Size: 34 to 44 inches bust measure.

2120, Lady's House Dress--One-piece house dresses are a boon to all women, and as they are always neat in appearance and easily put on or off. If desired the belt may be omitted as the waistline is slightly raised. Length sizes: 34 to 46 inches bust measure.

2102, Girl's Dress--The little miss who selects such a dress as this one, will have a costume quite similar in style to that of many grownups. Either long or short sleeves may be used, but for such a dress, in all probability the majority would prefer short sleeves. Four sizes: 4, 6, 8, and 10 years.

2099, Girl's Day Dress--What could be cooler and more "comfy" in appearance than this little dress? It may cause surprised awe for a few days until the tender skin becomes accustomed to the hot sun, but after that it should be just the thing for hot days. Four sizes: 4, 6, 8 and 10 years.

2115, Lady's "Cover All" Apron--This apron appeals to us as a splendid idea for a working dress for hot days. Note the neat neck finish of contrasting material, also belt which takes away from the loose, bulky appearance. Four sizes: small, medium, large and extra large.

Every 10¢ Packet of
WILSON'S FLY PADS
WILL KILL MORE FLIES THAN \$8⁰⁰ WORTH OF ANY STICKY FLY CATCHER

Clean to handle. Sold by all Drug-gists, Grocers and General Stores.

MUSIC TAUGHT FREE
IN YOUR HOME
By the Oldest and Most Reliable School of Music in America--Established 1895.
Piano, Organ, Violin, Mandolin, Guitar, Banjo, Etc.

Write for FREE booklet which explains everything in full.
American School of Music 78 Lakeside Building, Chicago

THE MARTIN DITCHER AND GRADER
DIGS YOUR DITCHES GRADES YOUR ROADS
EASILY QUICKLY CHEAPLY
REVERSIBLE ADJUSTABLE
DOES THE WORK OF 50 MEN
SEND FOR FREE BOOKLET
THE MARTIN CAR & GRADER CO. LANSING, MICH. U.S.A.

CILSON
POWER and SERVICE
After 2 years of Service
M. H. TUTTON, of Beachport, Ont.
Cilsons--As my A. B. English has been, since a big engine, having the 3 years service, I think I would write you. I have my own, being a kind of a "Cilson" and my own. I have my own, being a kind of a "Cilson" and my own. I have my own, being a kind of a "Cilson" and my own.

Farm and Dairy Ordered to the Front in France
Crowthorough Camp, Sussex, Eng., 21/1/17.
Dear Sirs:
I am writing to notify you of a change of my address. I do not know whether you send your paper to France or not. If possible, I would like to get it as an ad to keep in touch with things along the line of dairying and other things.
My old address is: Sapper H. C. Wilson, No. 75460, Div. Sig. Coy., Crowthorough Camp, Sussex, Eng.
My new address will be: SERR. H. C. WILSON, 75460, Canadian Signal Coy., R.E. Advanced Base, B. E. F. France.

METALIC
WHITES FOR PRICES
METALIC ROOFING CO.
TORONTO, CANADA
CEILING

PATENTS
IN ALL COUNTRIES
Book "Patent Protection" Free
BARCOCK & SONS
Formerly Patent Office Examiner, Estab. 1877
99 ST. JAMES ST., MONTREAL
Branches: Ottawa and Washington

MAKE YOUR BIKE A MOTORCYCLE
Add motor, WITH ANY CYCLES. Repair, overhaul, for less than cost.
Write today for **FREE BOOK** describing the **SHAW Bicycle Motor Attachment**, and how to add up.
SHAW MANUFACTURING CO.
Dept. 135, Galesburg, Kans., U.S.A.

FARM FOR SALE OR RENT
1 1/4 miles south-east of Omemee; 125 acres. Lot 11, 2nd Con, 3rd Line, Twp. of Emery. In good state of cultivation; 4 acres woodland, a well and 3 never failing springs. Buildings and fences in good repair and up-to-date. Apply to **JEFFREY WIDDIS**, Omemee, Ont. Box 81.

ROOFING MILL ENDS CHEAP
A United quantity of High-Grade Mill Ends for sale cheap. Samples free.
FACTORY DISTRIBUTORS
LTD. OF CANADA

SHIP YOUR BUTTER & EGGS
to us. We are not commission merchants. We pay net prices and remit promptly.
THE WILLIAM DAVIES COMPANY LIMITED
Established 1854. TORONTO, ONT.

Branford Kerosene Engines
1 1/2 to 40 H. P.
Stationary, Mounted, Traction
These engines are the perfected product of years of study and experimentation with the Internal Combustion Engine, and are a demonstrated success on thousands of farms throughout Canada. Get one this season and let it replace your hired man. It's a glut for work and its running cost is little, as it runs on coal oil or naphtha. We also manufacture a full line of Grain Grinders, Saw Frames, Pump Tanks, Water Boxes, Concrete Mixers, Windmills, etc. Catalogue of any line mailed on request.
GOULD, SHAPLEY & MUIR CO. LTD.
Branford, Winnipeg, Regina, Calgary

The Car for
(Continued)
heard a fine it was an art profitably spent not one of us only for the cost to life. ing new scene better still, for but not so often. On a trip to life, paraded all the women's dress who are making themselves an assurance and up, we come the quiet, with the country, children to with the privilege which is a music can teach us a great joyfulness. But just a while the car. It was learning to do the inner work of the heart, charitably to be able to share with the Alas, my greatest sorrow is that I have not been able to place me at the top of the world. As we skid on the ground, we should go well. Well, as a matter of fact, I don't know what price; I don't make of it a misfortune or to admire the Samaritan can help hand. If the car of the radiator fill of gasoline in the chance of getting and for the car is a woman.

Winning
(Continued)
yond the line made me think sentimental said. It was after hours were stretch wearily in the eastward broke again it came, but increasing in Manila there along the long streaks of Philippine valleys. The thine seemed to be ward the northwards were Toronto road, a rush to steam moment civil garment, and He crept across the sea, while in on his face in a whirl of bullets his head. As he sprang into his company joined them, the tall form of "What's a rag? Clarke asked. "Didn't you 'Thaine' kept of rifles, follow along the entire north there are

The Car for the Farm Woman
(Continued from page 19.)

heard a fine address and, altogether, it was an afternoon and evening most profitably spent. In all probability, not one of us would have been there, only for the car. Things like this add zest to life. An afternoon spent seeing new scenery and new faces, or, better still, faces that are dear to us but not so often seen, is a real tonic. On a trip to the city, where we see paraded all the vulgar extremes in women's dress, where we see girls who are mere children disporting themselves on the streets with all the assurance and worldliness of grown-ups, we come home truly thankful for the quiet, wholesome atmosphere of the country. There we can have our children to ourselves occasionally, with the privilege of being real chums, which is a mutual benefit, for children can teach us many things and are great rejuvenators.

But just a word as to the driving of the car. It was my intention before learning to drive, to understand all the inner workings. There was a complicated chart and it was my ambition to be able to identify all the parts and understand their action, etc. Alas, my grey matter received the most severe shaking up it has experienced in many a day and my instructor folded up the chart and placed me at the wheel and I—drove.

As we skidded along the other day, one of the girls asked, "if anything should go wrong, could you fix it?" Well, as a matter of fact, I couldn't. I don't know a carburetor from a spark plug; however, as a rule, I don't make a practice of crossing my bridges till I come to them and, when misfortune overtakes me, I'll just admire the scenery until some good Samaritan comes along and lends a helping hand. I had found, however, that if the car is always well oiled, the radiator filled with water and lots of gasoline in the tank, that the chances of getting "stalled" on the road are few and far between. Yes, the car is a blessing to the farm woman.

Winning the Wilderness

(Continued from page 16.)

rovd the lines just now who made me think of that fellow, and that made me think of Doctor Carey," the sentinel said, and turned away.

It was after nine o'clock, and the hours were already beginning to stretch wearily for sentinels, when a faint sound of guns away to the eastward broke on the air. Again and again it came, intermittently at first, but increasing to a steady roar. Down in Manila there was dead quiet, but along the American line of outposts the ripping of Mauser bullets and long streaks of light flashed the Filipino challenge to war in steady volleys.

As Thaine listened, the firing seemed to be creeping gradually toward the north, and he knew the insurgents were swinging toward the Tondo road, down which they would rush to storm the bridge. In that moment civil life dropped off like a garment, and he stood up a soldier. He crept cautiously toward the bend to see what lay beyond, and dropped on his face in the dusty way as a whirl of bullets split the air above his head.

As he sprang back to his place beside his comrades, other sentinels joined them, and behind them loomed the tall form of Captain Clarke.

"What's around there, Aydelot?" Clarke asked.

"Didn't you hear?"

"Thaine's reply was lost in a roar of rifles, followed by increased firing along the entire line, massing to the north before the Twentieth's front.

"There are ten more men on the

way up here. We'll hold this place until reinforcements come," Captain Clarke declared.

It was such a strategic point as sometimes turns the history of war. But the odds are heavy for sixteen men to stand against swarms of insurgents armed with Mausers and Remingtons. In the thrill of that moment, Thaine Aydelot would have died by inches had this tall, cool-headed captain of his demanded it. Clarke had arranged his men on either side of the way, and the return fire began. Suddenly up the road a lantern gleamed. An instant later a cannon shot plowed the dust between the two lines of men.

"They've turned a cannon loose. Watch out," Clarke called through the darkness.

A second time and a third the lantern glowed, and each time a cannon ball crashed through a nipa hut beside the little company, or threw a shower of dust about the place. "They have to load that gun by the light of a lantern. Let's fix the lantern," Thaine cried, as the dust cloud settled down.

"Good! Watch your aim, boys," Captain Clarke replied.

The bullets were falling thick about them. They whizzed through the bushes, they cut into the thatched huts, they flung swirls of dust on the little line of brave soldiers, they poured like stinging sweeps of hail, volley after volley, along the Tondo road. When the lantern flashed again, sixteen bullets riddled it, and without its help the big gun was useless.

"Poor lantern! It fell on the firing line, brave to the last," Thaine declared as the smoke lifted.

But the loss of the cannon only doubled the insurgents' efforts, and they threatened at the invincible little band with smoking lead. On the one side was a host of Filipino rebels, believing by the incessant firing of the Kansas that it was facing an equal host. On the other side were sixteen men who, knowing the odds against them, dared the game of war to the limit.

"How many rounds have you left?" Captain Clarke asked.

"Only one," came the answer. "Give it to them when I give the word. We won't run till our guns are empty," the captain declared grimly. (To be Continued.)

Refrigerated Engine

The new "Z"

1 1/2 H.P.
On Skids With
BUILT-IN MAGNETO

Absolutely the one great, convincing engine value.

Fairbanks-Morse Quality at a Popular Price

That's the story in a nutshell. This new "Z" Engine puts dependable, efficient, economical "power" within the reach of every farm.

"More Than Rated Power and a Wonder at The Price"

Simple—Light Weight—Substantial—Pool-proof Construction—Gun Barrel Cylinder Bore—Leak-proof Compression—Complete with Built-in Magneto. Quick starting, even in cold weather. Low first cost—low fuel cost—low maintenance cost. That's the new "Z" engine.

GO TO YOUR DEALER AND See the "Z"

Inspect it. Compare it. Match it point by point. Have him show you the features that make the new "Z" engine the greatest engine value offered. You'll buy it.

The Canadian Fairbanks-Morse Co. Limited
St. John, Montreal, Toronto, Winnipeg, Saskatoon, Calgary, Vancouver.

Important Dealer Service
When you buy an engine from your dealer you deal with a local representative of the manufacturers. He shares their responsibility. He stands behind the engine he sells. He's responsible to you. He's at your service to see that you are satisfied. And he's as near you as your telephone any time you want him.





BUILD A STURDY STAVE SILO

Cost Less and
100% More Durable

Our Preservative Process is an Exclusive Feature.

A 50-page Fully Illustrated Descriptive Catalogue free on request.

Territory still open to live Agents.

THE ADIRONDACK SILO CO.
OF CANADA, LIMITED
425 Atwater Avenue - Montreal, P.Q.



HINMAN MILKERS

The Dairyman Who Operates the
HINMAN Has Cut His Milking
Expense To The Bone?

HINMAN SIMPLICITY

Is Responsible for Their Low
Cost to install and Upkeep.

\$60.00 Per Unit

No Pumps to Buy, No Tanks to install. No Gauges,
Safety Valves or Metal Pipes to Purchase. The
HINMAN Unit is complete in itself.

Write—Telling us the number of Cows you have. Our Low Price
Will Surprise You.

H. F. BAILEY & SON

GALT, ONT.

CNR CNR CNR CNR CNR CNR CNR CNR CNR CNR

**Take Your Opportunity
— NOW**

What are your prospects as
"hired man"?

How long will it take you to
own a farm of your own?

These are questions which every
ambitious man must face.

Don't settle in the rut of hand to
mouth existence.

Get a FREE HOMESTEAD

Our "Homeseekers' and Settlers' Guide,"
to be had for the asking, will tell you how
and where. Write to the nearest C.N.B.
agent or General Passenger Dept., 68 King
St. East, Toronto, Ont.

CNR CNR CNR CNR CNR CNR CNR CNR CNR CNR

You'll Find the Advertisers in FARM AND DAIRY
are reliable. They are
advertising reliable goods. They want to know you; also want to know
where you saw the Ad. When writing them don't forget to tell them
you saw the Ad. in FARM AND DAIRY.

The Makers' Corner

Butter and Cheese Makers are in-
vited to send contributions to this
department, to ask questions on
matters relating to cheese making,
and to suggest subjects for discus-
sion.

Three Uses for a Trailer

W. L. Smith, Durham Co., Ont.
MOTOR trucks are being used in
this neighborhood for three dif-
ferent services—gathering eggs,
honey and cream.

Mr. Andrew Knox is quite exten-
sively engaged in the production of
honey. His colonies of bees are not
all confined to one place but are scat-
tered over quite a wide expanse of
country in order to facilitate their
work. One of his principal honey
stations is located in the orchard of
Mr. W. H. Gibson, Ontario's largest
individual apple grower. Mr. Knox,
before his honey stations were so nu-
merous, used a single horse rig for col-
lecting. He now uses a trailer. If he
depended on horse power today two
men and two rigs would be necessary
to do the work he is now able to do
himself with the help of a tractor.
A local egg collector is using another
tractor in his business and finds he
can save about two days' time in a
week by so doing.

In the case of Orono Creamery Co.
the greatest saving of all has been
effected. The manager tells me that
he has been able to dispense with
three teams by using a trailer for
cream gathering. Not only is time
saved but the cream arrives at the fac-
tory in better condition because there
is less jolting and exposure to the
heat of the day is extended over a
shorter time.

Sidelights on the Cheese Situation

THE changed situation in the
cheese trade this year has de-
veloped some interesting fea-
tures. For instance, in the past
cheese exporters have frequently been
able to buy cheese during the sum-
mer and through storing it, sell it at
a profit during the winter and spring
months. Sometimes, of course, this
practice has resulted in heavy losses
to the exporters, but nevertheless, as
a rule exporters have expected to
make a profit in this way. Of late
years, there has not been as much of
this speculation as there was some
years ago, owing to the fact that the
development of the cheese trade in
New Zealand and the placing of the
New Zealand cheese on the British
market at the same time that the
Canadian stored cheese would natu-
rally be sold there, has tended to make
it unprofitable to hold Canadian cheese
in anticipation of an advance in the
market price. The new situation in
Canada is going to make it still more
difficult, in fact, impossible, for ex-
porters to hold cheese expecting an
advance in the market. This, some
advance in the market. This, some
of the Montreal exporters who have
large warehouses will be at a loss
inasmuch as they will not be able to
use their warehouses for the purpose
of storing cheese as they have in the
past. Unless the warehouses can be
turned to other purposes the loss will
amount to considerable.

An editor of Farm and Dairy while
in Montreal recently, asked Mr.
Arthur Hodson, the well-known cheese
exporter, of Montreal, if there was
any possibility that some of the
Montreal exporters might want to
corner the market through endeavor-
ing to handle large quantities of the
cheese sold and in that way to re-
duce the cost of handling as to
squeeze their competitors out of the
market, out of the market. Mr. Hodson

did not think it was at all likely that
such a situation would develop ow-
ing to the fact that the ratio of ex-
pense in handling large quantities of
cheese is about the same as for han-
dling smaller quantities, the reason be-
ing that the handling of cheese is
practically all done by hand labor.
This means that the amount of labor
employed increases in proportion to
the amount of cheese to be handled.
In this respect it is different from
some other lines of business where
machinery can be used and where
large quantities can be handled much
more cheaply than small quantities.

Dealing in U. S. Cheese.

For some years our Canadian ex-
porters have imported considerable
quantities of cheese from the United
States and shipped it from Canadian
ports. This has led to charges being
made in the past that American
cheese were going forward as Cana-
dian cheese, and not being as good
in quality, were likely to injure the
reputation of Canadian cheese. At
present cheese is selling higher in
the United States than it is in Cana-
da. It is not believed that there
will be some inducement this year,
even if the price of U. S. cheese
falls, to import cheese in this way as
there has been in the past.

It seems to be expected that cheese
in eastern Ontario this year will com-
mand a little higher price than the
cheese in Western Ontario, where the
quality of the cheese is equal, owing
to the difference in the freight charges
on handling cheese between Eastern
and Western Ontario points and
Montreal. Buyers in the past have ap-
parently been more inclined to level
up freight charges and to pay them
in the price paid for cheese in a way
that did not make this difference so
apparent as it seems likely to become
this year. One Montreal exporter ad-
vises us that where the charge from
Cornwall to Montreal approximates
15 cents a box, from Stratford it will
approximate 25 cents a box.

Will be More Competitors.

The fact that the cheese will all be
taken over by the Cheese Commis-
sion at Montreal, is leading some
firms, such as the Swift Company,
Wm. Davies Company, and T. H.
Byan of Montreal to buy more this
year than usual. In the past it has
been difficult for firms to deal in
cheese on any large scale unless they
had British connections, where they
would be sure of an outlet, and unless
they had storage and other facilities
for the handling of cheese to advan-
tage. Now it is no longer necessary
to have the connections and facilities
that have been required hitherto, and
when there is a certainty of a steady
market, some firms are buying more
extensively this year than ever before.
This means that the increased com-
petition thus brought about is likely
to assure farmers receiving the high-
est possible price through the cost of
handling cheese in Canada being re-
duced to a minimum.

Loss of Fat With Pepsin

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

OWING to the scarcity of rennet
extract in Canada in 1916, many
of the cheesemakers were obliged
to use pepsin as a substitute. It
was generally admitted at the end
of the season that there was a greater
loss of fat in the whey when pepsin
was used than there was when using
rennet extract.

Considerable work was done at the
Pinch Dairy Station, between Febru-
ary 23rd and May 10th, 1917, endeav-
oring to eliminate this extra loss of
fat. Tests were made with different
quantities of pepsin, setting the milk
at different temperatures and develop-
ing a higher acidity in the milk be-

fore setting.
In pro-
cessions, one pro-
solved in one

Summing up
between Febru-
we would set
the best result
ting at setting
and using en-
the milk read
minutes. Set-
tures over 8
loss of fat in
case.

The loss of
lessened by 1
pepsin per L.
four ounces of
Developing
so that the c
two hours aft
highest in set-
fat in the whe
It was found
eured to get fi
but there was
it got overly
In some cas
not with pep
than the whe
rinest extrac
that varying
from day to d
factory work
the whey to
the best use
tract is used,
care must be
eured and st
when making

Record
RECORD
solid cool
farmers und
the Ontario S
tion, Mr. R.
Treasurer re-
sales, which
Prices averag
pound, which
highest in the
1913, before t
to 15 cents pe
cents; in '916
83 cents.
Prices for
Wade, were a

Grade.
Fine medium co
Medium combin
Medium cloth
Low medium co
Coarse
Lustra
Majesta
Grey and black
socks and pipe
Twin
Washed wool
First C

This is the
of Ontario be
tively. Over
pated in the
sed out in the
ture, and ship
Winter. Pa
where the wo
part, and buy
merchants of
inspect the of
ders.

"The sharp
to the war an
to make unlit
men in the
Wade. "With
United States
mand for wool
as every sock
will have two
The wool a
valued at abo
annual output
mnds.

fore setting than is commonly practiced. In preparing the pepsin solutions, one pound of pepsin was dissolved in one gallon of water.

Conclusion.

Summing up all the tests made between February 23rd and May 10th, we would say that in using pepsin, the best results were secured by setting at a temperature of 56 degrees and using enough pepsin to coagulate the milk ready to cut in from 25 to 30 minutes. Setting the milk at temperatures over 56 degrees increased the loss of fat in the whey in nearly every case.

The loss of fat in the whey was lessened by increasing the quantity of pepsin per 1,000 pounds of milk from four ounces to 5 1/2 and six ounces.

Developing the acidity in the milk so that the curd dipped in less than two hours and fifteen minutes from time of setting, increased the loss of fat in the whey to a marked extent.

It was found advisable to allow the curd to get fairly dry before cutting, but there was no advantage in letting it get overly firm.

In some cases the whey from milk set with pepsin tested lower in fat than the whey from milk set with rennet extract. It seems, however, that varying conditions in the milk from day to day as found in every-day factory work affect the loss of fat in the whey to a greater extent when pepsin is used than when rennet extract is used. Therefore, the greatest care must be exercised in cutting the curd and stirring it while cooking when making these with pepsin.

Record Prices for Wool

RECORD prices have been secured for over 100,000 pounds of wool, sold cooperatively by Ontario farmers under the auspices of the Ontario Sheep Breeders' Association, Mr. B. W. Wade, Secretary-Treasurer, recently by the state of the sales, which were made by tender. Prices averaged well over 60 cents a pound, which is believed to be the highest in the history of Canada. In 1913, before the war, wool sold at 12 1/2 to 15 cents per pound, in 1914, at 20 cents; in '915, at 27 cents; in 1916, at 32 cents.

Prices for 1917, as given by Mr. Wade, were as follows:

Grade.	Approximate Probs.	Weight, lbs. per lb.
Fine medium combing ..	3,600	67c
Medium combing	83,000	67c
Medium clothing	7,000	67c
Low medium combing	43,000	62 3/4c
Coarse	90,000	67c
Laure	4,000	57c
Woolace	2,500	57c
Grey and black	1,200	46c
Larks and pieces	100	24c
Waste	4,800	26c
Washed wool (small lot)	750	26c

First Cooperative Sales.

This is the first year the farmers of Ontario have sold wool cooperatively. Over 1,600 of them participated in the scheme, which was worked out in the Department of Agriculture, and shipments were made to the Winter Fair Building at Oshawa, where the wool was graded by an expert, and buyers for the leading wool merchants of the Dominion came to inspect the offerings and submit tenders.

"The sharp advance in price is due to the war and the demand for wool to make uniforms for the millions of men in the allied armies," said Mr. Wade. "With the entrance of the United States into the war the demand for wool has greatly increased, as every soldier in the American army will have two, if not three, uniforms."

The wool sold cooperatively was valued at about \$139,000. Ontario's annual output is about 2,000,000 lbs.

THE LATEST AND BEST AUTOMOBILE BOOKS
ALL 1917 EDITIONS

STARTING, LIGHTING AND IGNITION SYSTEMS



By Victor W. Page
A practical treatise on modern starting and ignition systems practice. Includes a complete exposition of storage battery construction, care and repair. Explains all types of starting motors—generators—magneto and all ignition or lighting system units. Considers the systems of cars already in use as well as those that are to come in 1917. A book every one needs. Nothing has been omitted, no details have been slighted. A book you cannot afford to be without.

Nearly 500 pages, 297 Specially Made Engravings, 1917 Edition. Price \$1.50.

THE MODERN GASOLINE AUTOMOBILE

By Victor W. Page
The most complete treatise on a gasoline automobile ever issued. Written in simple language by a recognized authority familiar with every branch of the automobile industry. Free from technical terms. Everything is explained so simply that anyone of ordinary intelligence may gain a comprehensive knowledge of the gasoline automobile. The information is up to date and includes, in addition to an exposition of principles of construction and description of all types of automobiles and their components, valuable money-saving hints on the care and operation of motor cars propelled by internal combustion engine. The book tells you just what to do, how and when to do it. Nothing has been omitted, no detail has been slighted.

850 Pages, 600 Illustrations, 12 Folding Plates, 1917 Edition. Price \$2.50.

AUTOMOBILE REPAIRING MADE EASY

By Victor W. Page, M.E.
A thoroughly practical book containing complete directions for making repairs in all parts of the motor car mechanism. Written in a thorough but non-technical manner. Will be found of special value to garage-men, chauffeurs and automobile mechanics; it also contains a mass of general information that will be of equal value to the motorist who takes care of his own car.

This book contains special instructions on electric starting, lighting and ignition systems. Tire repairing and rebuilding. Autogenous welding. Hrasing and soldering. Heat treatment of steel. Latest timing practice. Eight and twelve under motor, etc. etc. Guide to greater mechanical efficiency for all repairs. You will never "get stuck" on a job if you own this book.

1000 Specially Made Engravings on 500 Plates, 1056 Pages (9 1/2 x 8), 11 Folding Plates, 1917 Edition. Price \$3.00.

THE MODEL T FORD CAR

By Victor W. Page
This is one of the most complete instruction books ever published. All parts of the Ford Model T Car are described and illustrated. Complete instructions for driving and repairing are given. Every detail is treated in a non-technical yet thorough manner.

The book is written especially for Ford drivers and owners, by a recognized automobile engineering authority and an expert on the Ford, who has driven and repaired Ford cars for a number of years. He writes for the average man in a practical way from actual knowledge. All parts are described. All repairs processes illustrated and fully explained. 1917 edition. 2 Large Folding Plates, 100 Illustrations, 300 Pages. Price \$1.00.



AUTOMOBILE QUESTIONS AND ANSWERS

By Victor W. Page
This practical treatise consists of a series of thirty-seven lessons, covering with over 3,000 questions and their answers the construction, operation and repair. The subject matter is absolutely correct and explained in simple language. If you can't answer all of the following questions you need this work. The answers to these and 2000 more are to be found in its pages. (Give the names of all important parts of an automobile and describe their functions. What is the difference between a "dual" ignition system? Name parts of an induction coil. How are valves timed? What is an electric motor starter and how does it work? What are advantages of worm drive gearings? Name all important types of ball and roller bearings, etc., etc.)



650 Pages, 350 Illustrations and Plates, 1917 Edition. Price \$1.50.

THE AUTOMOBILIST'S POCKET COMPANION AND EXPENSE RECORD

Arranged by Victor W. Page, M.S.A.E.

This book is not only valuable as a convenient cost record but contains much information of value to motorists. Includes a condensed digest of auto laws of all States, a lubrication schedule, hints for care of storage battery and care of tires, location of road troubles in all parts of the car, anti-freezing solutions, horse-power table, driving hints and many useful tables and recipes of interest to all motorists. Not a technical book in any sense of the word, just a collection of practical facts in simple language for the everyday motorist.

It will enable you to keep track of all your expenses. Convenient ruled pages eliminate all bookkeeping except entering a few figures daily. Shows the miles covered during each day of the year, the fuel used and cost of repairs. Tells if your tires are standing up to their guarantee, which make of tires gives best service, etc. Convenient pocket size, handsomely bound in limp leatherette cover. Price \$1.00.



AUTOMOBILE WELDING WITH THE OXY-ACETYLENE FLAME

By M. Keith Dunham
THIS IS THE ONLY COMPLETE BOOK ON THE "WHY" AND "HOW" OF WELDING WITH THE OXY-ACETYLENE FLAME. The various parts of the automobile.

Explains the apparatus to be used, its care, and how to construct necessary shop equipment. The actual welding of all automobile parts is treated in a manner understandable by average motorists. Automobile owners, garage and service stations, blacksmith and machine shops, as well as industries using the oxy-acetylene flame will find this book of the utmost value, since the perplexing problems arising when metal is heated to a melting point are fully explained and the proper methods to overcome them shown. 192 Pages, Fully Illustrated, 1917 Edition. Price \$1.00.



AUTOMOBILE CHARTS, 25 CTS. EACH

Location of Carburetion Troubles Made Easy. Location of Ignition System Troubles Made Easy. Location of Cooling and Lubrication System Faults. Location of Ford Engine Troubles Made Easy. Location of Gasoline Engine Troubles Made Easy. Lubrication of the Motor Car Chassis.

Any of these books sent prepaid on receipt of price, or a special circular of all our Automobile Books and Charts sent on request.

RURAL PUBLISHING CO., Ltd. Peterboro, Ont.

Avondale Farm Doings

At the GREAT WORCESTER sale June 8th, Mr. Ralph Stevens, of the famous Stevens herd, bought a fine son of our bull, KING PONTIAC ARTIS CANADA, for \$9,000, to head his herd—that is, to take the place of the world's greatest Holstein sire, KING OF THE PONTIACS. The same day Mr. Quentin McAdam bought a son of May Echo Sylvia's oldest son and out of Belle Model Johanna 2nd (twice a 37 lb. cow), to be assistant to the famous sire King Kornelyde Sadie Vale.

While their prices are big, the herds they go to give us even greater satisfaction. Both bulls were bred and raised by us.

Isn't this blood good enough for your herd? Or any herd? We have a lot at moderate prices of the same breeding, and are offering bargains to the first few buyers, so as to lower our stock at once.

Their Sires are Champion Echo Sylvia Pontiac Woodcrest Sir Clyde

who has a 33 lb. dam. His first daughter has just completed a 7 day record of 23 lbs. as a 7-2yr-old.

H. Lynn, Supt. AVONDALE FARM, Brockville, Ont.

Omemee Club Has Visitors

On Thursday evening, June 28, the members of the Omemee Farmers' Club were the hosts and entertained right royally the members of the Linden Valley Farmers' Club, a over in automobiles, including their Secretary, Mrs. Webster, who is said to be the only woman secretary of a farmers' club in the province, and who is doing excellent work for her club. Visitors were also present from the Rosboro and Dunsford Farmers' Clubs. An excellent programme, including a quartette and solos was furnished by the members of the Omemee club as well as refreshments. The president of the Omemee club, Mr. W. C. Veala, presided. Speeches were made by Mr. Gullis, president of the Linden Valley Club; Mr. Reid, of the Rosboro Club; and Mr. Thurston, of the Dunsford Club. The principal speech was delivered by Mr. H. B. Cowan, Editor-in-Chief of Farm and Dairy, who related interesting incidents in connection with the growth of the farmers' movement in Western Canada, as well as in Ontario.

Service by the Central

(Continued from page 15.)

that firm at the price quoted. The object of forwarding the orders in this way, he explained, was two-fold. In the first place, there are firms that are so anxious to draw business away from the Central Farmers' Company they are willing sometimes to sell goods at a loss. The firms would hate to find that their plans were known to the Central Company, and might even refuse to fill such orders if sent through the Central Company. Should any firms refuse to fill orders so sent it would furnish strong proof that they were enemies of the movement, not friends, and that their purpose was to disorganize the movement.

The second object was that by sending the orders through the Central it would enable the Central to know what other firms were quoting, and thus possibly to obtain a better price on such goods itself through the firms with which it was dealing. If locals will bear these points in mind they will help the movement as well as the Central Farmers' Company by sending the all orders to competing firms are sent forward in this way.

Now that the volume of business being done by the United Farmers' Company has assumed such large proportions, Mr. C. W. Gurvey, the manager, reports that he is finding it more and more difficult to induce dealers to fill the orders of the United Farmers' Company. The opposition to the growth of the farmers' movement is becoming quite marked among certain wholesalers and manufacturers.

The Auto Trade of 1917

In spite of the many difficulties besetting the path of the manufacturer this year—such as costly materials, costly labor, and railway embargoes—the indications are that the output of motor cars in Canada will exceed the record sales of 1916. Since 1914 some 20,000 cars have been sold annually in Canada, until last year, when the figure reached over 25,000. It was calculated, through the record of motor car registrations, that there were about 110,000 cars in this country at the end of 1916. The present outlook amongst automobile men indicates a sale of 30,000 cars in Canada during 1917, thus bringing the total registration up to 140,000.

Fewer Cheap Models.

The lowest priced class of cars, with one or two exceptions, has not been materially affected. It is estimated that the production of cheaper models has been reduced about five per cent. Of the total motor output, 22 per cent.

last season represented low-priced cars below \$1,000. This year the proportion will be about 17 per cent. There are many more models, however, listed at prices ranging from \$1,000 to \$2,000. The class costing \$2,000 to \$3,000 reflects very little change, while the number of cars priced above \$3,000 is considerably less. The wonder is, in view of the rapid advances in the cost of such materials as iron, steel and all metal parts, as well as leather and rubber, that the listed prices of motor cars are not generally higher than they appear at the present time.

Western Farmers Buying Cars.

The great expanding market for automobiles in Canada is in the middle western provinces, where the farmer has become the motor agent's best customer. The profits from the valuable crops of the past two years have helped to swell the sales of the motor industry in Canada. The three western provinces—Manitoba, Saskatchewan and Alberta—invested \$45,000,000 in automobiles in 1916, and in tires and accessories over \$1,600,000. The great increase in sales which has taken place in the last two years means that every man who owns a car now makes two prospective buy-

JOHN HALLAM'S Wool Prices

In the advertisement that appears on another page for John Hallam Co. the prices quoted are in error. Revised quotations came to hand just as we went to press, too late to make any changes in the advertisement. The new prices which readers should kindly note are as follows:

Unwashed fleece, fine, 58c to 60c per lb.
Unwashed fleece, coarse, 56c to 58c per lb.
Washed fleece, fine, 70c to 72c per lb.
Washed fleece, coarse, 68c to 70c per lb.

Every Farm should have
an Ayrshire!

MORE MILK MORE BUTTER
MORE PROFIT
WRITE FOR CATALOGUE
CANADIAN Ayrshire Breeders' Association
HUNTINGDON QUEBEC

SPRINGBANK AYRSHIRES

For sale: One choice yearling bull; a few bull calves from 3 to 8 months old, and a few choice cow calves. All are bred to color and type, and from R.O.P. dams.

A. S. Turner & Son, Ryegram Crossers, Ont.

Special Offer

of pedigreed TAMWORTH stock. Young sows in pig, also males and females about to be weaned.

HEROLD'S FARMS

Beausville Ontario

A 31.55 lb. Bull Ready for Heavy Service

HIS SIRE LINDENWOOD DUKE is out of the grand cow DAISY POSCH, 23 lbs. butter, 7 days; 100 lbs. milk 1 day, and GRAND CHAMPION, Ottawa Dairy Test, 1916.

HIS DAM QUEEN NETHERLAND POSCH, 11048. She weighed nearly 2,000 lbs. before calving, a show cow with one of the very best udders I have ever seen. After giving birth to a monstrous pair of twin heifers, she ever just made 405.7 lbs. milk; 31.55 lbs. butter in 7 days, average test 4.1% on a ration of grass and meal.

This lad was born July 28th, 1916, a right smart individual, more white than black; active and sure. Just a splendid buy for two or three breeders.

WRITE FOR PHOTOS and PRICE, or would be pleased to have your inspection.

W. H. CHERRY, Hagersville, Ontario.
Bell Phone. (Haldimand County.)

Peerless Poultry Fencing

A real fence, not netting. Strongly made and closely spaced, a complete barrier against animals of any kind. Keeps the small chicks confined. They can't get through. Does all and more than is required of a poultry fence.

The heavy, hard steel top and bottom wires with intermediate lateral wire hold a carefully latched wagon or unruly animal and immediately spring lock into shape.

The wires are held together at each intersection by the Peerless Lock.

Send for Catalogue and address of nearest agent. We make a complete line of farm and ornamental fencing. We now have agents nearly everywhere, but will appoint others in all unassigned territory. Write for catalogue today.

THE BANWELL-HOXHE WIRE FENCE CO., LTD.
WINDSOR, ONT.
HAMILTON, ONT.

FAIRMOUNT AYRSHIRES

Mature cows and young stock for sale always on hand (both sexes) from large heavy producing high testing cows, sired by Robin Hood Fairmount, Imp. U.S.A. No. 49184, son of the famous Netherland Robin Hood, Imp. No. 29782. Inspect our herd or write for particulars.

B. J. TAYLOR

AYERS CLIFF, QUE.

LAKESIDE AYRSHIRES

A select lot of young bulls, all ages, bred by Auchenbain Sea Foam (Imp.) 80768 (886), Grand Champion at both Quebec and Sherbrooke. From record of Performance Dams. Write for catalogue.

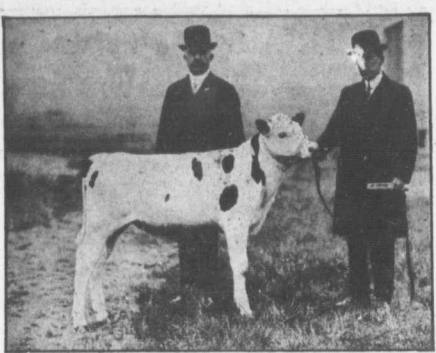
Proprietor:

GEO. H. MONTGOMERY,
Dominion Express Bldg., Montreal.

Manager:

D. McARTHUR,
Phillipsburg, Que.

When You Write--Mention Farm & Dairy



King Ormsby Jane Rag Appled 208883.

This bull, at the age of five months, was sold for \$53,200 at the sale held in Worcester, Mass., June 7 and 8. He is the son of Best Apple Korndyke 518 78416 and Ormsby Jane Segis Agate 15945, the wonderful twice 40-lb. cow and world's champion for 30-day butter production.

ers for some distributor for the coming year. Take Alberta, for instance, which in proportion to population has benefited most by the abundant harvests. There were some 10,000 cars in Alberta at the year end. It is fully expected that the tremendous demand from the rural districts will result in increasing that number to 13,000 before the end of 1917.—Toronto Globe.

Wentworth Farmers on Tour

SEWENTHREE farms containing eighty-two farms of Wentworth county left Hamilton, Tuesday morning, June 19th, on their second annual automobile tour. They recognize the value of seeing what other people are doing and set out to see what was happening on some of the fruit and stock farms of the Niagara Peninsula and across the border. The route selected was through perhaps the most beautiful section of Ontario, especially at this period of the year. The first stop after ambling through this beautiful country was at the Vineland Experiment Station. Mr. Frank Palmer, the director, and Mr. S. H. Rittenhouse escorted the party through the farm. Mr. Palmer explained the work they were undertaking and how new varieties of fruits and vegetables were being produced. Different plots of hybrids were inspected and Mr. Palmer mentioned which were the brightest prospects. The Rittenhouse school and garden, also Victoria Hall, were visited.

Dinner had been arranged at St. Catharines, after which they proceeded to the Larkin Farms of 1,000 acres each at Queenstown. The manager of the first farm, Mr. Ramsay, had some of their prize winning and championship stock shown the party and escorted them through the almost endless chain of magnificent buildings. Mr. Larkin, the proprietor of the farm, has spent his money freely in building houses for his stock. Mr. Larkin's farm on top of the mountain was visited and Mr. Calvert, the manager, made all welcome there. At this farm an excellent herd of Jerseys are kept, also some splendid Shropshire sheep and a number of hogs. After driving about the Canadian side for a time the river was crossed and the party proceeded to Buffalo. The following morning all arrived at the Cavanaugh Stock Farm where is kept one of the world's greatest Holsteins. Mr. Neaman, the manager, had the party shown their world's champion bull and milk cow, also the world's champion butter cow which produced 50.63

pounds of butter in seven days. These two cows had last year two bull calves, one has been sold at \$53,200, and the other is not for sale at \$100,000. Their herd bulls were exhibited, also the remainder of the herd at that farm. This herd of 25 or 30 were certainly a picture to look at. The junior herd was also of very high order. The party then returned to Buffalo for dinner, and after arriving again in Canada visited Mr. F. W. Houck's farm at Black Creek. Mr. Houck has an exceptionally good young herd. It pleased Canadian farmers to return to Canada and find a herd which may some day have a reputation similar to the Cavanaugh herd. The cars proceeded on their way home, stopping at St. Catharines for supper. Those who took the trip are agreed such an outing has of itself great educational value. Ideas are broadened and ideals are formed. Wentworth farmers think they could not dispense with this their annual educational outing. The arrangements were made by J. N. Allan, District Representative at Hamilton, and E. K. Hampson, District Representative at Welland.

HOLSTEIN-FRIESIAN NEWS

Farm and Dairy is the leading exponent of dairying in Canada. The great majority of the members of the Holstein-Friesian Dairy Association are readers of the paper. Members of the Association are invited to send items of interest to Holstein breeders for publication in this column.

OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS FROM MAY 1 TO MAY 31, 1917.

- (Continued from week.)
 3. Segis Pontiac Lulu, 1227, 4y. 10m. 7d.; 467.0 lbs. milk, 14.85 lbs. fat, 18.57 lbs. butter.
 14-day record: 4y. 10m. 7d.; 573.7 lbs. milk, 17.21 lbs. fat, 36.39 lbs. butter. R. M. Holby.
 4. Segis Pontiac Clara, 2178, 4y. 10m. 10d.; 452.2 lbs. milk, 14.43 lbs. fat, 18.16 lbs. butter.
 14-day record: 4y. 10m. 13d.; 792.8 lbs. milk, 27.29 lbs. fat, 34.11 lbs. butter. R. M. Holby.
Fr. Four-Year Class.
 1. Belle DeKol Piete, 35352, 4y. 0m. 21d.; 511.8 lbs. milk, 21.16 lbs. fat, 30.34 lbs. butter.
 30-day record: 4y. 0m. 17d.; 374.9 lbs. milk, 27.06 lbs. fat, 12.43 lbs. butter. A. C. Hardy, Brockville.
 2. Hill-Crest Vale DeKol, 25522, 4y. 1m. 29d.; 478.9 lbs. milk, 19.39 lbs. fat, 24.35 lbs. butter. Thos. F. Charlson, Ottawa.
 3. Madoline Daily DeKol, 27099, 4y. 6m. 9d.; 554.3 lbs. milk, 18.91 lbs. fat, 23.64 lbs. butter.
 14-day record: 4y. 6m. 9d.; 1036.9 lbs. milk, 37.37 lbs. fat, 46.72 lbs. butter. Wm. Stock.
Fr. Three-Year Class.
 1. Avondale Pontiac Clothide, 22721,

- 5y. 7m. 14d.; 654.0 lbs. milk, 16.87 lbs. fat, 21.99 lbs. butter.
Jr. Three-Year Class.
 1. Madoline Dora DeKol, 21622, 3y. 6m. 27d.; 633.1 lbs. milk, 19.49 lbs. fat, 26.33 lbs. butter.
 14-day record: 3y. 5m. 27d.; 1011.3 lbs. milk, 40.84 lbs. fat, 51.06 lbs. butter. Wm. Stock.
 2. Hill-Crest Vale DeKol, 23739, 3y. 2m. 12d.; 484.2 lbs. milk, 17.50 lbs. fat, 21.88 lbs. butter.
 14-day record: 3y. 2m. 12d.; 898.4 lbs. milk, 31.49 lbs. fat, 42.83 lbs. butter. G. A. Brethen.
 3. Rosa Lee Plus DeKol, 25952, 3y. 0m. 9d.; 529.1 lbs. milk, 16.07 lbs. fat, 20.19 lbs. butter. W. T. Fritz, Brighton.
 4. Princess Prilly Hartog, 23229, 3y. 0m. 23d.; 369.4 lbs. milk, 16.69 lbs. fat, 19.62 lbs. butter. T. W. McQueen, Tilsonburg.
 5. Korndyke Ophelia, 23393, 3y. 4m. 14d.; 566.5 lbs. milk, 16.56 lbs. fat, 19.35 lbs. butter. Wm. R. Cummings, Cummings Bridge.
 6. Segis Hengerveld Pontiac, 25435, 3y. 4m. 23d.; 372.3 lbs. milk, 12.67 lbs. fat, 15.85 lbs. butter.
 14-day record: 3y. 4m. 23d.; 726.6 lbs. milk, 24.99 lbs. fat, 31.24 lbs. butter. Wm. Stock.
 7. Countess Prilly Hartog, 31563, 3y. 5m. 1d.; 592.6 lbs. milk, 12.63 lbs. butter, 15.78 lbs. fat. T. W. McQueen.
 8. Princess Dixie Hartog, 31723, 3y. 2m. 24d.; 387.9 lbs. milk, 12.45 lbs. fat, 15.20 lbs. butter. T. W. McQueen.
 9. Beattie Spink Rouble Hartog, 32223, 3y. 1m. 19d.; 541.3 lbs. milk, 12.12 lbs. fat, 15.16 lbs. butter. T. W. McQueen.
Fr. Two-Year Class.
 1. Mercena Canary DeKol, 34621, 2y. 11m. 23d.; 512.4 lbs. milk, 15.14 lbs. fat, 23.92 lbs. butter.
 14-day record: 2y. 11m. 23d.; 1019.2 lbs. milk, 35.77 lbs. fat, 44.73 lbs. butter. J. B. Hamner.
 2. Hill-Crest Sadio May, 25440, 2y. 11m. 8d.; 644.6 lbs. milk, 17.58 lbs. fat, 21.32 lbs. butter.
 14-day record: 2y. 11m. 8d.; 1062.3 lbs. milk, 35.85 lbs. fat, 41.59 lbs. butter. G. A. Brethen.
 3. May Howatze Poesch, 35393, 2y. 10m. 15d.; 309.4 lbs. milk, 10.45 lbs. fat, 13.07 lbs. butter. Wm. Stock.
Jr. Two-Year Class.
 1. Belle Model Piete 2nd, 31730, 2y. 1m. 15d.; 377.0 lbs. milk, 17.97 lbs. fat, 22.35 lbs. butter. A. C. Hardy.
 2. Maple Grove Lulu, 9387, 2y. 1m. 28d.; 426.7 lbs. milk, 14.85 lbs. fat, 18.57 lbs. butter. Clarence Bolter, Tavistock.
 3. Low Banks Lady Korndyke Paxton, 49446, 2y. 1m. 17d.; 449.0 lbs. milk, 14.00 lbs. fat, 17.69 lbs. butter. K. M. Dalziel, Kenmore.

4. Morningside Countess Calamity, 29652, 2y. 2m. 23d.; 440.0 lbs. milk, 14.11 lbs. fat, 13.90 lbs. butter. F. B. Nelson, Campbellford.
 5. Pauline Hartog Colantha, 48978, 2y. 6m. 29d.; 341.8 lbs. milk, 11.09 lbs. fat, 12.87 lbs. butter. T. W. McQueen, Tilsonburg.
 6. Pontiac Piete W. Wayne, 36417, 1y. 10m. 14d.; 291.7 lbs. milk, 9.56 lbs. fat, 13.76 lbs. butter. F. W. Elliott, Unionville.
 7. Grace Colantha Banks, 42412, 1y. 11m. 14d.; 347.3 lbs. milk, 10.72 lbs. fat, 13.49 lbs. butter.
 8. Pontiac Burke Ormsby, 36319, 1y. 11m. 27d.; 226.6 lbs. milk, 9.88 lbs. fat, 12.36 lbs. butter.
 14-day record: 1y. 11m. 27d.; 637.3 lbs. milk, 19.24 lbs. fat, 24.25 lbs. butter. R. M. Holby.
 9. Enid Keyes Segis, 34513, 2y. 2m. 12d.; 351.1 lbs. milk, 9.36 lbs. fat, 12.32 lbs. butter. R. M. Holby.
 10. Pontiac Irma Jewel, 40671, 2y. 2m. 12d.; 244.4 lbs. milk, 9.56 lbs. fat, 12.08 lbs. butter. W. W. Brown.
 During the month of May, the records of 42 cows and heifers were received and accepted for entry in the Record of Merit. First place in the mature class goes to Quebec on the great cow Korndyke Queen DeKol 5th, with 25.09 lbs. butter and 718.9 lbs. milk in seven days, and 145.3 lbs. milk and 31.09 lbs. milk in 30 days. Her best day's milk was 122.6 lbs. Jarroona Madoline comes second with 34.48 lbs. butter and 636.1 lbs. milk in seven days, and 141.01 lbs. butter and 296.6 lbs. milk in 30 days. She gave 104.4 lbs. milk on her best day. It is worthy of mention that this record was made after completing an R.O.M. record of 2179 lbs. milk and 104.75 lbs. butter in 335 days, and after dropping twin calves two years in succession. DaVries Sylvia comes next with 29.39 lbs. butter, followed by Hill-Crest Pontiac Lulu with 29.02 lbs. and Victoria Calamity 7th with 28.35 lbs. The latter produced 705 lbs. milk in seven days and 196.7 lbs. in one day. Piete Car Born DeKol is highest at four-year-olds, with 27.62 lbs. while Belle DeKol Piete leads the Juniors with 30.24 lbs. Avondale Pontiac Clothide, with 21.99 lbs. is the only car, three-year-old, while Madoline Dora DeKol is best jr., with 25.83 lbs. in the car class. Mercena Canary DeKol leads with 23.93 lbs. Her butter, followed by Hill-Crest Sadio May with 21.93 lbs. Belle Model Piete 2nd is best jr. two-year-old, with 22.35 lbs. while Maple Grove Lucy is second with 18.57 lbs. W. A. CLAYMONS, Secretary.

Lasting Protection for the Farmer's Car

Such a valuable piece of machinery as the farmer's automobile is worthy of safe-keeping. A corner of the barn or carriage shed is too risky. Only in a dependable metal building will you obtain the proper safety from fire and mishap.

PEDLAR'S PERFECT GARAGES
 METAL-CLAD

will keep you dirt and grain dust out of the delicate machinery of your car and at the same time afford you greatest protection. Made in sections of sheet metal that lock together easily secure Year proof, fire proof, flood proof, fire proof, lightning proof, and portable. Pedlar's Storage Sheds, Milk Houses, Engine Houses, etc., made in same manner and various styles. Write at once for particulars and prices.

The Pedlar People Limited
 (Established 1861).
 Executive Offices and Factories: Oakawa, Ont.
 Branches: Montreal, Ottawa, Toronto, London, Winnipeg, Vancouver.

HIGHLAND LAKE FARMS

Some of the bulls we have for sale at attractive prices:

1. Born May, '17, two dams average 35.62 lbs.
2. Born March, '17, two dams average 34.16 lbs.
3. Born March, '17, two dams average 34.23 lbs.
4. Born March, '17, two dams average (1 as Jr. herd sires under other 4-lb. bull in Canada.

Send for extended pedigrees and prices on these and others, a few of serviceable age, one from 11-lb. cow. We guarantee satisfaction. Twenty-five females for sale.

R. W. E. Burnaby

Farm at Stag Hill
Young Street Radial

Jefferson, Ont.

THE business survivors are the good advertisers. But good advertising is not chiefly the putting forth of strong advertisements. Advertising to survive than useless if the goods are not as strong as the advertising. Survival is founded on bedrock quality. Good advertising must rest on that. Test the advertising in Farm and Dairy by that severe standard, in actual purchases. We guarantee the integrity of every advertiser in this issue, and believe they will stand the test. Try them and see. When writing, say "I saw your advertisement in Farm and Dairy."

FOR SALE

Pure-bred Holstein Bull, 3 years old in October last, about quarter white. Choice individual, sired by May Echo Champion, full brother to May Echo Bull. Dam by a son of King Sigs, her dam's 8-year-old record 25.75 lbs. butter 7 days; 106-lb. milk one day.

Bull Calf, half white. Sire's first ten 8-year-olds average 13.64 lbs. butter 7 days. Dam tested 8 per cent.

Bull Calf, mostly white. Sired by half brother to a 30-lb. cow. Dam a choice young cow.

JOHN B. WYLIE

ALMONTE, ONTARIO.

HOLSTEINS

We have the only two sons in Canada, of the 4-lb. bull Ormsby Jane sire, also a 30-lb. calf, whose dam and two great-grand-dams average 28.4 lbs. butter in 7 days. Also 11 bull calves of lesser note, and females of all ages.

R. M. HOLTBY,

R. R. No. 4,

PORT PERRY, ONT.

Registered Holsteins

Bulls from one month to 17 months old for sale. All from our grand herd sire, Echo Segis Fays, whose sire is half-brother to Segis Fays Johann. A 28-lb. butter in 7 days. Has just made a record of 80 lbs. in 7 days. If you need a well backed bull write at once.

JOHN M. MONTLE,

Sunnyside Stock Farm

STANSTEAD, QUE.

CLOVER BAR HOLSTEINS

A choice bull calf born March 17, 1917, whose three nearest dams average 30 lbs. butter in 7 days and 100 lbs. milk a day; also a few others from R.O.M. dams.

P. SMITH,

R. R. 3,

STRATFORD, ONT.

RIVERSIDE HOLSTEINS For Sale, Choice Young Bulls, sired by grandson of Pontiac Korndyke, and a brother of Pontiac Lady Korndyke, a 28-lb. butter in 7 days, 156.23 lbs. 30 days' record when made. Also females bred to "King".

J. W. HARRISON,

GALEDONIA, ONT.

LAKEVIEW HOLSTEINS

Are still in the lead. The latest Holstein year book shows that they hold 4 Canadian Records for butter, and Lakeview bulls have won all honors at both Toronto and London Exhibitions, 1916 and 1917. Now we are offering several richly bred young fellows that are looking forward to the fall fair, and we have decided to give \$50.00 in gold to the man that buys the 1917 winner.

Don't miss this opportunity. Act quick, and plan to spend a day at Lakeview. Terms cash or time.

Major E. F. OSLER, Prop.

Bronte, Ont.

T. A. DAWSON, Mgr.

KING SEGIS WALKER'S

Oldest daughter with first calf made 456 lbs. milk and 24 lbs. butter; with her second calf, 560 lbs. milk and 29½ lbs. butter. His first granddaughter, through his son, at 3 years 3 months, made 440 lbs. milk and 23½ lbs. butter. Young stock for sale.

A. A. FAREWELL, OHAWA, ONTARIO.

VILLA VIEW OFFERS FOR SALE

Villa View, the home of King Segis Alacanta Okamoto and Dutchland Pontiac Okamoto, the two best sire lines that are backed up by more dams that have held world's records than any herd sire of any other herd in Canada. We have a few Alacanta bulls for sale at reasonable prices.

AFDGAAT BROTHERS,

Seringville, Ont.

Market Review and Forecast

TORONTO, Monday, July 1st.—All crop reports nowadays are optimistic. Recent announcements from the Ontario Department of Agriculture state that spring grains are in excellent condition, and wheat is overgrowing. Reports promise a good crop and potatoes were never better at this season. Pastures are inviting and live stock is doing well. New corn meadows will yield a full crop of hay, but clover will only give late. Cherries and small fruits promise a large yield; apples generally will be light.

During the past week markets usually have been high. Lard without has cleared hands; coarse grain and mill feeds are at a standstill; eggs, poultry and butter are easy but cheese firm.

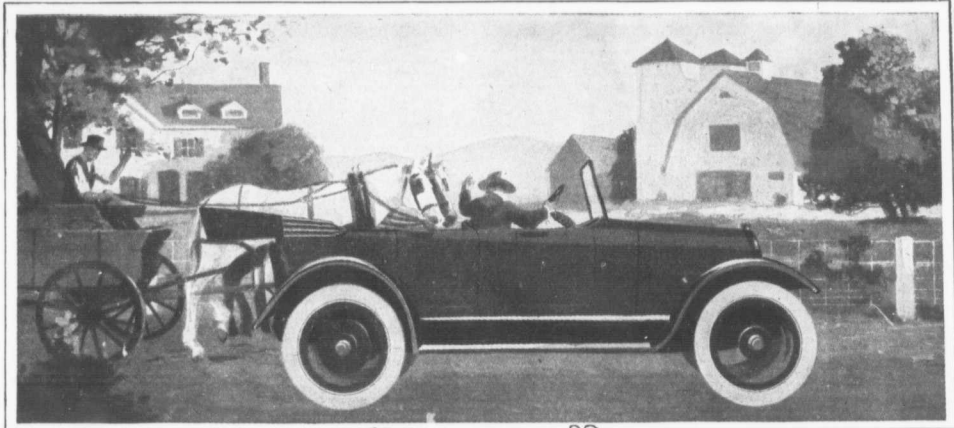
WHEAT

Continental improvement in crop reports has affected the price of wheat in all markets. The drastic powers conferred upon the food controllers in the United States and Canada are also a cause of some anxiety among wheat brokers.

No. 1 Northern, No. 2 and extra No. 1, \$2.42; Ontario No. 2, \$2.40 to \$2.45; No. 2, \$2.38 to \$2.45.

COARSE GRAINS

Stall feeding being edging out in all the coarser grain market both here and abroad, as a sluggish and only an occasional oatmeal clearance has been reported business is in Western oats. Quotations follow: Oats, No. 1, 25½¢; No. 2, 25¢; No. 3, 24½¢; No. 4, 24¢; No. 5, 23½¢; No. 6, 23¢; No. 7, 22½¢; No. 8, 22¢; No. 9, 21½¢; No. 10, 21¢; No. 11, 20½¢; No. 12, 20¢; No. 13, 19½¢; No. 14, 19¢; No. 15, 18½¢; No. 16, 18¢; No. 17, 17½¢; No. 18, 17¢; No. 19, 16½¢; No. 20, 16¢; No. 21, 15½¢; No. 22, 15¢; No. 23, 14½¢; No. 24, 14¢; No. 25, 13½¢; No. 26, 13¢; No. 27, 12½¢; No. 28, 12¢; No. 29, 11½¢; No. 30, 11¢; No. 31, 10½¢; No. 32, 10¢; No. 33, 9½¢; No. 34, 9¢; No. 35, 8½¢; No. 36, 8¢; No. 37, 7½¢; No. 38, 7¢; No. 39, 6½¢; No. 40, 6¢; No. 41, 5½¢; No. 42, 5¢; No. 43, 4½¢; No. 44, 4¢; No. 45, 3½¢; No. 46, 3¢; No. 47, 2½¢; No. 48, 2¢; No. 49, 1½¢; No. 50, 1¢; No. 51, ½¢; No. 52, ¼¢; No. 53, ¼¢; No. 54, ¼¢; No. 55, ¼¢; No. 56, ¼¢; No. 57, ¼¢; No. 58, ¼¢; No. 59, ¼¢; No. 60, ¼¢; No. 61, ¼¢; No. 62, ¼¢; No. 63, ¼¢; No. 64, ¼¢; No. 65, ¼¢; No. 66, ¼¢; No. 67, ¼¢; No. 68, ¼¢; No. 69, ¼¢; No. 70, ¼¢; No. 71, ¼¢; No. 72, ¼¢; No. 73, ¼¢; No. 74, ¼¢; No. 75, ¼¢; No. 76, ¼¢; No. 77, ¼¢; No. 78, ¼¢; No. 79, ¼¢; No. 80, ¼¢; No. 81, ¼¢; No. 82, ¼¢; No. 83, ¼¢; No. 84, ¼¢; No. 85, ¼¢; No. 86, ¼¢; No. 87, ¼¢; No. 88, ¼¢; No. 89, ¼¢; No. 90, ¼¢; No. 91, ¼¢; No. 92, ¼¢; No. 93, ¼¢; No. 94, ¼¢; No. 95, ¼¢; No. 96, ¼¢; No. 97, ¼¢; No. 98, ¼¢; No. 99, ¼¢; No. 100, ¼¢; No. 101, ¼¢; No. 102, ¼¢; No. 103, ¼¢; No. 104, ¼¢; No. 105, ¼¢; No. 106, ¼¢; No. 107, ¼¢; No. 108, ¼¢; No. 109, ¼¢; No. 110, ¼¢; No. 111, ¼¢; No. 112, ¼¢; No. 113, ¼¢; No. 114, ¼¢; No. 115, ¼¢; No. 116, ¼¢; No. 117, ¼¢; No. 118, ¼¢; No. 119, ¼¢; No. 120, ¼¢; No. 121, ¼¢; No. 122, ¼¢; No. 123, ¼¢; No. 124, ¼¢; No. 125, ¼¢; No. 126, ¼¢; No. 127, ¼¢; No. 128, ¼¢; No. 129, ¼¢; No. 130, ¼¢; No. 131, ¼¢; No. 132, ¼¢; No. 133, ¼¢; No. 134, ¼¢; No. 135, ¼¢; No. 136, ¼¢; No. 137, ¼¢; No. 138, ¼¢; No. 139, ¼¢; No. 140, ¼¢; No. 141, ¼¢; No. 142, ¼¢; No. 143, ¼¢; No. 144, ¼¢; No. 145, ¼¢; No. 146, ¼¢; No. 147, ¼¢; No. 148, ¼¢; No. 149, ¼¢; No. 150, ¼¢; No. 151, ¼¢; No. 152, ¼¢; No. 153, ¼¢; No. 154, ¼¢; No. 155, ¼¢; No. 156, ¼¢; No. 157, ¼¢; No. 158, ¼¢; No. 159, ¼¢; No. 160, ¼¢; No. 161, ¼¢; No. 162, ¼¢; No. 163, ¼¢; No. 164, ¼¢; No. 165, ¼¢; No. 166, ¼¢; No. 167, ¼¢; No. 168, ¼¢; No. 169, ¼¢; No. 170, ¼¢; No. 171, ¼¢; No. 172, ¼¢; No. 173, ¼¢; No. 174, ¼¢; No. 175, ¼¢; No. 176, ¼¢; No. 177, ¼¢; No. 178, ¼¢; No. 179, ¼¢; No. 180, ¼¢; No. 181, ¼¢; No. 182, ¼¢; No. 183, ¼¢; No. 184, ¼¢; No. 185, ¼¢; No. 186, ¼¢; No. 187, ¼¢; No. 188, ¼¢; No. 189, ¼¢; No. 190, ¼¢; No. 191, ¼¢; No. 192, ¼¢; No. 193, ¼¢; No. 194, ¼¢; No. 195, ¼¢; No. 196, ¼¢; No. 197, ¼¢; No. 198, ¼¢; No. 199, ¼¢; No. 200, ¼¢; No. 201, ¼¢; No. 202, ¼¢; No. 203, ¼¢; No. 204, ¼¢; No. 205, ¼¢; No. 206, ¼¢; No. 207, ¼¢; No. 208, ¼¢; No. 209, ¼¢; No. 210, ¼¢; No. 211, ¼¢; No. 212, ¼¢; No. 213, ¼¢; No. 214, ¼¢; No. 215, ¼¢; No. 216, ¼¢; No. 217, ¼¢; No. 218, ¼¢; No. 219, ¼¢; No. 220, ¼¢; No. 221, ¼¢; No. 222, ¼¢; No. 223, ¼¢; No. 224, ¼¢; No. 225, ¼¢; No. 226, ¼¢; No. 227, ¼¢; No. 228, ¼¢; No. 229, ¼¢; No. 230, ¼¢; No. 231, ¼¢; No. 232, ¼¢; No. 233, ¼¢; No. 234, ¼¢; No. 235, ¼¢; No. 236, ¼¢; No. 237, ¼¢; No. 238, ¼¢; No. 239, ¼¢; No. 240, ¼¢; No. 241, ¼¢; No. 242, ¼¢; No. 243, ¼¢; No. 244, ¼¢; No. 245, ¼¢; No. 246, ¼¢; No. 247, ¼¢; No. 248, ¼¢; No. 249, ¼¢; No. 250, ¼¢; No. 251, ¼¢; No. 252, ¼¢; No. 253, ¼¢; No. 254, ¼¢; No. 255, ¼¢; No. 256, ¼¢; No. 257, ¼¢; No. 258, ¼¢; No. 259, ¼¢; No. 260, ¼¢; No. 261, ¼¢; No. 262, ¼¢; No. 263, ¼¢; No. 264, ¼¢; No. 265, ¼¢; No. 266, ¼¢; No. 267, ¼¢; No. 268, ¼¢; No. 269, ¼¢; No. 270, ¼¢; No. 271, ¼¢; No. 272, ¼¢; No. 273, ¼¢; No. 274, ¼¢; No. 275, ¼¢; No. 276, ¼¢; No. 277, ¼¢; No. 278, ¼¢; No. 279, ¼¢; No. 280, ¼¢; No. 281, ¼¢; No. 282, ¼¢; No. 283, ¼¢; No. 284, ¼¢; No. 285, ¼¢; No. 286, ¼¢; No. 287, ¼¢; No. 288, ¼¢; No. 289, ¼¢; No. 290, ¼¢; No. 291, ¼¢; No. 292, ¼¢; No. 293, ¼¢; No. 294, ¼¢; No. 295, ¼¢; No. 296, ¼¢; No. 297, ¼¢; No. 298, ¼¢; No. 299, ¼¢; No. 300, ¼¢; No. 301, ¼¢; No. 302, ¼¢; No. 303, ¼¢; No. 304, ¼¢; No. 305, ¼¢; No. 306, ¼¢; No. 307, ¼¢; No. 308, ¼¢; No. 309, ¼¢; No. 310, ¼¢; No. 311, ¼¢; No. 312, ¼¢; No. 313, ¼¢; No. 314, ¼¢; No. 315, ¼¢; No. 316, ¼¢; No. 317, ¼¢; No. 318, ¼¢; No. 319, ¼¢; No. 320, ¼¢; No. 321, ¼¢; No. 322, ¼¢; No. 323, ¼¢; No. 324, ¼¢; No. 325, ¼¢; No. 326, ¼¢; No. 327, ¼¢; No. 328, ¼¢; No. 329, ¼¢; No. 330, ¼¢; No. 331, ¼¢; No. 332, ¼¢; No. 333, ¼¢; No. 334, ¼¢; No. 335, ¼¢; No. 336, ¼¢; No. 337, ¼¢; No. 338, ¼¢; No. 339, ¼¢; No. 340, ¼¢; No. 341, ¼¢; No. 342, ¼¢; No. 343, ¼¢; No. 344, ¼¢; No. 345, ¼¢; No. 346, ¼¢; No. 347, ¼¢; No. 348, ¼¢; No. 349, ¼¢; No. 350, ¼¢; No. 351, ¼¢; No. 352, ¼¢; No. 353, ¼¢; No. 354, ¼¢; No. 355, ¼¢; No. 356, ¼¢; No. 357, ¼¢; No. 358, ¼¢; No. 359, ¼¢; No. 360, ¼¢; No. 361, ¼¢; No. 362, ¼¢; No. 363, ¼¢; No. 364, ¼¢; No. 365, ¼¢; No. 366, ¼¢; No. 367, ¼¢; No. 368, ¼¢; No. 369, ¼¢; No. 370, ¼¢; No. 371, ¼¢; No. 372, ¼¢; No. 373, ¼¢; No. 374, ¼¢; No. 375, ¼¢; No. 376, ¼¢; No. 377, ¼¢; No. 378, ¼¢; No. 379, ¼¢; No. 380, ¼¢; No. 381, ¼¢; No. 382, ¼¢; No. 383, ¼¢; No. 384, ¼¢; No. 385, ¼¢; No. 386, ¼¢; No. 387, ¼¢; No. 388, ¼¢; No. 389, ¼¢; No. 390, ¼¢; No. 391, ¼¢; No. 392, ¼¢; No. 393, ¼¢; No. 394, ¼¢; No. 395, ¼¢; No. 396, ¼¢; No. 397, ¼¢; No. 398, ¼¢; No. 399, ¼¢; No. 400, ¼¢; No. 401, ¼¢; No. 402, ¼¢; No. 403, ¼¢; No. 404, ¼¢; No. 405, ¼¢; No. 406, ¼¢; No. 407, ¼¢; No. 408, ¼¢; No. 409, ¼¢; No. 410, ¼¢; No. 411, ¼¢; No. 412, ¼¢; No. 413, ¼¢; No. 414, ¼¢; No. 415, ¼¢; No. 416, ¼¢; No. 417, ¼¢; No. 418, ¼¢; No. 419, ¼¢; No. 420, ¼¢; No. 421, ¼¢; No. 422, ¼¢; No. 423, ¼¢; No. 424, ¼¢; No. 425, ¼¢; No. 426, ¼¢; No. 427, ¼¢; No. 428, ¼¢; No. 429, ¼¢; No. 430, ¼¢; No. 431, ¼¢; No. 432, ¼¢; No. 433, ¼¢; No. 434, ¼¢; No. 435, ¼¢; No. 436, ¼¢; No. 437, ¼¢; No. 438, ¼¢; No. 439, ¼¢; No. 440, ¼¢; No. 441, ¼¢; No. 442, ¼¢; No. 443, ¼¢; No. 444, ¼¢; No. 445, ¼¢; No. 446, ¼¢; No. 447, ¼¢; No. 448, ¼¢; No. 449, ¼¢; No. 450, ¼¢; No. 451, ¼¢; No. 452, ¼¢; No. 453, ¼¢; No. 454, ¼¢; No. 455, ¼¢; No. 456, ¼¢; No. 457, ¼¢; No. 458, ¼¢; No. 459, ¼¢; No. 460, ¼¢; No. 461, ¼¢; No. 462, ¼¢; No. 463, ¼¢; No. 464, ¼¢; No. 465, ¼¢; No. 466, ¼¢; No. 467, ¼¢; No. 468, ¼¢; No. 469, ¼¢; No. 470, ¼¢; No. 471, ¼¢; No. 472, ¼¢; No. 473, ¼¢; No. 474, ¼¢; No. 475, ¼¢; No. 476, ¼¢; No. 477, ¼¢; No. 478, ¼¢; No. 479, ¼¢; No. 480, ¼¢; No. 481, ¼¢; No. 482, ¼¢; No. 483, ¼¢; No. 484, ¼¢; No. 485, ¼¢; No. 486, ¼¢; No. 487, ¼¢; No. 488, ¼¢; No. 489, ¼¢; No. 490, ¼¢; No. 491, ¼¢; No. 492, ¼¢; No. 493, ¼¢; No. 494, ¼¢; No. 495, ¼¢; No. 496, ¼¢; No. 497, ¼¢; No. 498, ¼¢; No. 499, ¼¢; No. 500, ¼¢; No. 501, ¼¢; No. 502, ¼¢; No. 503, ¼¢; No. 504, ¼¢; No. 505, ¼¢; No. 506, ¼¢; No. 507, ¼¢; No. 508, ¼¢; No. 509, ¼¢; No. 510, ¼¢; No. 511, ¼¢; No. 512, ¼¢; No. 513, ¼¢; No. 514, ¼¢; No. 515, ¼¢; No. 516, ¼¢; No. 517, ¼¢; No. 518, ¼¢; No. 519, ¼¢; No. 520, ¼¢; No. 521, ¼¢; No. 522, ¼¢; No. 523, ¼¢; No. 524, ¼¢; No. 525, ¼¢; No. 526, ¼¢; No. 527, ¼¢; No. 528, ¼¢; No. 529, ¼¢; No. 530, ¼¢; No. 531, ¼¢; No. 532, ¼¢; No. 533, ¼¢; No. 534, ¼¢; No. 535, ¼¢; No. 536, ¼¢; No. 537, ¼¢; No. 538, ¼¢; No. 539, ¼¢; No. 540, ¼¢; No. 541, ¼¢; No. 542, ¼¢; No. 543, ¼¢; No. 544, ¼¢; No. 545, ¼¢; No. 546, ¼¢; No. 547, ¼¢; No. 548, ¼¢; No. 549, ¼¢; No. 550, ¼¢; No. 551, ¼¢; No. 552, ¼¢; No. 553, ¼¢; No. 554, ¼¢; No. 555, ¼¢; No. 556, ¼¢; No. 557, ¼¢; No. 558, ¼¢; No. 559, ¼¢; No. 560, ¼¢; No. 561, ¼¢; No. 562, ¼¢; No. 563, ¼¢; No. 564, ¼¢; No. 565, ¼¢; No. 566, ¼¢; No. 567, ¼¢; No. 568, ¼¢; No. 569, ¼¢; No. 570, ¼¢; No. 571, ¼¢; No. 572, ¼¢; No. 573, ¼¢; No. 574, ¼¢; No. 575, ¼¢; No. 576, ¼¢; No. 577, ¼¢; No. 578, ¼¢; No. 579, ¼¢; No. 580, ¼¢; No. 581, ¼¢; No. 582, ¼¢; No. 583, ¼¢; No. 584, ¼¢; No. 585, ¼¢; No. 586, ¼¢; No. 587, ¼¢; No. 588, ¼¢; No. 589, ¼¢; No. 590, ¼¢; No. 591, ¼¢; No. 592, ¼¢; No. 593, ¼¢; No. 594, ¼¢; No. 595, ¼¢; No. 596, ¼¢; No. 597, ¼¢; No. 598, ¼¢; No. 599, ¼¢; No. 600, ¼¢; No. 601, ¼¢; No. 602, ¼¢; No. 603, ¼¢; No. 604, ¼¢; No. 605, ¼¢; No. 606, ¼¢; No. 607, ¼¢; No. 608, ¼¢; No. 609, ¼¢; No. 610, ¼¢; No. 611, ¼¢; No. 612, ¼¢; No. 613, ¼¢; No. 614, ¼¢; No. 615, ¼¢; No. 616, ¼¢; No. 617, ¼¢; No. 618, ¼¢; No. 619, ¼¢; No. 620, ¼¢; No. 621, ¼¢; No. 622, ¼¢; No. 623, ¼¢; No. 624, ¼¢; No. 625, ¼¢; No. 626, ¼¢; No. 627, ¼¢; No. 628, ¼¢; No. 629, ¼¢; No. 630, ¼¢; No. 631, ¼¢; No. 632, ¼¢; No. 633, ¼¢; No. 634, ¼¢; No. 635, ¼¢; No. 636, ¼¢; No. 637, ¼¢; No. 638, ¼¢; No. 639, ¼¢; No. 640, ¼¢; No. 641, ¼¢; No. 642, ¼¢; No. 643, ¼¢; No. 644, ¼¢; No. 645, ¼¢; No. 646, ¼¢; No. 647, ¼¢; No. 648, ¼¢; No. 649, ¼¢; No. 650, ¼¢; No. 651, ¼¢; No. 652, ¼¢; No. 653, ¼¢; No. 654, ¼¢; No. 655, ¼¢; No. 656, ¼¢; No. 657, ¼¢; No. 658, ¼¢; No. 659, ¼¢; No. 660, ¼¢; No. 661, ¼¢; No. 662, ¼¢; No. 663, ¼¢; No. 664, ¼¢; No. 665, ¼¢; No. 666, ¼¢; No. 667, ¼¢; No. 668, ¼¢; No. 669, ¼¢; No. 670, ¼¢; No. 671, ¼¢; No. 672, ¼¢; No. 673, ¼¢; No. 674, ¼¢; No. 675, ¼¢; No. 676, ¼¢; No. 677, ¼¢; No. 678, ¼¢; No. 679, ¼¢; No. 680, ¼¢; No. 681, ¼¢; No. 682, ¼¢; No. 683, ¼¢; No. 684, ¼¢; No. 685, ¼¢; No. 686, ¼¢; No. 687, ¼¢; No. 688, ¼¢; No. 689, ¼¢; No. 690, ¼¢; No. 691, ¼¢; No. 692, ¼¢; No. 693, ¼¢; No. 694, ¼¢; No. 695, ¼¢; No. 696, ¼¢; No. 697, ¼¢; No. 698, ¼¢; No. 699, ¼¢; No. 700, ¼¢; No. 701, ¼¢; No. 702, ¼¢; No. 703, ¼¢; No. 704, ¼¢; No. 705, ¼¢; No. 706, ¼¢; No. 707, ¼¢; No. 708, ¼¢; No. 709, ¼¢; No. 710, ¼¢; No. 711, ¼¢; No. 712, ¼¢; No. 713, ¼¢; No. 714, ¼¢; No. 715, ¼¢; No. 716, ¼¢; No. 717, ¼¢; No. 718, ¼¢; No. 719, ¼¢; No. 720, ¼¢; No. 721, ¼¢; No. 722, ¼¢; No. 723, ¼¢; No. 724, ¼¢; No. 725, ¼¢; No. 726, ¼¢; No. 727, ¼¢; No. 728, ¼¢; No. 729, ¼¢; No. 730, ¼¢; No. 731, ¼¢; No. 732, ¼¢; No. 733, ¼¢; No. 734, ¼¢; No. 735, ¼¢; No. 736, ¼¢; No. 737, ¼¢; No. 738, ¼¢; No. 739, ¼¢; No. 740, ¼¢; No. 741, ¼¢; No. 742, ¼¢; No. 743, ¼¢; No. 744, ¼¢; No. 745, ¼¢; No. 746, ¼¢; No. 747, ¼¢; No. 748, ¼¢; No. 749, ¼¢; No. 750, ¼¢; No. 751, ¼¢; No. 752, ¼¢; No. 753, ¼¢; No. 754, ¼¢; No. 755, ¼¢; No. 756, ¼¢; No. 757, ¼¢; No. 758, ¼¢; No. 759, ¼¢; No. 760, ¼¢; No. 761, ¼¢; No. 762, ¼¢; No. 763, ¼¢; No. 764, ¼¢; No. 765, ¼¢; No. 766, ¼¢; No. 767, ¼¢; No. 768, ¼¢; No. 769, ¼¢; No. 770, ¼¢; No. 771, ¼¢; No. 772, ¼¢; No. 773, ¼¢; No. 774, ¼¢; No. 775, ¼¢; No. 776, ¼¢; No. 777, ¼¢; No. 778, ¼¢; No. 779, ¼¢; No. 780, ¼¢; No. 781, ¼¢; No. 782, ¼¢; No. 783, ¼¢; No. 784, ¼¢; No. 785, ¼¢; No. 786, ¼¢; No. 787, ¼¢; No. 788, ¼¢; No. 789, ¼¢; No. 790, ¼¢; No. 791, ¼¢; No. 792, ¼¢; No. 793, ¼¢; No. 794, ¼¢; No. 795, ¼¢; No. 796, ¼¢; No. 797, ¼¢; No. 798, ¼¢; No. 799, ¼¢; No. 800, ¼¢; No. 801, ¼¢; No. 802, ¼¢; No. 803, ¼¢; No. 804, ¼¢; No. 805, ¼¢; No. 806, ¼¢; No. 807, ¼¢; No. 808, ¼¢; No. 809, ¼¢; No. 810, ¼¢; No. 811, ¼¢; No. 812, ¼¢; No. 813, ¼¢; No. 814, ¼¢; No. 815, ¼¢; No. 816, ¼¢; No. 817, ¼¢; No. 818, ¼¢; No. 819, ¼¢; No. 820, ¼¢; No. 821, ¼¢; No. 822, ¼¢; No. 823, ¼¢; No. 824, ¼¢; No. 825, ¼¢; No. 826, ¼¢; No. 827, ¼¢; No. 828, ¼¢; No. 829, ¼¢; No. 830, ¼¢; No. 831, ¼¢; No. 832, ¼¢; No. 833, ¼¢; No. 834, ¼¢; No. 835, ¼¢; No. 836, ¼¢; No. 837, ¼¢; No. 838, ¼¢; No. 839, ¼¢; No. 840,



||| Morning |||



||| Noon |||



||| Night |||

Five Passenger
112 inch wheelbase
Famous 35 horsepower four cylinder
Overland motor
Condenser rear springs
Auto-Lite starting and lighting
Four inch tires
Electric control buttons
on the steering column

Overland
TRADE MARK REG.

— the
Time Saver

It's time now for speed and efficiency. No one now has *time* to waste. Speed up your work—and speed up your play to keep fit for your work—get an automobile.

No one now has *energy* to waste. Get a car that's big enough not to cramp you, that rides easy and won't tire you.

No one now has *money* to waste. Get Overland Model Eighty-Five Four. True efficiency and true economy point to this one car as the compass points to the North Pole.

No other car of such comfortable size has such power with such economy of operation.

No other car of such comfortable size is so sturdy—so economical of upkeep.

No other car of such comfortable size has been built in such quantities and for so long a time.

No other car of such comfortable size sells for so little.

It's the car for *you* and the time to buy it is now.

Have efficient equipment for efficient living. Get your Overland Model Eighty-Five Four today.

Catalog on request. Please address Dept. 1113

Willys-Overland, Limited
Head Office and Works, West Toronto, Ont.
Overland and Willys-Knight Motor
Cars and Light Commercial Wagons



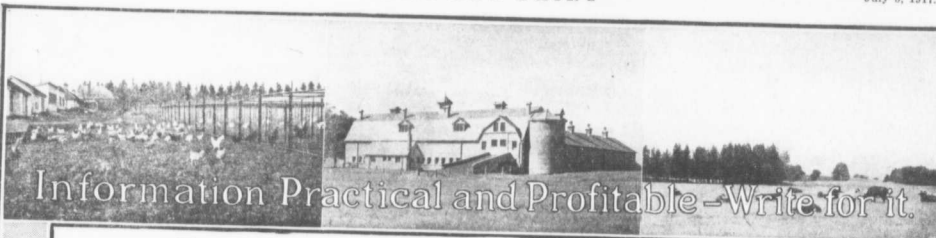
||| Noon |||



||| Night |||

Model Eighty-Five Four
Five passenger touring
\$1250
Three passenger roadster
\$1230

All prices f.o.b. point of shipment
Subject to change without notice



Information Practical and Profitable—Write for it.

Don't Expect the Ontario Agricultural College

to run your farm better than you can yourself. The sane, practical, progressive Canadian Farmer is already among the most efficient on earth. By means of machinery, skilful management, hard work and common sense he is now producing more foodstuffs per man, than any other farmer in the world.

AND YET—no one welcomes sound and practical information more than does the Ontario Farmer. Conditions change constantly; bugs, blights and diseases constitute an ever present menace; the question of soil fertility and fertilizers attains a new significance; scientific feeding and breeding arouse a wider interest; production must go on though the labor situation was never so acute.

THOUGH HE HAS the intelligence to solve these problems, he lacks the time—he is too busy producing food. Hence the demand for practical and timely information that he can apply profitably in his business.

The College Fills the Bill

It will supply him with the latest practical information absolutely free of cost. It will also identify him and is prepared with him. YOU ARE PARTICULARLY INVITED, IN THIS CRITICAL YEAR, TO FURNISH THE WORK OF THE COLLEGE INVESTIGATORS INTO DOLLARS ON YOUR OWN FARM.

Write for Information Now

to any of these whose names are listed hereafter along the lines suggested. Write directly to each Professor concerned and unless otherwise directed, address him at the Ontario Agricultural College, Guelph.

Live Stock, Poultry, Bees

ABOUT LIVE STOCK. For information regarding any problem connected with the breeding, feeding, management and stabling of horses, cattle, sheep and swine, write PROFESSOR G. E. DAY.

PRACTICAL DAIRY INFORMATION. Questions regarding the production of milk, feeding of cows, dairy stabling and equipment, cheese and butter making (factory and home), milk by-products, testing milk, marketing milk and its products, the city milk trade and the milk condensary business will be answered by PROFESSOR J. H. DRAN.

VETERINARY ADVICE. For information concerning the symptoms, cause and remedy of any disease affecting live stock, and the best treatment for a sick or injured animal on the farm, write PROFESSOR J. H. REED, V. S., 175 WOODVILLE.

MAKE YOUR POULTRY PAY. For the latest information concerning the hatching, rearing and fattening of chickens, egg production, house construction, feeds and feeding of poultry, general poultry hygiene, etc., write PROFESSOR W. E. GRAHAM.

MONEY FROM HONEY. Any question relating to the apidary—spring, summer, fall and winter management, honey production, swarm control, re-queening, foul brood control and other diseases, exacting of honey, marketing, apidary equipment and supplies of any other—will be answered by MORLEY PETTIT, PROVINCIAL APARIST.

Field Crops, Fruit, Farm Accounts

THE FIELD HUSBANDRY DEPARTMENT conducts thousands of practical experiments in the fields at the College and carries on great numbers of co-operative experiments with growers on farms in every part of Ontario. It is particularly well qualified to answer any question in regard to seed crops relative to varieties, selection of seed, dates of seeding, quantities of seed per acre, preparation of the seed bed, depth of planting, value of growing grain mixtures, methods of cultivation, use of fertilizers and farmyard manures, rotation of crops, change of seed, methods of harvesting and storing—all questions in fact relating to cereals, legumes, fodder, crops, potatoes

and roots. Special information is available now regarding the growing of Fall Wheat. Write DR. C. A. ZAVITZ.

ORCHARD AND GARDEN. The Horticultural Department gives information along with the distinct lines: For fruit information write PROFESSOR J. W. CROW; for vegetable, A. H. MACLENNAN, B.S.A.; for landscape gardening, A. H. TOMLINSON; for flowers, W. HUNT.

FARM MANAGEMENT AND FARM ACCOUNTS. For information regarding any phase of these subjects write A. LEITCH.

Weeds, Fungus, Insects, Bacteria

DEPARTMENT OF BOTANY. How weeds lower your profits? Then send a sample of the worst ones to this Department. They will identify them and information regarding their eradication will be sent you. Or are you doubtful as to the purity of the seed you sow? Send in a sample. Or are you also the control by spraying of field mistle, Apple Scab, Peach Leaf Curl, Brown Rot and all other fungus diseases. Full information regarding the spraying of potatoes to prevent blight and rot and the treatment of seed grain to control smut will be given. In fact, any questions relating to weeds, weed seeds, eradication of weeds and the control of fungus diseases affecting any kind of crop will be answered promptly by PROFESSOR J. E. HOWITT.

KILL THE INSECT PESTS. For complete information regarding insects—cutworms, grasshoppers, wireworms, scale insects, plant lice, codling moths, and the like—and how to combat them, write DR. L. J. S. BETHUNE. For complete information regarding practical spraying, spraying mixtures, and spray outfits; winter injury to fruit trees and its prevention; and protection to trees from mice and rabbits, write LAWSON CASBARI, B.S., PROVINCE, ENTOMOLOGIST.

THEN THERE ARE THE BACTERIA. For information regarding the symptoms, cause and cure of infectious or contagious animal diseases, as Tuberculosis, Infectious Abortion, Anthrax, poultry diseases, etc.; Rot of Vegetables, Black Leg of Potatoes, Fireblight of Pears and Apples, etc., write PROFESSOR D. H. JONES.

Professor Jones also tests samples of milk which are not normal—ropy, slimy, gassy, bloated, flavored, etc.—tests sewage and well water, and gives information regarding the causes and remedy in each case. Applications for legume nitroculture are made to Professor Jones, preferable just previous to time of sowing.

Feeds, Fertilizers, Farm Machinery

DEPARTMENT OF CHEMISTRY prepared to assist farmers with their soil problems. Samples of soil forwarded to the Department will be analyzed and the requirements for legume nitroculture are made to its needs. Special information

When writing please mention this advertisement and give as complete information as possible. It will ensure a prompt and satisfactory reply. For fuller details write the Chief of the Commissioner of Agriculture, Parliament Buildings, Toronto.

The Ontario Department of Agriculture

PARLIAMENT BUILDINGS, TORONTO
SIR WM. H. HEARST,
Minister of Agriculture.

G. C. CREELMAN,
Commissioner of Agriculture.

regarding fertilizers may be secured now by any Ontario farmer. Animal feeds sent in for inspection and analysis will be examined for nutrients and the sender advised of their composition. Well water is examined for impurities free of charge. Fowl problems and the housewife may secure valuable information by writing for it. The relative value of different human foods will be explained. Write PROFESSOR R. HARCOURT.

THE DEPARTMENT OF PHYSICS

specializes along three different lines: For information concerning the heating of farm buildings, electrical machinery and equipment, windmills, gasoline engines, telephones, lightning rods, lighting of dwellings and stables, write PROFESSOR W. H. DAY. Latest information regarding sewage disposal, farm water supply, pumps and hydraulic farms, cold storage and ventilation of farm buildings may be secured from R. R. GRAHAM, B.S.A.

If you wish a survey made of your farm for drainage purposes or full information regarding any drainage problem, write J. H. SPIRY, B.S.A.

FARM MECHANICS. For information regarding the planning and equipping of a farm workshop, care of tools, building or making tools, ladders, saws, traps, nets, traps, feed-hoppers, fly-catchers, baiting, knots, hitches, appliances, etc., write PROFESSOR JOHN EVANS.

Co-operation, Recreation, Study

THERE IS STRENGTH IN UNION. Therefore secure information regarding the various phases of co-operation—the difficulties and how to overcome them, the methods of organization and management, where and when to co-operate, how to incorporate a society and the best way to raise funds—by writing H. H. LEIDENBERG, B.S.A.

BE YOUNG—LEARN TO PLAY. Latest information regarding play and recreation for young and old alike—the play equipment of rural schools, public speaking and debating, dramatics, recreation associations, community gathering, athletic and athletic meets for the county, etc.—may be secured from ALEXANDER MACLENNAN, B.S.A.

DO YOU SPEAK IN PUBLIC? If so you will wish special information regarding the topic you have been asked to speak or to debate upon.

You can secure it by writing MARY ELIE WATSON, Editor and you may also obtain from the Macdonald Institute Loan Collection. Over 30,000 clippings and articles are at your disposal, comprehending nearly every conceivable subject used in popular speaking.

Most Important of All

DON'T TRUST TO MEMORY. Preserve this page—file it in a convenient place, or tack it to the granary or woodshed door. Then use it as a calendar for yearly advice. Just when you want information the most you will know exactly whom to write to for it. It will save time and may mean many dollars to you.



ONTARIO