

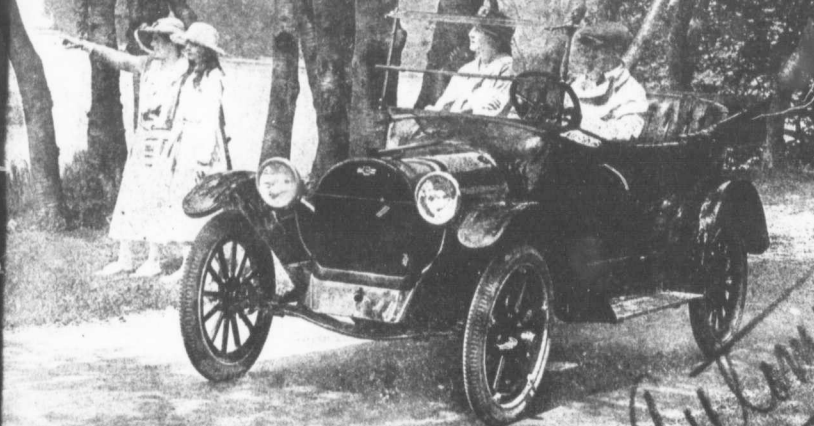
FARM and DAIRY & Rural Home

TORONTO, ONT.

Automobile Number

MARCH 7th, 1918

Com. of Conservation
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Automobile

Trying Out the New Car

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Putting the Car in Working Shape

The Farmer Who Overhauls His Own Car Will Learn Much That Will be of Value to Him as a Driver—Leonard A. Blayne, Norfolk Co., Ont.

AS it is drawing near the time when we may safely venture out upon the roads with our old "speed wagons," one question presents itself to our minds—"What repairing or overhauling must I do before the machine is in good shape to run, and have I taken the proper precautions throughout the winter?" From personal experience I may say that one always feels the desire to have his car in perfect mechanical condition before commencing the season's run, not only because he wants that first spring sensation to be as exhilarating as any auto can make it, but also because, once started running, there are several small details apt to be neglected in the rush of the spring work.

Overhauling the Motor.

Accordingly then, the first thought is for the power-plant of the car. The motor must be doing good work, or there is something amiss with the foundation of the car's performance. To begin with, the motor must be opened—the method varying with the different types—and the amount of carbon, and the condition of the valves must be noted. Keep one thing in mind, that is avoid mixing up any of the several parts in disassembling. You will find it handy to have numerous little receptacles for the smaller parts, keep them in groups as they are to be assembled. Another wise idea is to thoroughly wash each part in kerosene, to free it of any traces of carbon grease or dirt which might have accumulated thereon.

Either at this stage, or previous to starting to take down the motor, it is also necessary to drain and flush the crank case, especially if the bearings require tightening, and not only must this be done when overhauling but also, at least every 1,000 miles of driving, on account of the quantity of sediment which the best oils seem to contain. Speaking from experience, I know that this sediment exists in quantities which are almost incredible. The first time I removed the crank case from our car I found at least two tablespoonfuls settled around the lower parts such as in the bottom of the oil sump and below the oil-pump; and the oil we used had always been of strictly high quality. To the farmer, this draining the crank-case periodically does not represent any actual expense as the oil used in the oil makes an excellent machine oil, as its lubricating qualities are much in evidence, while the coal oil used to flush out the crank-case may be used indefinitely for washing the small parts, as mentioned above.

Cleaning Out the Carbon.

With the crank case clean and empty, with the radiator removed, the cylinders opened, and the small parts removed, washed and systematically put out of the way, the next step is to scrape the carbon from the combustion chamber and from the top of the piston, in short from any place where carbon may be found. When most of the carbon is scraped off, the judicious use of fine emery cloth will be found a great help. Precautions must be taken to prevent any of the fine grit being left on any of the parts, as the result will be a disastrous scoring of the cylinder walls immediately upon assembling.

When the carbon has been removed the next step is to grind the valves. Here the proper care must be used to keep the valves in their right places and to prevent any of the grinding compound from reaching the cylinder walls. After grinding the valves, a slight adjustment of the valve stems will sometimes be found necessary. As the valves are very closely related to

the intake and exhaust manifolds, it seems natural that they should next be inspected and cleaned, although the intake does not generally accumulate much dirt of any kind.

Loss of Power Through Muffler.

Directly connected with the exhaust pipe, the next consideration is the muffler which may be the seat of considerable loss of power owing to an over-amount of residue, especially if the car has been driven a long time. The only thing that can be done is to tap lightly all around the outside with a wooden mallet, to jar loose the carbon, which will all be blown out when the engine is started.

In direct relation, also come the carburetor and the other parts connected with it. While there may often be dust drawn into the air intake of the carburetor, it is wise to leave the carburetor alone unless it is giving trouble and then it should be put in the hands of some one who has had experience in such matters. However, the removable air-pipes may be cleaned and reassembled.

Getting Adjusted.

This overhauling all takes time, but it has at least two good results—first, it gives the motorist a broader view of his car and makes him better acquainted with its mechanism, a sort of comradeship. In the second place, he sees just exactly how the car is made up and he is certain to be more careful, more considerate in driving the car, and to look after it. For instance, to the most casual observer, one glance over the steering gear of any car, will show the wisdom of precaution in driving over rough roads, and in turning and street car tracks. Again, any man who has thoroughly examined the clutch, the transmission and the differential gearing of his car, will see the value of careful lubrication and the folly of jerking the car around by engaging the clutch with the engine racing—which, by the way, is a very good method of inviting repair bills.

In connection with tires much has been said and may be said, but in my opinion the main facts to bear in mind are these—(a) never cause the wheels to slip either by applying the brake or engaging the clutch too quickly. Nor drive too fast around corners; (b) keep tires inflated to full twenty pounds per inch cross-section; (c) test the left hand, however the tires, clean and paint the rim, and if the tires require it, insert refiners in them. At all times keep all cuters carefully vulcanized.

Another suggestion I would make is the use of a small can of aluminum paint about the motor, and just at the spring overhauling is the time to use it. The effect is marvellous. When the water pipes, the intake manifold and even all the entire cylinders are painted with it, it considerably changes the general appearance of the motor. The exhaust manifold had best be left black, however, as the paint soon burns off and sadly spoils the looks of it.

To sum up then, (1) So far as possible, keep the motor free from carbon, and keep the valves seated and adjusted properly. (2) Do not allow the cylinder-rod to remain in the crank-case long enough to permit any grit to accumulate, for this ruins the cylinder-walls and also the bearings. (3) Keep all moving parts well lubricated with the proper lubricant, but remember "enough is as good as a feast." (4) Always use judgment and consideration in the operation and care of a car, and always keep one ear open for "new noises" about the machine. (5) Put the motto—"Eliminate the repair bills" second only to "Safety first."

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8 RURAL HOME

The Recognized Exponent of Dwelling 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. XXXVII

TORONTO, ONT., MARCH 7, 1918

No. 11

Waiting for the Car—Ten Years

My Long Desired Car Brought With It a Full Measure of Contentment—By Sam Ray

THE first time that I decided a car was necessary to my happiness, was on a bright July day 10 years ago. I was hoeing corn in a mechanical way while my imagination was busy sorting out the future. A big problem faced me. What should I do? On the morrow I would be 21. An old man brought back from Spain by a "hank" and around a bend in the road flashed a wonderful contraption of a bright vermilion hue set against the background of yellow road dust which followed close behind. Oh, I knew what it was! I had never really seen one before, but I'd see pictures of them in the "Colonial House" catalogue with "16,000" marked underneath. It was an automobile, the first to come through our part of the country.

With remarkable presence of mind I dropped my hoe and did the 220 yards to the roadside fence in my best form. I wanted to study the machine at closer range. Fortune favored me, for just as I reached the fence the automobile gave a couple of short coughs, and stopped on a little rise in the road, right under my eyes.

This was none of your flivvers. 'Twas a two-seater like our carryall. It had a top, a wind shield, a clock set in the dash board and on the outside close to the driver's right hand were a number of shiny brass levers. Of course, there were no doors, but then the passengers had to get out so often that doors would have been in the way, so that was no drawback. But the auto was not the only subject that aroused my curiosity. The passengers, male and female, were fearfully and wonderfully decked out in long linen dusters, large peak caps and goggles.

After the car had come to rest, the young man at the wheel jumped out, pushed his goggles up on his forehead as per regulation in the Chauffeur's Manual, walked slowly around the car examining it from all angles. It looked as if it should go so he seized the crank and wound the machinery up. No result. Then he lifted the hood of the engine and dived in waist deep. Presumably he was whispering words of encouragement to the fractious motor, but the latter seemed insensible to kindness.

The young man was an expert sent out by the sales company to see that no accident occurred during the first ride that might make the car's new owner rue his bargain. This expert knew rather less about cars than does any 10 year old boy of to-day. He had to earn his money, however, so he selected a number of wrenches, hammers and pick axes and crawled under the car, out of the July sun. Followed a condition of the anvil chorus of some two hours' duration. From time to time the passengers climbed out of the car to stretch their legs. Sometimes they would try working the levers, or apply they would raise the hood and gaze earnestly at the works. And I hung over the fence.

When the end of a perfect day was rapidly approaching, the driver checked himself for his disgust. He had collected considerable grease on his face and dust on his nose. Anyone could tell at a glance that he was an expert mechanic. After he had straightened up he made a little curtain speech on the results of his investigation. He said he had come to the conclusion that there must be something wrong. They

decided to go home by rail, and started out for the nearest station, leaving instructions for the expert to look for the car at its leisure.

The expert then took me into his confidence, and we decided to haul the car into our yard, a la Dobbin, and where we might work unmolested. Next morning, when the driver was coming down to breakfast, he espied our electric fan blowing. Next morning, an idea. Perhaps the batteries were at fault. One of our batteries was substituted consecutively for each one. Then we had the engine coughing as regularly as a consumptive. I elbowed him with the driver. He pushed one lever, pulled another, did something with his feet, and we were off. What a ride that was!

No matter that I had to walk two miles home. I was well repaid for the fan of the wind in my face and the throb of the engine under foot as we sped along that country road. At last I was decided in what I would be. I would be an automobile owner.

When Dreams came True
My ambition to own a car was realized a year ago. Of course, I might have bought one before, but I too many luxuries would not do for me, so I waited until I got rid of my mortgage before I indulged in the cars being put out now are worth waiting for. They are more suited to the pocket of the average buyer than were the cars of a decade ago, and you can now buy repairs at almost every crossroads. When I climb into my new model, start off without the chug-chugging of the first one I saw, I don't regret the wait. My car climbs hills on high and I don't need to take an expert mechanic with me when I go for a spin of an evening.

Last July I celebrated the 10th anniversary of my introduction to the automobile by taking an all-day jaunt in my own car. As soon as I had the morning chores done I climbed aboard, picked up the dog, the mater and my sister at the old household, and started for a lake some 30 miles distant, and the beautiful Laurentian country. I had had been out for a lengthy trip before, but had not what a day we chose for our first big ride! Bright sun, blue sky trimmed with fleecy white clouds, a gentle breeze and the whole countryside alive! Oh, but I can tell you it was a day! My dream had at last come true. Who can describe the feeling of power when you know that a slight pres-blowing more merrily along your ears and bring the road toward you like a ribbon being wound upon a reel.

We set to our destination rather early for dinner, but the brisk drive through the fresh breeze had steeled our appetite, and by the time we had fixed up a fire to could do ample justice to the lunch that my mother had packed. In the afternoon we rocky narrows and cast for black bass. Dad was made happy by a four and a half respectable specimen after he had nearly pulled her into the lake several times.

We left early for I had my chores to do when I got home. We took tea under some home a roundabout way to get exploring were set several miles from our destination. And in the gathering twilight we drove along through an enchanted twilight we drove along picked out from the surrounding landscape by our lights and the green of the trees, made greener yet farther. Oh, a glorious day, indeed! It gave us all new courage for the hard summer's work that lay before us.

Is a farm car a good investment? you ask. I say yes, but not mortgage your farm to buy it. It is a good investment financially, for it saves valuable time in a hundred and one different ways on the farm. But its

LETTING IN THE SUN ON THE FORD OWNER—A PROSE POEM

RECENTLY I started walking over to our country town, for my dress had sprained a fetlock and my shay had broken down. I was low; empty my commodious ladder, broken my stock of soap and I needed meal for porridge, milk for raisins or balls, for a guay must keep on living if it is to live. I saw a fellow with the gold-darned sun shone, smiling on my curly dome, and he carried on my shoulder beans and corn for succotash, eggs and butter for the grocer, who like takes trade in lieu of cash. And the yellow road dust, with I grimly plowed along, kicking up the wheels of the road, with my cowhides thick and strong. And I wished with all my wishbone that some gink with motor car, headed for the town would stop and ask me, "Are you going far?"

Presto! Was I drunk or dreaming? As in answer to my wish, told me that my prayer was granted for my eye had caught the sheen of the sun upon the fenders of a first class limousine. On it came, a thing of beauty, with a purr and then a roar and I thanked in my fancy Sam Ray speeding like Ben Hur—how I'd picked the cushions and I'd murmur "Thank you, sir." But my fancy soon was shattered for the thing of paint and brass, thundered by and left me choking in its cloud of dust and gas. It was built for seven purposes, but besides the slim chauffeur, only one guy was present—he was out to take the air.

Fifteen times this was repeated—every time my heart beat like as I saw a car approaching with the corner of my eye. But like here chips with autos never asked me "Will you have a ride?" Oh, my heart grew ever wider, and my feet were heating too, so I raked from out my memory all the cues I could remember. But as on my way I plodded, and my wrath on mankind poured, suddenly around a corner came a farmer with a Ford. "Friend, could he in accents homely, "would you care to have a horse-ride? And before his words finished I'd begun to feel alive. "Sure," I answered, smiling sweetly, and with hands clasped in and away we sped! Lazing happily in that Lizzie made of tin.

After I had finished shopping, packed the tea and silver thread, came the farmer with his flivver, homeward bound. "Jump in," he said. And he drove me to my hometown, hough 'twas somewhat out of way and he filled the day with gladness—nor would take a sou for my pay.

Friends, whenever I take a ramble 'long the way of life I find that it's not the guy who's able that is striving to be kind. Every car can never see the gink who's got to walk, though they're glad to recognize him should their motors strike a rock.

Sam Ray

The All-Round Usefulness of the Farm Car

It Has a Place in Our Community Not as a Desirable Luxury, But as a Business Accessory

By ROBERT ALEXANDER.

IT is just about seven years since the first car was purchased in our township, a community which is, I suppose, typical of other rural communities in Ontario. Since then, and particularly in the last three years, cars have multiplied exceedingly. At our farmers' club a few nights ago, we started counting up the farmers who owned cars on the four main roads leading out of our village. We found that on these good stone roads 30 per cent. of all farmers had cars and 100 per cent. of what we considered our best and most progressive men were car owners. On side roads and concessions, the percentage of farmers owning cars was smaller, but even there fully 15 per cent. had already purchased automobiles, and more would be owned were the roads passable for a greater part of the year. "Does this mean that farmers are now so prosperous that 30 per cent. of them can afford to support a pleasure car?" asked the village blacksmith, a good friend of our movement, and a member of the club.

"Well, I reckon the car is a rare source of pleasure," responded one of the best farmers on the Guelph road, "and now that we have had a taste of farm life with a car, it would be some job to keep the lads and lassies around home without one. Our car is not owned altogether for pleasure, however. The boys and I were reckoning it up the other night, and we found that last summer almost two-thirds of the mileage travelled was for business and only one-third for pleasure."

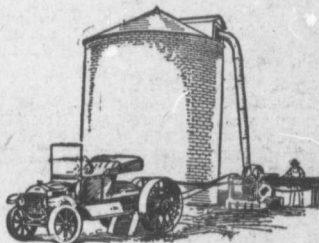
"Rather a high percentage of utility," remarked the blacksmith in a tone that suggested a question mark.

"Oh, I am not saying but that we pack the wife and a couple of kids in the back seat on some of our business trips," quickly responded my neighbor. "What I mean is, that two-thirds of our mileage was primarily for business, and the car would not have been out of the garage had it not been for a business call of one kind or other."

20 to 95% of Business.

A general discussion followed. None of us had complete records. All of us were surprised, after a little consideration, to find out how much our cars were used as a business convenience, and what an important factor in the running of our farms the car had come to be. The estimates of business use varied all the way from 20 per cent. to 95 per cent. of the mileage travelled, the latter estimate by a neighbor who lets the hired man run the farm while he does a driving business. The average of all the estimates gave the cars in our community credit for 60 to 70 per cent. of business use. "I perceive that the car has a place among us, not as a desirable luxury, but as a business necessity," remarked the secretary as he took up his book preparatory to reading the minutes of the last meeting.

Since our chat at the club, I have been considering the claims of the car. Should it now be considered a requisite part of the farm equipment, or a luxury to be indulged in after the last dollar has been paid on the mortgage? I have come to the conclusion that it belongs in an intermediary position. If I were in the position of a few of my neighbors—just starting and heavily in debt—I would not consider a car for a moment. Its usefulness, however, is great enough to justify its purchase ahead of the burning of the mortgage. In my case, the mortgage is still of substantial proportions, but the farm is on a good paying basis, and we consider



A Portable Farm Power Plant.

The up-to-date farmer is making his car do belt work as well as road work, and so speeding up his farm.

it good business to own a car. Let me tell of some of the varied uses to which cars are put in our community. I will start at home first. We purchased our car, a five passenger touring model, a couple of years ago. Our staple products are cream and eggs, both of which are shipped to neighboring cities by express. We have to make the two-mile trip to the station practically every week day in the year. To hitch up a horse, drive to the station and then drive back again made a big hole in the working day. Wife was always fearful of handling our driver around the trains, so the daily trip to the dealer to have the new part ready while the wife is all of the delivering to his place of business in the emergency the car is our first and our best friend, and so far as cost of upkeep is concerned, total expenses for gasoline, lubricating oil and minor repairs have not been as great in the past two years as the cost of feeding and shoeing a horse.

A Busy Farm Car.

We make little use of our car as compared with some of our neighbors. One man in particular I have in mind who works his car to the limit. He has a couple of hundred acres of land, he milks 20 cows, and he goes in extensively for early potatoes and tomatoes as cash crops. During a good part of the year he ships one can of cream every day at a station three and one-half miles from the farm. The saving in time which his car effects here is very considerable. It is in the late summer months, however, that the car gets its greatest use. I have seen this neighbor starting for our nearest city, 17 miles away with 62 11-quart baskets of tomatoes piled up on his car. At other times it would be an equally large load of early potatoes. This produce was sold in wholesale quantities to groceries, and two or three trips would be made every day of the busy season.

The second year that this neighbor owned his car, he began to consider it as a source of farm power, and purchased the first auto-power attachment in our neighborhood. This attachment was simply an extension of the cranking rod with a pulley on it. It was supposed to develop at least 15 h. p., and in the two years that he used it our neighbor filled his own silo with it, blowing the corn in at the pumped water, sawed wood; in fact, used it for all purposes for which a good sized portable engine is usually employed. It did a good work at all of these jobs. He thought that perhaps sawing wood was a little hard on the car because of unevenness of load. In three

and one-half years the car was exchanged for another of the same make. It was still in fair running condition, but was going to the garage a little more frequently than our neighbor considered probable.

The auto-power attachment was sold along with the car, not because it was considered a failure, but because this ingenious farmer considered that he could make an equally good power attachment at a lot less expense. He has succeeded. His new attachment is simply a wooden pulley, bolted on to the side of one of the back wheels. The rear of the car is then elevated on blocks provided for the purpose, and the power is transmitted through the differential. This home-made power device is giving excellent satisfaction, and has been borrowed by several of the neighbors to hitch on their own cars in wood cutting season. If these power attachments generally successful it seems to me that they will make the car a first-class investment for any farmer, as practically all farms nowadays have need of some form of mechanical power. I have seen several of these devices advertised, and I certainly would like to see our Department of Agriculture experiment with the various attachments on the market and tell us whether or not they will be a good investment. I incline to the belief that they are destined to add much to the value of the farm car.

The Tractor Attachment.

Just about 20 miles from us is the Lakewood Stock Farm, whose ads. appear in the Holstein columns of Farm and Dairy. When the Provincial Plowing Match was held at Brantford last fall, we "plowing" Match was held on the farm, and I had all went down in the car, and during the day I had a chat with Mr. Dawson, the manager of the Lakewood Farm. Among other things he told me that they had purchased a tractor attachment for their Ford car. "It is working splendidly," said Mr. Dawson, when I asked him about it. "It is drawing the 12-inch plows up and down the stiff grade behind the farm. You simply can't beat the quality of the plowing, and it is a one-man operation, the driver controlling the plow with the line just as they do from these tractors here. He is plowing about five acres a day. He doesn't have to stop for rain—just puts up the top of the car and goes ahead. My wife ran the plow and the car for half a day just for the novelty of it."

"And how does it compare with horses for expense?"

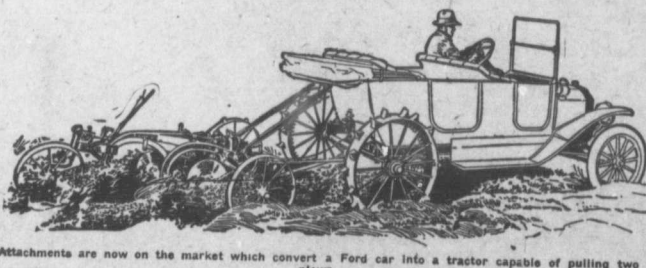
"We have been plowing with horses, too," said Mr. Dawson. "Three horses on a double bottomed plow turned over just three and one-half acres a day. We had two single teams plowing in the same field, and they turned over just one acre a day. We were paying these plowmen three dollars a day, and the horses to feed besides. It cost about \$1.69 an acre for gasoline and oil with the car and tractor attachment. Hesting! We, we haven't any particular trouble. The machine has run 10 hours and never boiled the water in the radiator. You see, there is a special radiator goes along with the tractor attachment, a pump to force circulation through the engine, and a special oiling system."

An Aid in Rush Seasons.

These tractor attachments are cheap. If I remember rightly Mr. Dawson said that theirs cost \$295 if they are a real success, here is another great avenue for usefulness in front of the farmer's car.

Such an attachment would take the place of the tractor on the small farm, though I can hardly believe that it would be desirable for heavy construction work. Its small cost would allow the farmer to use it as an aid to a smaller number of work horses in the rush seasons. I stopped to examine one of these attachments at the Canadian National Exhibition, and the man in charge told me that he had made the change from the tractor to a touring car in 17 minutes. He, however, was an expert. A farmer with experience has since told me that he has made the same change in 20 minutes. Here again we would like to get some real light and leading from our Department of Agriculture. Why should they not give these tractor attachments a real good try-out and publish the results?

I believe that the use of the term "pleasure car" is a misnomer so far as the farmer's car is concerned. We use our cars for business more than we do for pleasure. I do not want to under estimate it raises, however, as a source of pleasure in a half of my life. I am satisfied, however, with two years' experience, that we would now own a car if it cost less for pleasure only.



Attachments are now on the market which convert a Ford car into a tractor capable of pulling two plows.

Maximum Service With Minimum Garage Bills

An Experience Meeting of "Our Folks" Who Are Handy With Cars.

Keeping the Car Young

Premium Article, by Elmer K. McConnell, Norfolk Co., Ont.

CARE and repair are requisites as necessary for the running of a car as are gasoline, oil or new tires. And I am satisfied that they bulk quite as large in the actual cost per mile of auto travel.

This care and repair is something which no car owner can get away from. You can either do it yourself or pay some one else. And the writer would like to show you why, in his estimation, is the cheaper and more satisfactory way. There are two ways, Mr. Car Owner, in which you pay some one

where it is necessary to operate the car in all kinds of outside appearance, but I believe in any case it pays to keep a car mechanically perfect, or as nearly so as possible.

It is not the purpose of this article to give detailed directions to follow for the mechanical care and instruction book, and the first thing on the program for keeping the car tuned up is to read this outline, then follow instructions. There are, however, a few points, which, in my opinion, are not emphasized enough in this book, but which, nevertheless, have a very important bearing on continuous good car performance. In the first place, I would

believe a good job of draining can be accomplished in that way, to say nothing of liability of damage to engine. The method I use is to pour in about a quart of warm coal oil and draw the car around with the throttle closed for a few minutes in intermediate gear with and fill with fresh oil.

I believe it pays to remove the carbon from combustion chambers every two or three hundred miles. By following instructions you won't find this a hard job if you will do it quicker and easier. Valves compression, as the better the compression the more power you have, especially with the engine pulling hard at slow speed on high gear. Look after your engine needs well. Don't race it idle, and you can save a good deal of money.

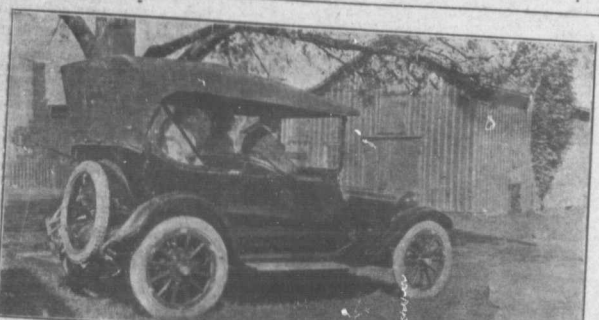
I don't think it necessary to allude to tire care in this article, as there is plenty of good tire advice given in many papers and magazines. Keep air pressure up to standard at all times, use scapators or mica freely, and keep rims painted are things that count and which any car owner can do.

Maintaining Car Finish.

A clean car both inside and out is something to be desired, and if practical to keep a car in this condition adds considerably to its value, and has also some pleasure derived from operating it. I have had some success in maintaining finish on our car, mostly by hand in bad weather. There is no need to run the car much car look old unless something is done to prevent it. And there are ways to keep the good appearance without too much work. I have found that a little sprayer outfit that spray a mist of special polishing oil over a dirty or dusty car, which is then the finish and keeping it bright. Never wash with water unless absolutely necessary when you bring your car in covered with mud. If you have been using the sprayer polish you will find the mud washes off easily just by throwing water over it, provided the mud has thoroughly dried on too much. Then, after the car has thoroughly dried off, spray on the polish again.

Here is a method I have used very successfully to clean the oil and mud off any part of the car, such as engine, transmission case, rear axle, or wheels. I never heard tell of any one using it before; it is certainly a time-saver, and may be of use to some. First, it is necessary to have one of those little compressed air sprayers filled with hot water, will do. Now take a can of coal oil (if it is heated oil is better) and an old paint brush apply the coal oil to the dirt with the brush, just enough to loosen it, then turn on a strong stream of the hot water. The dirt is flung away like magic, and the surface left as clean as new.

There are other things connected with keeping up the appearance of a car which any car owner could do, such as siving the top a coat of dressing, also the cushions. Bon Ami is great stuff for cleaning wind shields, and doesn't take long, either. Oh, yes! I almost forgot about greasing the springs. I have



A Car that Looks and Rides Good After Two Years' Use. This illustration shows the car owned by E. K. McConnell, whose article appears herewith, as it looked last October. Mr. McConnell has written for Our Folks a description of his system for keeping the car up to the mark.

else for the care and repair of your auto: first, you can have your car overhauled at a garage; or, second, you can run it as long as it will run, and then sell it or trade in on a new one. The first system, in my opinion, is not entirely satisfactory, both because of the scarcity of first-class, conscientious workmen, and also because of the cost entailed for the trade in system the best method of meeting cars and repair (in the majority of cases) because, in the price of new models, and, second, cars of yesterday are not much improved over the cars of today (in fact, in some makes the reverse is true), nor do they as the well cared for cars of tomorrow will be any better today is built for years and years of satisfactory service if properly cared for, and the cost per mile of running your car can be greatly lowered if you wisely attend to the care and repair work yourself and

We purchased our car in 1915, and since then we have run it about 8,000 miles. This car has never been in a repair shop of any kind. It still has the original tires on it, and it looks nearly as good as a new car. It pulls better, runs smoother, and is in better mechanical condition to stand abuse than it was when new. It is giving just as high mileage of gas and oil as ever, and has never failed on the road above the average car performance, and may sound like "wank." However, I do not attribute this freedom from trouble to the make of car (there are expert mechanics, being just an ordinary farmer with tools) same as many of Our Folks. But early in the game I realized that care and repair are big items that every car owner must pay for in some way. So I determined to look after our car to the best of my knowledge myself. Now, after two years and a half of pleasurable and economical operation I am satisfied that this "doing the job yourself" is far the cheapest and most satisfactory way for the majority of car owners.

Now, a car owner can either devote his energies to keeping his car repaired mechanically and not the finish and let the mechanical end suffer, or he can endeavor to look after both. In some cases

my strict attention to tightening up all the loose nuts on a new car (and you will be surprised at the number there are, even after the first few miles of running). Take the wrench and get out and get performance every little while. You will probably find less to tighten each time. You will probably "wrench in time" may "save time" or nineteen dollars in repairs later on. Have the oil can along, too, come off some time. A nut may have to be removed when oil has been there first. Also give the screws down, so that a little grease comes out both by this can you be sure that the bearing is being properly lubricated.

Now for lubricants. Use only the very best. Most cars require at least four kinds, namely, engine oil, cup grease for all other bearings. Don't use cup grease for everything by using lubricants of this to overcome friction, wear and repair bills. Nor for too long. I drain the crank case about every thousand miles, and clean out the transmission and every differential every twenty-five hundred. Every precaution should be taken to have absolutely clean oil and grease. The least bit of sand or foreign matter acts as an abrasive. Also, when the old oil or grease is removed everything should be carefully and thoroughly cleaned with coal oil before the fresh lubricants are added, as there is almost sure to be tiny steel or iron particles in the case somewhere.

Cleaning With Coal Oil.

I have found the following method a good one for cleaning out transmission or differential cases: After draining out old grease replace drain plug, jack up a rear wheel, pour about a quart of hot water in both transmission and differential, then start car in gear and let it run for a few minutes at ordinary speed. Then immediately drain off the coal oil. The clean and ready for fresh lubricants. In your instruction book regarding draining crank case you are told to flush the case with coal oil running engine for about 30 seconds under its own power. Now, I don't



Principle of the...

for another... little more... available... along with... failure, but... and that he... his new at... of the car... the purpose... the different... receiving excel... by several... new cars in... service are... that they will... any farmer... of some... several of... would like... experiment... and tell... needed to add

Lakview... Holstein... Provincial... at fall, we... day I had... the Lake... and for that... for their... of Mr. Dav... drawing two... behind the... of the plow... driver con... y do from... five acres... just puts... of write ran... at for the

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I remem-... 2925... mer great... owner's car... ardly be... continu-... having... of these... exhibition, ... made the... of a... 7... farmer has... made

again we... attach... loading... partment... Why... not give... as good... in the r-

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found that by using some blocks you can set your jack so it will operate on the frame of the car, then by moving the little bolts from the spring clips and raising body of car by the weight of wheel and axle being suspended, will open up spring leaves so that you can lubricate them thoroughly.

Little Things That Count Big

Look After Tires and Keep Nuts Tight

RALPH A. WRIGHT, Leeds Co., Ont.

I AM a reader of Farm and Dairy, and I take much pleasure in telling my fellow car owners my experience in eliminating garage bills. I have owned an Overland car for three years, and I am getting maximum service at a minimum cost.

One of the greatest problems facing car owners is the tire service. There are different ways in which one can avoid tire trouble. I keep my tires well inflated in cool weather, and about five pounds less pressure in hot weather, because the air in the tube becomes heated in warm weather and expands. Most tire makers recommend a high pressure at all times. One can save his tires by stopping and starting with caution, and by overloading the car. I have found that it is wise to keep all oil and gasoline away from tires. They are solvents of rubber and will cause tires to rot.

I carry two spare tires on the rear of the car, and I use them occasionally to keep them in good condition. When I notice small cuts in the rubber, I clean the sand out of the cuts and fill them with tire filler, which can be purchased at any garage for a small sum. This will prolong the life of the tire considerably. I have run my car for three years, and I have only purchased two new tires in that time.

Lubrication is important.

Like all other mechanical part of the car needs attention once in a while. Lubrication of the different moving parts of the car is very important. I use the oil chart found in my car book, so am sure to use the oil that the parts need. Grease is necessary, and not when it is of it. For motor lubrication I use a medium oil having a flash point of not less than 425, and a fire point of not less than 475 degrees F. Money spent on good oil is excellent motor economy.

Many of us have to renew our brake linings on account of lack of oil. Two tablespoons of "neats-foot" oil applied to each brake once every two weeks will work wonders here. It will keep the linings soft and insure stopping at the desired place. When my car has run 1,000 miles I drain all the oil out of the crank case and refill with new oil. This old oil may be used for any farm machinery. I use a grease that is prepared especially for cars. I keep the grease cups full all the time, and an occasional turn of them will keep the car in good condition. Sometimes the grease in the grease cups will become dry, and I make a practice of injecting a little oil through the cups which will keep the grease soft. I also make a practice of cleaning the grease out of the transmission and differentials about twice a season, and repack them with new grease.

Look over your car tires and examine the nuts and screws and see that they are all tight. Doing this may prevent my car from rattling in the future.

I make it a rule to strain all my gasoline through a funnel lined with chamois skin, because the chamois will collect any dirt and water that may be in the gasoline. I think it pays to use a good grade of gasoline, for I have never had any carburetor trouble, and I have always obtained a good mileage per gallon.

I examine my storage battery at intervals of about two weeks, and make certain that the electrolyte covers the tops of the plates in each cell. When necessary I add distilled water, or clear rain water, that has not been in contact with metal or cement. I strongly advise anyone not to fool with the electrical parts unless you are familiar with them. By doing this and keeping all the wires tight, I have never had any trouble with the electrical system.

My advice to any car owner is to make a study of his own car. By doing this I have never had occasion to take my car to the garage for repairs.

Here are a few points that will save trouble and expense: Know your spark and throttle adjustment. Find under what conditions your car gives the maximum power with minimum amount of gasoline. If you use the proper amount of oil in the cylinder you will prevent carbon, a very common source of trouble, besides giving longer life to the car. Remember, metal moving against metal needs a lubricant. Use a good lubricant, adapted to the make of car, not too much, but enough. A little varnish and paint adds to the looks and service of the car. Keep radiator full, preferably with soft water, but keep the water from freezing or else drain.

The tires are a very important item of expense. Use a tester and know that they are properly inflated. A good tire cut filler used as directed will get more mileage per tire. Avoid skidding when stopping, starting and turning corners. Go over the car often, tighten nuts and keep everything snug.

Look After Little Things.

With the little things kept right you will not have much overhauling. For carbon deposits some recommend a patented carbon remover, but we know that a set of carbon scrapers will make a good job. Simply remove the cylinder head and scrape the carbon out, being careful not to get particles into the cylinder or bolt holes.

If there is lack of compression and you trace it to



The Farmer's Car.

A car is a useful addition to the farm equipment. It increases the efficiency of the farm system and brings pleasure to the owner.

the valves, they can be ground by using a good grinding compound according to maker's directions. An extension made for a carpenter's brace and made to fit fly valves, is about the most convenient, cheap valve grinding tool for an amateur. On some makes of cars, the valves require adjusting frequently, and on others an even exhaust assures you that they are properly timed.

A little experience will enable you to trace the different knocks in an engine. These are very hard to describe so as to show the distinctions. Any of the modern cars are built so that the main bearings and connecting rod bearings, are easily adjusted. Better loosen all others and adjust each separately by removing skims or drawing filed, and then at the final have each one the same as when you adjusted it separately. You should be able to turn the shaft by hand when only one bearing is tightened.

Be Your Own "Expert."

In a short article it is impossible to treat properly broad a subject. A study of your manual will help you. Many garage men are competent and give you a square deal, but if you saw your car go through some garages, you would have much more confidence in yourself and less in some garage men. When a garage man will use a five or six foot bar to "tump over" an engine after adjustment, and tell you that as long as they do not get red hot while "running in" (if you can get it started), that the engine is all right, well, you have your doubts, and good reasons for them.

A well equipped farm has a liberal supply of tools, but a few special wrenches may have to be purchased. By doing the overhauling in the less exciting seasons of the year, you save many unnecessary garage bills, and become better acquainted with your

car, and a simple thing will not be a "hold-up" to you on the road. Your own judgment should tell you when you have too difficult a job, and then hunt up a good garage man.

Keeping Down Expense

Prevention Is Better Than Cure

JAMES CLARK, Lanark, Co., Ont.

ATTER driving a car for some time I have come to the conclusion that any person of a mechanical turn of mind, and not afraid of dirt and grease, can greatly reduce his garage bill. The old saying, "An ounce of prevention is worth a pound of cure," can be applied to an automobile, and by looking over the car regularly and keeping everything in A1 condition, the number of trips to the garage for repairs can be greatly lessened.

When working on an automobile, never tamper with anything which common-sense tells you to leave alone. The generator, starting motor, storage battery and ignition coils should be left alone, because electrical devices are easy to put out of order. Removing any part or adjusting anything exactly how it should go on, and, if necessary, mark its position with a punch. Lastly, before attempting to make adjustments of any kind, study the situation carefully, and refer to your instruction manual for help.

Tires should be kept inflated to the proper pressure. Under no condition should the car be driven on a flat tire, as both casing and tube will be ruined. The casing should be examined regularly, and small stones, which are often worked into them, should be picked out. Small cuts should be cleaned out and filled with some preparation or vulcanized. A small vulcanizer, costing three or four dollars, is an excellent investment, and it will soon save a price in the increased mileage secured from the tires, by repairing small cuts before they have a chance to cause a blowout.

Reminders.

The detachable rim bolts should be kept tight, and if a little grease is placed on them it will be much easier to loosen them when changing a tire. The springs should be watched for broken leaves, and the spring clips tightened occasionally. Practically all breakage is caused by loose clips, and can be stopped by allowing oil to run down the sides of the springs, and it will thus work in between the leaves. The grease cups on the shackle bolts should also be screwed up regularly. The steering gear connections should receive the greatest attention, as any breakage here would cause a serious accident. The front wheel bearings should be kept tight and well lubricated, and the wheels should be lined up occasionally, because if they are allowed to get out of line, the tires will soon wear out. The wheels should toe in from one-quarter to one-half inch. The transmission and rear axle should be kept well filled with heavy oil, which should be drained out every 1,000 miles and replaced with fresh oil. The universal joints should be kept well filled with grease, and the clutch mechanism should also be well lubricated.

Look after the wiring. A loose wire often causes trouble. Keep the generator and starting motor cleaned and oiled regularly. The storage battery needs distilled water regularly, and also should be tested frequently to see that it is not run down.

Use Good Oil.

The engine would be the better of a thorough cleaning once a month to remove dirt and grease, which might possibly work into the mechanism. Do not tamper with the carburetor unless it is absolutely necessary. It is very easy to put it out of adjustment. By putting a half cupful of coal oil in each cylinder about once a week, when the engine is hot, and letting it stand overnight, the accumulation of carbon can be prevented to a large extent. Every 1,000 miles the crank case should be drained and about half a gallon of coal oil poured in. Then, by allowing the engine to run idle about a minute, the lubricating system will be thoroughly cleaned, and when the coal oil is drained out and the crank case refilled with fresh oils the engine will run smoother and quieter.

It is poor economy to buy a cheap oil, because its lubricating powers are much less than a high priced oil. Oil costing one dollar a gallon is not too dear. The increased mileage per gallon secured will offset the high price. Some cars use an oil which is not at all suitable for other cars, but usually a heavy oil should be used in the summer and a light oil in winter. Whenever any unusual sound is heard from any part of the car, a search should be made to see what the trouble is, and adjustments should be made before serious damage results.

"Gasoline is likely to be even more expensive, they say."

"Yes," replied Mr. Chugzins. "Every time my motor won't run I feel a thrill of satisfaction at the way I'm economizing."—Washington Star.

Be Wary of Garage Men

Do the Simple Repair Job Yourself

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

A FARMER with a car, who possesses a little mechanical knowledge, can, with the practice and experience that he gets from working with his other farm machinery, do a great deal in his spare time, or, rather, in his less busy time, in repairing and overhauling his own car. The majority of farmers' cars are really not much more complicated than other farm machinery, but, of course, if he owns a twin six or its equivalent with its more intricate parts, well, be careful.

IN my experience of 12 years as a garage man in a small country village, I have had excellent opportunities of studying cars and car owners. As a result of that 12 years' study, I have come to the conclusion that, in recent years at least, most manufacturers are turning out good cars, that most rubber men turn out good tubes and casings, but that the majority of car owners are hopelessly ignorant of the most elementary principles of car and tire maintenance. My shop is located on the main highway between two of Ontario's leading cities, and I get both city and country traffic. I find that, as a rule, farmers take more intelligent care of their cars than do city men, but even they lose many dollars every season through practices for which there is no excuse. Of all varieties of abuse, tire abuse is most prevalent and most easily prevented, and it is of this that I have been asked to write for the Automobile Number of Farm and Dairy.

Many men will run 6,000 miles or more on a single set of tires. Another man would take the same set and at least a couple of them will be ruined before he has driven 3,000 miles. Why is it? Well, there are several kinds of tire abuse, but the greatest of them all is under-inflation. I have had apparently intelligent men tell me that they kept their tires soft because the car then rode more comfortably. It is surely a millionaire's way of taking comfort? A tire is made of several layers of rubberized fabric, covered over with a heavy rubber tread on the outside. The first result of running without sufficient inflation is that the portion of the tire on the ground and near the wheel revolves every of its natural shape, and as assume this unnatural state several thousand times in a few miles' journey. The side walls bend in and out and the various layers of fabric are strained other. Once separated they rub, friction and heat are produced, disintegration proceeds rapidly, and side air pressure, a blowout results.

My advice to all my patrons is, under no circumstances, to ride a casing flat or partly deflated. I would prefer to remove it and run, if the distance is short, on the rim. This will prevent destruction of the tube as well as of the tire. Care should be taken, however, to see that the rim is not bent after causing rim cutting. An inner liner, which can be purchased at almost any garage, will strengthen the fabric of the casing that has been cracked by "soft" riding. I believe, however, that every motor man should carry an extra tire and be ready for a blowout or blowover.

Occasionally under-inflation seems to be logical. I have had motorists argue with me that on hot summer days, and especially when running over sandy roads, that it was highly advisable to let



Bringing the Markets Nearer the Farm. In the more intensive lines of farming, including dairying, poultry raising and truck farming, the motor truck is being introduced to facilitate the marketing of the produce. Because of its greater speed, it gives the farmer a choice of markets which are not possible without it. Illustration shows a one-ton truck used on the produce farm of F. Marquardt and Sons, near Detroit. Courtesy The Maxwell Motor Co.

More Miles for the Dollars Invested in Tires

The Sins of Omission Which Account for Rapid Tire Depreciation.—By L. W. Duncan

down the pressure somewhat as the hot roads and hot air would expand the air inside the tubes and cause a blowout if the pressure were not reduced. My experience is that in an under-inflated tire the air is pumped around and around and the friction caused thereby will cause more heating than will a let down the pressure a very little on a hot day, but I doubt if it is often necessary.

Rim Cutting and Stone Bruises.

Another tire evil, rim cutting, is caused by insufficient air pressure in probably nine cases out of ten. It may also be traceable to running on a punctured tire or on rusty or bent rims. The first essential in avoiding rim cutting is to see that the tire pressure is always up to standard. Every motorist see that they are true. Rust should never be permitted on the rims, as it is a natural enemy of rubber. Paint them as often as necessary, and use soap stone on the inside. When rim cutting does occur, however, the inner tube should immediately be protected with a rim cut patch or a blowout will soon result.

More serious than rim cutting is the stone bruise. When a tire is revolving rapidly and comes into

contact with a blunt obstacle, usually a loose stone on the road, the blow forces the fabric inward, but very seldom leaves an impression on the tread as the rubber will immediately spring back into its proper place. The inner plies of the fabric, however, will be broken by a severe blow, and the innermost plies will be more severely ruptured than those on the inside. As the tire will show no outward signs of damage, the chances are it will be continued in use, but the inner plies, being broken, work against one another when the tire revolves and the fabric in time will be so weakened that it can no longer sustain the pressure. The only remedy here is to drive carefully over rough or stony roads, and, again, keep the tires properly inflated. It is only in extreme cases that a properly inflated tire will be materially injured. I would advise that tires be examined regularly both inside and out, and that even if slight breaks are discovered they should be attended to right away.

Here we have three of the most prevalent troubles traceable in most cases to under-inflation—separation of fabric layers, rim cutting and stone bruises. The remedy in all the cases is more elbow grease and more air in the tubes. Every car is equipped with a good pump, and the best make is a pressure gauge. Tire manufacturers commend the different pressures suitable for different sizes of cars. A good general rule is 20 lbs. of cording to each inch in width of the tires. Accidentally farmers should have a constant air pressure of 60 lbs. to the inch. And this pressure must be measured with a gauge. I myself am working all the time with tire pressures by its appearance, and I am convinced to believe that my judgment on that point is as good as anybody's. Good gauges can be gotten for \$1.25 to \$2, and they should be in every tool kit.

Wearing of the Tread.

Even when kept properly inflated the tread or heavy rubber covering of the tire casing may be subject to unnecessary wear. Disintegration of the tire is frequently caused by small, deep cuts which are not attended to when they first make their appearance. At every revolution of the tire a cut is expanded in such a manner that sand and water are sucked in. Then disintegration begins. The cutting action of the sand loosens the tread and creates sand holes and blisters. The water rots the fabric, which is the strength of the tire. Every motorist should go over his tires almost daily, putty or cut healer, of which there are several good brands on the market. In about 12 hours this filler will become an integral part of the tire, and is a permanent and satisfactory repair. If

(Continued on page 14.)



The Crop that has Enabled Many a Western Farmer to Purchase His Car. With the advent of two-dollar wheat many automobiles have been purchased by Western farmers. The farmer of to-day is a business man and he finds that he cannot afford to be without a car. He must keep in touch. Illustration shows a wheat field one mile south of Treherne, Man. Photo, courtesy Immigration and Colonization Branch, Winnipeg.

Saskatchewan Grain Growers Hold Convention

Oppose Increased Freight Rates and Favor Nationalization of Railways—Want Duty Free Farm Machinery and a Minimum Price on Wheat Till End of War

THE 17th annual convention of the Saskatchewan Grain Growers' Association held in Regina on Feb. 12th to 15th inclusive was attended by 1376 delegates and about 800 visitors. The discussions carried on at the convention and the business transacted covered subjects of interest not only to Saskatchewan farmers, but to organized farmers throughout Canada. The convention based its platform almost entirely on the stand already taken by the organized farmers of other provinces in opposing the increase in freight rates asked for by the Canadian railways. They also advised that the Government follow the example of Britain and United States in assuming control of and operating all Canadian railways in one system, which would enable them to give a greatly reduced rate of freight, by eliminating duplication and overlapping, effect such economy as would permit of their operation at present rates.

An important resolution was passed asking that the Dominion Government not only fix a price for the 1918 crop of wheat, but establish a minimum price for the period of the war, or for one year after the war. A resolution indicating that the stand of these Western farmers on implement duty was passed reading, "Whereas the Dominion Government is urging the farmers to produce more grain and meat, and whereas they have also set the price of wheat, therefore be it resolved that this Association place itself on record that they consider it the duty of the Government to remove the duty on farm implements and machinery and set the price on same."

President's Address.

In opening the convention, President J. A. Maharg, M.P., pointed out some of the dangers of democracy. "There is very little in a name," said Mr. Maharg. "It may have a most democratic form of government, and yet be governed in a most autocratic way, and vice versa. It is not the form of government that a country is democratically governed or not. Rather is it the laws and the administration of the laws that reveal this." Mr. Maharg pointed out an interesting fact in Canadian politics—the moving of the balance of political power from Eastern to Western Canada. This was very clearly shown in the recent federal elections when the country west of the Great Lakes turned the scales. At the elections held later in the convention, Mr. Maharg was unanimously re-elected president.

Trading Activities.

The most interesting discussion of the convention concerned the trading activities of the central. This subject was brought up when Hon. Geo. Langley, in extending greetings from the Saskatchewan Co-operative Company, renewed last year's offer to take over the trading activities of the association by that company. His offer brought on a great number of resolutions and amendments in regard to the trading activities of the association. The constitution was so amended as to prohibit anyone engaged in business carried on in competition with that of the association from holding office in any local. It was felt by some of the leaders in the association that the trading activities of the central were an integral part of the association and that they could not be separated.

A long debate took place as to the advisability of the amalgamation of the central, the Saskatchewan Co-operative Elevator Company and the United Grain Growers' Limited. The delegates, however, did not seem inclined to take such a step. J. S.

Alken then proposed as an amendment that the convention favors co-operation between the Saskatchewan Grain Growers' Association, the Saskatchewan Co-operative Elevator Company and the United Grain Growers' Limited with a view towards future federation. Mr. Dane said this amendment meant nothing but side-stepping the issue. Both convention and executive should recognize that this competition was decidedly harmful. He asked the Central secretary if he knew of any solution and Mr. Muselman requested that the matter be brought up again later. The amendment was then carried.

It was pointed out in this connection by Director Orchard that while \$400,000 worth of business was done by the locals in last year, that year only \$100,000 of that war with the central. He thought that the central was not a big enough organization to compete with such companies as the T. Eaton Company or the United Grain Growers, Limited. A resolution was introduced by J. R. Mosiman, Guernsey, that in the best interests of the association as a trading body it would be wise and expedient to place the trading activities on a basis similar to that of the Co-operative Elevator Company.

Mr. Mosiman said that in moving the resolution it was not the intention to upset the plans of the convention or the working order of the Central. He thought that the question of trading should be kept separate from that of education and propaganda. He also wanted the association to go into a wider business and handle other commodities than those that are being handled at present, as there were many people who did not go to the retail stores, but dealt directly with the cooperative stores.

The Executive Report.

The executive report, which included the reports of the secretary and treasurer, showed that during the year the use of the public press was greatly increased, special arrangements having been made with many papers in which a page in each Saturday issue was reserved for the material supplied by the association. In this way the association's propaganda is being spread in thousands of homes that otherwise could not be reached by the Grain Growers' Guide, which is already supplying a weekly page. The secretary declared there was no intention of trying to displace the Grain Growers' Guide as an official organ.

In the treasurer's report it was stated that no grants were received by the association for carrying on the organization work except that from the Saskatchewan Elevator Company, which company gave the general sum of \$5,000. The report continues:

"The year 1917 shows by far the largest growth in any year of the business of this department. During this entire year your central office was independent of its former association with the Grain Growers' Grain Company, and had a free hand in making its own contracts for all supplies. The business of this department for the year 1916 amounted to \$1,558,000, and this included an appreciable amount which came to it for The Grain Growers' Grain Company. It is doubly gratifying therefore to be able to report that the total sales for 1917 amounted to \$1,645,000, showing an expansion of nearly 60 per cent. over the previous year. The best profit, after making allowances for depreciation, bad debts, claims and adjustments, etc. stands at more than double that for 1916, being \$35,748.88. It is easily evident, therefore, that this department had during 1917 by



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THE GISSON SILO FILLER is the only silo filler which can be operated with an 8-hp power at 4 ft. There is a Gisson 200 Filler for every capacity for the typical silo, for the producer's and user's large capacity machine for the country.

We guarantee every Gisson Silo Filler to cut and shove more material in less time than any other silo filler center.

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THREE CENTS A WORD, CASH WITH ORDER.

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"WANTED—A helper 'by the year' for the Elmina Creamery. Experience not necessary. Apply to A. Keyes, Manager, Box 284, Elmina, Ont."

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Perfect Maple Evaporator

Simple to operate, made of best quality material. Price so moderate that anyone can buy.

Our low priced welded steel trap pans may interest you.

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THE STEEL TROUGH & MACHINE CO., Limited

148 Jarvis Street, TORONTO, ONT.

BE YOUR OWN BLACK SMITH

FARMERS HAVE REPAIRABLE & WASHABLE MACHINES. ONE OF OUR BLACK SMITHS WILL VISIT YOUR FARM AND FITS WILL PAY FOR TRUCKS. CATALOGUE FREE.

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TRADE MARK DISTRIBUTORS CANADA

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300-Acre Farm, 100-ft. basement barn, new pressed brick house, slate roof and furnace; 4 miles to school. 100 acres of timber. 2 miles from Trenton. Good clay bank. 2 sugar bushes. Stock and implements included. If taken at once.

SANFORD N. VANDERVOORT, Quinte West Farm, Trenton, Ont.

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Have for sale a **BUCKET TRACTION DITCHER** Full particulars on application.

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By the Oldest and Most Reliable School of Music in America—Crested School of Music, Piano, Organ, Violin, Mandolin, Guitar, Banjo, Etc.

THE ONE AND ONLY THING YOU CAN QUALIFY

Beginners or advanced students. One lesson weekly. 10c per day to cover cost of postage and music. It is easily evident, therefore, that this department had during 1917 by

Kempster School of Music, 25 Lakeside Building, Chicago

far the most successful year since it was inaugurated."

Strengthened Financial Standing.
 "During the year 1917 tests were put upon the financial standing and business credit of the association such as had not been experienced before. Early in the season there was serious danger of a twine famine, averted later by the partial failure of the United States winter wheat crop. Your executive was fully aware of conditions and in order to protect you so far as possible we purchased in April a quantity of twine which had been intended for export to European countries and for which ocean bottom space could not be secured. Spot cash before shipment was demanded and the amount involved was in excess of \$100,000. The association secured this money within forty-eight hours entirely upon its own responsibility. With the rapid expansion of the business, the carrying of heavy stocks of supplies, all of them purchased for cash, has been unavoidable at times. That the association has won the confidence of financial circles is evident when it is known that it has been able to carry stocks

aggregating at times as much as \$200,000. While this information should fill you with confidence and gratification it must also be recognized that these unavoidable heavy drains upon capital made it doubly imperative that the association stick closely to a cash business."

Resolutions.

A multitude of resolutions were passed at the convention, dealing with subjects of local, provincial and national importance. The provincial and federal governments were asked to take immediate steps to have the large beds of coal in Southern Saskatchewan developed and thus relieve the strain on transportation facilities in bringing coal to the western provinces. The federal government was also asked to make the necessary changes in the B.N.A. Act, so that it would be possible to enact to the fullest extent direct legislation, including the initiative, referendum and recall.

A proposed change in the constitution, raising the membership fee to \$1.50, did not find sufficient support to carry. The feeling of the convention was that more members would

be received at one dollar, and that was what counted most. The association is going out with a campaign for 30,000 new members during 1918. Never before have farmers been faced with such a need for concerted effort as now, and with this in view the association is endeavoring to bring a large percentage of the farmers of the province into the organization. During the convention 185 new life memberships were taken out.

In response to the appeal made on behalf of the farmers of Europe, the following resolution was passed: "Whereas our fellow farmers in the war-devastated areas of Europe have suffered almost incalculable loss by our mutual enemy; and whereas we believe this terrible destruction was entered upon for the deliberate purpose of defeating our mutual ends; therefore be it resolved that we heartily endorse the object of this fund, and that a grant of one thousand dollars should be made to it from the patriotic acre fund of this association." In passing the resolution the convention pledged its support of the fund through the various local branches in the province.

Election of Officers.

The following officers and directors were elected for the year 1918: President, J. A. Maharg, M.P., Moose Jaw; vice-president, A. G. Hawkes, Perivale; directors-at-large—Thomas Sales, Langham; Mrs. McNaughtan, Piche; J. B. Munselman, Regina; H. C. Fleming, Tate; John Evans, Nutana. District directors—J. W. H. Beesley, Bellevue; 2. C. M. W. Emery, Carmichael; 3. Nelson Spencer, Carleton Place; 4. R. M. Johnson, Eastview; 5. John J. Batesman, Wolseley; 6. John McNaughtan, Piche; 7. Wm. Penny, Balcarres; 8. W. J. Orchard, Teesgarva; 9. J. Ingle, Rokeby; 10. J. L. Rooke, Togo; 11. Charles Davies, North Battleford; 12. A. Baynton, Carleton; 13. P. M. McCaffrey, Rockhaven; 14. Frank Burton, Vanguard; 15. P. L. Craigie, Hazenmore; 16. W. T. Hall, Surbiton.

We see much in the paper about substitutes for butter. There is no such thing. The people who adopt these so-called substitutes have taken the first step towards physical and mental degeneration.—Prof. H. H. Dean.

Frost Supremacy



A fence cannot give any more service than the quality that is put into it.
 Never was **QUALITY** so well looked after in a woven fence as it is in **FROST** fence.
 We buy the raw steel rods and make our own cold drawn wire. Wire not true-gauge is reduced in size for other uses. Frost Fence is full gauge No. 9 Wire, which is one-seventh inch in diameter.
 During the process of making, the wire is cleaned with sulphuric acid, baked with lime, annealed to make it tough, air-tempered, galvanized in a vat of zinc spelter heated to 860 degrees, and then run through asbestos smoothers.
 That is why **FROST** wire looks so smooth and clean and defies rust and weather.
 The fence is then woven slowly through special machines so that every stay is straight and true and every space precisely even—a handsome, tight fence.
 The famous **FROST** tight lock, differ-

ent in design and stronger than any other woven fence lock, is applied without kinking or weakening the lateral.
 It is impossible to apply the ordinary fence lock without kinking the lateral. As the life of an ordinary fence is no greater than its weakest spot—its kinks—it is easily seen that in this one thing alone **FROST** fence has many extra years of service built into it.
 But in addition to that, **FROST** fence has the proper hardness, toughness and temper, and the right amount of pure galvanizing to give a degree of service not found in any other fence.
 The final proof of the supremacy of **FROST** fence is in the judgment of farmers and stock raisers. They have proved the true worth of **FROST QUALITY**.
 Besides Frost Woven Farm Fence we sell Lawn Fence of both woven wire and iron, also Gates with welded frames, and all kinds of wire.
 If you do not know the name of a nearby dealer, write us direct.



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 first in service—first in sales
FROST STEEL AND WIRE CO. Limited
 HAMILTON, CANADA

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"Eastlake" Galvanized Shingles, coupled with "Hullins" Ventilators and "Acherson" Roof Lights make a perfect roof. "Metallik" building materials defy the elements. "Eastlake" roofs laid over thirty years ago are good today.

"Metallik built" means fireproof, stormproof, neat and durable construction.

Before buying any building materials write us for Booklet and complete information. We can save you money.

Metallik Roofing Co., Limited
Toronto and Winnipeg




Airmen In the Great War

are using **WRIGLEY'S** regularly. It steadies stomach and nerves, allays thirst, puts "pep" into tired bodies. Aids digestion. Lasting refreshment at small cost.

Chew it after every meal

The Flavour Lasts



Mint Leaf Flavour

Made in Canada

Useful Accessories to the Ford Car

There Are Many on the Market but Which Ones Shall We Buy.

By Frederic de La Torre, Toronto Auto School

IN considering the question of accessories to the Ford car, one is confronted with a somewhat difficult problem, owing to the fact that there is on the market at the present time such a multiplicity of devices along this line, many of them of more or less value to the motorist and differing only in design. One can therefore only treat, in a limited space, those which one considers from a purely personal standpoint as being of the greatest value with regard to economy of installation and utility.

To the average motorist, cranking has always been a bugbear; therefore the question of a device which does away with this annoying operation is most interesting. There are a number of devices on the market that fill this long felt want, with regard to the Ford car, both mechanical and electrical, and one will do well to consider them from both sides.

Self Starters.

The mechanical starter is, as a rule, the easiest to install and is comparatively low priced; this advantage is, however, offset by the fact that a certain amount of manual labor is necessary to operate the device. Among the mechanical starters on the market we might mention the device known as the "Paw" which is handled by the Morgan Sales Co. of Toronto, and which appeals to the rural motorist especially. This starter is in the paw and ratchet type and turns the motor over one half revolution by a pull up of 10 inches on a handle, located conveniently on the dash.

The installation consists simply in replacing the ratchet pulley on front end of crankshaft with a ratchet pulley and chain, which comes all ready to slip into place; by simply knocking out the pin, removing the pulley and replacing the one supplied, attaching the chain and handle and a small catch on the crank handle, the apparatus is complete. It operates by pulling up on the handle, which pulls the chain; the arm of the pulley is made to give the crankshaft a sudden rotary motion that induces a surge of current in the magneto coils, thus giving a hot spark which makes starting comparatively easy, provided the engine is in fair running condition and the carburetor is properly adjusted.

The ratchet dog is automatically thrown out if the engine backfires; a dash priming device is also supplied, so that easy starting with a cold engine obtains, by supplying a rich mixture. The device is guaranteed, the parts being made of the finest high carbon steel, and the whole thing weighs but seven pounds.

Other mechanical starters operate on similar principles, but the writer rather favorably inclined toward this device, as being cheap, easy to install and efficient; three considerations which are of importance to the Ford owner.

Electrical Self Starters.

Electrical starters, in the writer's opinion, are the most desirable, having a number of advantages over the mechanical devices, although being somewhat higher in cost and a little more difficult to install. Most of the leading manufacturers put out a special type of starting and lighting system for the Ford car; they are, as a rule, simple and compact, and everything necessary for their installation is provided by the maker.

With the electrical starter a greater certainty of starting obtains, as the motor can be spun rapidly for a few seconds and the maximum current induced, to give the hottest spark, not forgetting the ease with which these operations are performed; again, the convenience of having the lights operating while the engine is standing

is also a consideration.

The choice of a starter is usually determined by the simplicity with which it can be installed, and as the average motorist or garage mechanic is limited as to his electrical knowledge, the simplest device is usually the one of first choice. In this category the Genesmotor, Gray & Davis, Heine-Springfield, Spiltdorf, Westinghouse, Fisher and North East; or of which the Gray & Davis, Spiltdorf and Westinghouse are perhaps the best known in Canada. These systems are of the one unit type, that is, the generator and motor are incorporated in one machine, and in all cases a storage battery is required which supplies the current for the starting motor to crank the engine.

The "Genesmotor."

The Genesmotor, made by the General Electric Co., is a one unit type, in which the machine acts as a starting motor, and automatically becomes a generator when the engine starts, which over a certain speed, usually about 10 miles per hour, charges the storage battery. This is necessary, as the current for starting is very great, and if some method of charging the battery were not supplied, it would run down very quickly, and would require charging from an outside source.

The Genesmotor is made in two types, one being driven by a Morse silent chain attached by a special sprocket to the crankshaft, and the other by a propeller shaft with spiral drive, also to crankshaft. All these systems require the removal of the radiator, brake rod, hose connections, fan, fan belt and belt, cylinder head, and sometimes timing gear housing, for installation.

The Genesmotor uses two wire or metallic circuit, and is perhaps a little more complicated than the one wire or grounded return system, which utilizes the frame of the engine to carry the current back to its source. A recording ammeter, to show the rate of charge and discharge is not supplied, as the generator has a self contained regulator. Starting is effected by pushing a switch rod forward, and the lighting switch controlling the lights is mounted on the steering column. There is no gear to mesh in this system, as when once installed the gear connections are permanent.

The "Gray and Davis"

The Gray & Davis outfit for 1912 is really a two unit system, in which the motor and generator are mounted on a separate shaft, driven by the silent chain, and the motor is of the Bendix pinion type, in which the revolving motor shaft, carries a weighted pinion along the worm gear on the shaft, which comes into mesh with a gear on the generator shaft, to which is fastened the driving chain; when the speed of the engine overruns that of the motor the pinion is automatically disengaged. This system can be used either as a one or two wire system, and starting is obtained by pressing on a heel button; the lighting switch is on the dash.

The Spiltdorf is a one unit type, employing a two wire system, and starting is accomplished by pressing on a heel button.

Any of these systems are practical, and full instructions for installation accompany the outfit; in each case, also, a dash priming device for the carburetor is included. It is not possible to discuss each system in detail in a limited space, but any one of those mentioned is standard and can be relied upon to give good service.

The Vulcanizing Outfit.

Another little device, which has proven a great money saver for auto owners is a small vulcanizing outfit. Practically 90 per cent. of tire

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Sleep on an advertising proposition if you want to, but don't fail to wake up before Farm and Dairy goes to press.

troubles, such as blow outs, loose tread, sand blisters, etc. are caused by neglected cuts and injuries. With a small vulcanizing outfit these small cuts in the tires can be fixed up with very little trouble, and they will repay amount they save in tires. These little vulcanizers are used by thousands on the American side, and particularly in the rural districts, where they are not always close to a garage for repair. Even in the cities they are becoming common equipment for the man who has a little extra time. Many car owners make it a regular practice of going over their tires and fixing up any small cuts or tears that may have appeared in the outer casing. The vulcanizer is a particularly simple device, and the work can be done by almost anyone. For fixing the casing, the cut is cleaned out thoroughly with gasoline, and roughened; then filled with vulcanizing gum. The vulcanizer is applied, being clamped over the place tightly with thumb screws. A small amount of gasoline is poured into the holder of the device and the match touched to it. In ten or fifteen minutes the work is done, and it seals over practically as snugly and tightly as with a new tire. They are made in different sizes for either vulcanizing tubes, or tubes and casings combined.

Carburetted Kerosene.

The question of fuel is one of great importance at the present time, and as there are a number of devices on the market for carburetted kerosene, which is a cheaper fuel than gasoline, one can hardly pass them over without notice. As the point of volatility of kerosene is higher than that of gasoline, and on account of the fact that the liquid fuel must be vaporized before it will burn in the engine, the difficulty of getting a carburetor that will accomplish this object with respect to kerosene has long been apparent.

All kerosene carburetors employ gasoline to start on, and while some of the devices on the market operate successfully when once started, and while running on the level, it is the writer's experience that, as a rule, they do not operate efficiently when climbing a grade, and it is, therefore, compelled to say that the kerosene carburetor has hardly reached a state of practical utility. One of the newest is the "Ker-Carburetor," which claims great efficiency and mileage per gallon.

Shock Absorbers.

The question of shock absorbers is one that is of interest to most motorists, particularly those who are compelled to do most of their driving on rougher roads than one finds as a rule in the cities.

Springs absorb most of the road shocks, but as springs rebound after compression, and as the rebound is felt to a greater or less extent by the occupants of the car, it follows that some device for eliminating this rebound is welcomed by the motorist. The Sager Twin Shock Absorber is the most efficient device, and comparatively low in price. It is of the plunger type, and operates on a similar principle to the device that prevents a door from slamming.

Cleaning Spark Plugs.

A new device for the ready cleaning of spark plugs without taking them all apart has recently been put out by the same firm that manufactures the Champion Spark Plug. This consists of a rubber tube, in which are a number of loose steel needles of different sizes. The top of the tube is threaded, and will fit over the thread of a spark plug of any size. To clean the plug, some gasoline is poured into the tube, and it is then screwed on to the plug, and the whole shaken vigorously for a few minutes. The gasoline softens up all the carbon deposits, and the needles chip these off in the shaking. The device is quite a handy one, as a great deal of the trouble in ignition is

located in the spark plugs, and there is always the difficulty of getting the points properly adjusted. When the plugs are taken apart for cleaning, the cleaner eliminates the necessity of this trouble.

The exhaust cut-out is a device which is a useful addition to any car, as the exhaust gas is allowed to pass into the air without going through the muffler, thus relieving back pressure and increasing the power of the motor. Two very easily attached and inexpensive cut-outs are the "Gemco" and the "Simplicity."

When Gasoline Runs Out.

Every car is liable at some time to run out of gasoline, and an emergency tank is always easy to install; a little device known as the "Gemco" reserve gasoline valve can be placed on any Ford car in 30 minutes, which will retain a reserve of one gallon, and is turned on from the seat.

The Ford driver is usually somewhat cramped in position by the steering wheel, and a larger wheel would make steering easier; to accomplish these two objects, the "Oro" tilting wheel is constructed of larger diameter, and is corrugated for easier grip; also, the wheel can be tilted to allow the driver easy entrance and exit.

An Accelerator.

The device known as the accelerator, in which the throttle valve of the

carburetor is controlled by the foot, thus leaving the hands free for steering, is of great value to the Ford driver, and one is on the market which is cheap and easy to install.

An electric horn signal similar to the "Klaxon," which is operated by the current from the magneto, is also a useful accessory and is low priced. Any motorist who has had to pump up a tire by hand will appreciate the Kellogg engine-driven tire pump, which is easy to install, inexpensive and will inflate a Ford tire in two minutes.

The new law covering glaring headlights is complied with by a number of devices, among which the MacBeth Evans lens is extremely efficient and reasonable.

A gearless differential, which overcomes the disadvantages of that apparatus, rear-tire carriers, a battery tail lamp, and a device for converting the Ford into a one ton truck, complete the list of some of the most prominent accessories to the Ford car.

The heaviest yield of grain per acre is secured from a mixture of oats and barley, one bushel of each by weight. I would recommend O. A. C. No. 21 or Mandeschur barley and O. A. C. No. 3, Daubeny or Alaska oats. These varieties of oats are early ripeners and will be ready for harvesting along with the barley.—Dr. C. A. Zavitz.



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3/4 Bushel Cotton	45c each
Bags	45c each

PRIMER: Our 118-page Catalogue of seeds, Fertilizers, Implements, Machinery, etc., is free. Write for it to-day.

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"What the Farmer Can Do With Concrete" is a 100-page book—now in the hands of over 100,000 Canadian farmers. Fully a thousand of these have practically "made over" their farms by its help—thousands of others have started to act on its valuable instructions by making some of their much-needed improvements of

CONCRETE

One of the many useful hints it gives is on the construction of a proper Barn Approach—like that here illustrated. Built this way—of Concrete—the "Approach" provides room for a concrete Root Cellar. This is one of many good things you will

Remember! Concrete improvements are fireproof; rat-proof; vermin-proof; sanitary and indestructible.

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There's a reason for the road bump that hinders you faster every spring. It happens because our Roads are made of materials that are not permanently bound together—they are loosely adjoined by sand and "work up" into mud every Spring.

Permanent Highways of Concrete never become muddy—because the particles are "bound" together by Portland Cement forming a road so durable as your Concrete Silo or your Concrete Barn Foundation.

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Absolute Security

WHEN you go away for a day or turn in for the night, you are certain your stock is locked in—they can't get over, under or through the spaces—a perfect fence for hilly or uneven ground, through streams; protects poultry, ducks, geese, sheep and hogs. Can't sag or break down and will turn in unvary here.

Peerless Perfection Fencing

Is made of best heavy Open Hearth steel fence wire, the impurities burned out and all the strength and toughness left in. Makes the fence elastic and springy. It will not snap or break under sudden shocks or quick atmospheric changes. Our method of galvanizing prevents rust and the coating will not flake, peel or chip off. Every intersection is securely clamped with the famous Peerless Lock.

Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing.

The Banwell-Horiz Wire Fence Co., Ltd.
WINNIPEG, MAN. HAMILTON, ONT.



EDWARDBURG 23% PROTEIN IN GLUTEN FEED GUARANTEED

The Feed for More Milk

This Gluten Feed enables you to feed the cows a properly balanced ration, containing all the Protein they will eat and digest and turn into milk.

We have a book about it. Write for a copy—and learn how many farmers and dairymen are feeding for more milk—and making it pay.

—Fatten Hogs on Edwardburg Oil Cake. O.S.

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Turn Cutlery Steel Into Your Fields!

Do It Early With **Cutaway** DISK HARROWS

That's what the disks are made of—a special cutlery steel—forged edge (cut out or solid)—so sharp and sturdy that mother earth crumbles into tiny particles just as you wear her to.

Fulcrum the soil early this Spring. Get it in the best condition to give the world bigger and better crops—and make it a poor season for Lady Insect and her family.



WRITE FOR THIS BOOK

It's a valuable one to have tells what you need to know about "The Soil and its Tillage". With it, we will gladly send our complete Implement Catalog and names of your nearest Dealers in CUTAWAY (CLARK) Harrows.

The Cutaway Harrow Company
209 Main Street, Higganum, Connecticut
In honor of the original C. L. & E. D. D. Iron Works and Firm.

HORTICULTURE

Looking Toward the Garden

DO NOT put off seed-testing another day. Save all the hen manure, keeping it where it will be dry until it can be worked into the soil. It leaches readily and loses its value. Perhaps it will pay better to repair old tools for another year's service than to buy new ones. The most usable working tools are always cheap in the long run. This may mean new tools, but get them ready now.

A well thought out plan will make the garden work easier next spring. Besides a seed order sent in now is more likely to be filled than when sent at planting time. Some seeds are sure to be sold out early.

Garden catalogues are plentiful now. Make good use of them and secure the seed for the season's planting. Grow some flowers. They will come handy many times during next year.

Give the boys and girls a chance to raise a garden or small fruit patch this year. Let them sell the produce and spend the money. They will be happier for a business of their own, and do more work on the rest of the place.

Let us plan our garden lawn and garden work early this year, so that many of the foolish things done last year while under the influence of garden hysteria may not be repeated.

Pruning of trees and shrubs may be done on warm days now. Don't prune too heavily. A little brush removed now, however, will let in air and sunlight next summer.

A flower or a flowering plant sent to a friend who is ill or troubled does much more good than when sent to adorn a coffin.

An herb garden is of value as a part of the home garden. Good herbs to grow are caraway, sage, dill, parsley and others for special purposes. Most of them are easily started from seed in the house, or from small plants.

Orchard Practice for 1918

D. Johnson, Dominion Fruit Commissioner.

THE question has been asked me from time to time as to whether a fruit grower is justified, in view of the fact that the British market is closed, in giving the usual care and attention to his orchard. It has been suggested on many occasions that it would be better for the fruit grower to devote his time to the production of field crops and allow his orchard to produce what it will. I do not feel inclined to advise the public regard to this, but it may possibly be of interest to you to know what I have determined to do on my own farm in Lambton County, and it is this: to give even better care to the orchard than in the years past, to spray as thoroughly as possible in order that a good crop of fruit may be produced and to put up a high quality pack, wrapped in boxes, feeling sure that the best fruit and the best packs will demand the best prices. We shall also put forth our best efforts upon our farm to raise more grain and stock, but not to the extent of neglecting the orchard, which is our first concern, being, as you know, commercial fruit growers. If, however, I were a general farmer and had an orchard upon my farm, I would give my farm first consideration, cultivate and produce as much grain and other crops as possible, and if I then had any time to spare, I would give it to my orchard. We cannot get the best under present conditions, orcharding is more speculative than general farming. The food supply of the nation is very short, and it is absolutely necessary that every effort should be put forth to produce the more staple food commodities. I am not here to talk patriotism to you, nor to tell you

where your duty lies in the matter of production. This has been preached throughout the country to such an extent that our farm friends are inclined to resent it, as most of them are working to their maximum ability. I am well aware of farm conditions, having lived practically all my life upon a farm, but I believe that it is necessary for special effort to be made by our farmers to produce such articles of food as bacon and wheat, the exportable staples necessary for winning the war. We are not asked to do this at a loss. Government is assured for all that can be produced.

Early Potato Seed Sprouted

POTATOES can be procured from two to three weeks earlier than normal by placing the seed potatoes in full sunlight about a month earlier than it is customary to plant potatoes. This would be about the middle of April. These potatoes will then produce short, thick dark green sprouts that are very tough. At planting time each potato should contain at least one of these clusters of buds. The pieces should be planted carefully with the buds upwards. It will require only half the time or less for plants to come the surface of the soil from sun-sprouted seed than from normal dormant seed potatoes. The potatoes will thereby be able to make a very good growth during the cool part of the year before the excessive heat of summer. Potatoes which sprout in the cellar producing long white tender sprouts should not be used for seed purposes, as they will give poor results. Potatoes of an early variety like Irish Cobblers and Early Ohio should be used to secure best results. — H. O. Werner.

Waiting for the Car

(Continued from page 3.)

greatest charm for me is that it keeps me in touch. It has brought me contentment with farm life. It has dissipated the isolation. At night when I sit on my veranda and see the reflection on the sky of the lights of the distant city, I do not feel that I am out of it as I once did. It would take a few gallons of gas would put me among the bright lights, and this knowledge is as satisfying as its realisation. My car has put the biggest stores and the best plays right next door.

And I am getting better acquainted with the district where I live. I now have neighbors almost anywhere within 10 miles. My vision is broadened. The mountains away to the north that used to look so mysterious in their blue haze, have let me peep into their mysteries. They have shown me the splendor of their rocky buttresses and the beauty of their lakes, hidden from a distant observer. They have played like gems in their wild settings to him who will draw wild.

Do not think that I have given up farming to go motoring. Far from it. But my motor helps me along so well with my farm work that from time to time I can take a little tour of inspection or visit a friend. It is said that when rural phones were introduced rural social life suffered. People talked to the wire (while their neighbors listened) or so the habit of dropping in for a chat grew rare. But the farm automobile has served as an antidote for this. In fact the combination of 'phones and cars makes for greater sociability. Engagements can be made by 'phone and kept by automobile.

Yes, the farm car is a good financial investment, but the greater dividend paid on such an investment is the contentment that comes from knowing that you have brought not only the markets but the world to your door. There are always new roads to be explored, or old roads to be seen at new stages of nature's ever-varying color treatment. Yes, I like my car.

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More About Northern Grown

Potatoes

Editor Farm and Dairy:—I have just noted in your issue of January their advertisement on potatoes, have to say regarding seed brought in from Northern Ontario or from New Brunswick. I heartily concur with the results that they report there. In a report I noticed in the paper some time ago of the Potato Commission, I believe, they suggested that we should stick very closely to a few varieties and their suggestions be used, and for late ones. Green Mountains be given preference. This is one of the best suggestions I have seen coming from the department for some time, and I hope they will be able to do everything to forward the good. The curse of Ontario in the potato growing business is the fact that we have a thousand and one varieties, and it is almost impossible to pick up a carload anywhere of one solid variety. The result is that with the exception of just a few localities in the provinces we are unable to get the kind of good seed that we want.

The Green Mountain is one of our first late potatoes. A few years ago, I was fortunate enough to get a peck or two of Green Mountain potatoes from a grower at Thessalon, Ontario. I have forgotten his name now, but he was a winner in the potato crop competition in that district. The potatoes were as fine a sample as I have ever seen. They were smooth, shallow-eyed, and, of course, to win in the crop competition they must have been free from disease and good yielders. The ones that I got had the skin rubbed off them in a great many places when I received them. Evidently they had been greener than our Ontario potatoes when they were dug, but they gave me a wonderful yield, far beyond any of the local seed that I had. That next summer, out of curiosity, we tried out several of the different varieties as to their cooking qualities. They included Empire State, Devil's Warrior, Carman and a couple of early varieties, and it was the unanimous opinion of the household that the Green Mountain was the finest and meastest potato of the bunch. That is another reason why I am very pleased that the department highly recommended this variety for late growing; with me it gave an excellent yield of uniform potatoes.

Last Year's Experience.

Last year I had also a little experience in comparing the value of Ontario seed with that of Northern grown seed. I secured from Mr. Oke, who is mentioned in the Department of Agriculture advertisement, a small quantity of Irish Cobbler seed. I believe this was from New Brunswick too. In addition, we had some local grown seed and also a few out of a sack that had come from Northern Ontario. They were a nameless variety and were not particularly uniform in either shape or size. I am quite positive that the yield from potatoes I secured from Mr. Oke were fully 50 per cent. more than those from the seed secured locally. The Northern seed gave a better yield than the local seed also, but they were planted at a disadvantage and therefore could scarcely be compared fairly with the others. Last year, also, I saw several blocks of potatoes grown from Northern or New Brunswick seed, and in every case they excelled local seed—even to the extent that I believe it would pay our Ontario farmers to bring in from Northern Ontario or New Brunswick seed potatoes every year. The extra yield would more than pay for any extra trouble in changing the seed or the extra cost. If it is at all possible for me to get Northern grown potato seed this year, you may be sure I will have it. I can get a much bigger yield of potatoes and yet use only part of the ground and have much less work in caring for them. Possibly some of your other readers of Farm and Dairy may have used northern grown seed.—J. S. R., Peterboro Co., Ont.

FARM AND DAIRY

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LARGER CROPS AND A CLEANER PRODUCT



whether fruit or potatoes, result from thoughtful and thorough spraying with a



Whatever your requirements are, there is a Spramotor suited to them. Made for hand, horse and gasoline use in your needs, or write for our FREE catalogue and booklet on Crop Diseases.

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A Truck for the Farmer

FARM equipment which will effect a time and labor-saving, and therefore a money-saving, must be carefully considered by every good farmer now-a-days.

The farm wagon, which for years was the most useful of all farm equipment, is now being replaced on the best farms by a sturdy, dependable motor truck. The truck will haul any farm product—fruit, grain, vegetables, stock, fertilizer, or wood—around the farm, or to the town or city many miles distant, in half the time, and at a much lower cost.

The Ford One-Ton truck is a rapid, economical and very serviceable means of transport. One of these on your farm will save you weeks of time in a single season and will enable you to pass through a crisis of labor shortage with less difficulty.

The Ford truck is supplied as a chassis only. This permits you to select any of the many body styles especially designed for the Ford truck and already on the market. Thus you can mount the one which suits your individual requirements.

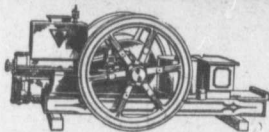
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Write today for our catalogue which describes in detail all the twelve sizes of Alpha Gas Engines and shows why the farmer who buys the Alpha gets the most for his money.

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Sole manufacturers in Canada of the Famous De Laval Cream Separators and Ideal Green Feed Silos, Alpha Gas Engines, Alfa Churns and Butterworkers. Catalogues of any of our lines mailed upon request.
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENTS THE WORLD OVER

Order Farm Machine Repairs Now Delay May Mean Loss

HAVE YOU thought of the difficulty you are going to have this year in getting repairs for your machines? It is the most important thing for you to be thinking about right now. Your crops may depend upon it. You, no doubt, realize that all manufacturers are hard put to it to get materials; and the transportation facilities, freight and express, are congested to such an extent that shipments go through very slowly.

The implement manufacturer and agent in Canada realizes this today and the utmost is being done to take care of the farmers' requirements for repairs. Unless the farmers are also foresighted, many of them are likely to realize the difficulty too when the season for field work opens. They are going to be greatly handicapped if they wait until just before they are ready to use the machines before overhauling them and finding out what parts will have to be replaced.

We cannot urge you too strongly to get busy on this at once. Overhaul every machine on your place and see just what parts you need to put them in good working order, then place your order at once. This is the only way you can be sure of having the new parts in time for use.

We are making every possible effort to get ample stocks of repair parts to convenient points where you can get quick service. Our International Harvester branch houses are located in all parts of Canada and they always carry large stocks of repairs. Besides there are thousands of local agents who carry a good supply of the parts usually called for. Under normal conditions, you could expect quick action on repair orders sent to us or to any of our agents, but at this time conditions are not normal and it is a personal and patriotic duty to look ahead and plan ahead and be prepared to avoid confusion and crop-wasting delays.

Remember the first orders received are the first to be served, so you can recognize the importance of overhauling your machines now and seeing what you will need and getting your order placed. Better be ready than sorry. Do it now.

International Harvester Company of Canada, Limited

BRANCH HOUSES

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.
EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

Deal with Farm and Dairy Advertisers

The Car's Tool Equipment

B. H. Wike, in "Farm and Fireside," writes frequently we hear car owners, especially new buyers, ask: "Don't you think I ought to have such and such a tool in my car?" We reply that it would perhaps be very nice, but there is a line to be drawn on having no more to carry along than is absolutely necessary to make repairs on the road.

Every car, whether new or old, is supposed to have a full equipment of tools, like pump, jack, a few wrenches, and an oil can, and starting crank. This list really accommodates the probable or average need of any car owner to meet little emergencies on the road. It would be impossible to carry all and every tool that might be needed some time.

A truck might carry such an equipment, but we do not believe very many private owners care to undertake the task, and really do not know of any who presume to do so. What we wish to answer is: "Where is the limit to the number of tools any car owner ought to carry with him?"

You will need a pump to inflate tires. Then come two tire tools for taking the casings off the rim. The jack should be in usable order at all times, for one never knows when it will be needed. About four S wrenches and one good monkey wrench should be at hand. The S wrenches should range at reasonable openings to take in all the nuts that will ordinarily need the nut. Along with the above wrench turning at any time. A hub wrench must be carried. On the hub wrench you have an opening not only for the outside cap but also for the nut underneath this cap on the end of the axle shaft. Along with the above we should never forget the oil can with enough oil for an emergency.

On very long trips, where one may be at times far from a garage, more tools might be carried, but it is our experience that instead of too many extra tools it would be better to carry some of the smaller parts of the car, like front hub cones or balls, small races, spark plugs, fan belt, a roll of wire, some insulated cable, and extra lamp globes. Include in this, if you will, a good stout rope or towing cable, and you may rest assured you have a sufficient tool equipment, unless, as we say, you have ample capacity for carrying more.

The Care of the Farm Car

Overhaul It Before the Spring Rush.
Ennis Stayer, Welland Co., Ont.

WE purchased our car, which is a Ford, three years ago last August. It is still in fine condition, both in appearance and running order. It takes very little care and attention, if done systematically.

At present, while time is slack and snow is deep, I am overhauling the engine thoroughly. I clean the engine and grind the valves once a year or once every 2,000 miles. For this work I made my own tools, such as valve grinder and valve lifter. I use flour of emery for grinding. Our timer points were worn quite rough, so having an emery of slightly smaller circle, I ground the points smooth. The clutch bands have to be adjusted periodically, which takes about 15 minutes. In fitting the coils I use fine emery cloth. This makes them perfectly smooth. A very little experience will teach one to get the correct adjustment of same. The engine now runs as true as when new, and is capable of making a mileage of 25-30 miles to the gallon.

Now a word about tires. We have covered between 7,500 and 8,000 miles with two of the first tires still in good condition. I have made a double tread tire by cutting the beads off of one and placing it inside another casing. In this way I secured an extra 800 miles from two worn-out tires. I find a vulcanizer is a good help in repairing tubes and tread cuts.

The most important is the care of the steering gear. I inspect this very frequently, and replace the worn bushings as the occasion demands. I also adjust the front wheels once a month. This tends to make steering easier.

I have used for a body polish what is called a horse liniment. This has preserved the finish almost equal to new. In closing I would advise drivers to keep their cars out of the garage whenever possible.

More Miles for Dollars Invested

(Continued from page 7.)

small sand balls appear, puncture the bolt, clean out and treat with putty. Where neglected, however, sand balls should be properly vulcanized, and this I believe is best done by a garage man.

Chains are at best a necessary evil. The tire is called upon to bear undue strain when equipped with chains. The metal naturally sinks into the rubber where the occasion demands on a hard surface. The rubber gives, the road does not. When chains are applied too tightly the wear will be confined to certain points and the tread may be cut from the surface of the fabric. Have the chains loose enough that they will work around the tire. Even then I would prefer to invest a little more money in traction tread or non-skid tires and use the chains less.

Scuffed tread may be caused by bad braking or by the wheels running out of alignment. Every time a car is started or stopped very suddenly or driven fast around corners, a lot of rubber is scuffed off the tires. Last summer a young farmer living near my garage purchased a new McLaughlin car. He was one of the "Smart Alec" type and liked to make quick getaways to show what a fine driver he was. When he came around shortly after he had gotten the car to complain that the rear tires were no good, I told him that, as nearly as I could estimate, he had scuffed 50 cents worth of rubber off his tires every time he made one of his "galloping" starts.

Wheels out of Alignment.

A slight bend in an axle or a steering rack improperly adjusted, will result in the wheels of the car running out of alignment. This of course plays havoc with the tread. There are two methods of testing the alignment of the front wheels, which are almost always the ones at fault. An approximate test can be made by adjusting one of the front wheels until it is seen by looking back to be right in line with the rear wheel on the same side. The other front wheel then ought to line up with the corresponding rear wheel. Method No. 2 is to take a straight edge and measure the distance between the edges of the rims directly in front of the axle, then measure in the same way directly back of the front axle. If any difference is found in the two measurements it should be corrected immediately. And this, too, is a job for the garage man.

Overloading a car is a frequent cause of undue wear, and occasionally of blowouts, even when the tires are properly inflated.

This is all I have to say on tire maintenance. The suggestions I have made seem so simple that I hesitate to put them in print. My experience has shown me, however, that while as they are, they explain the most of the tire troubles with which I come in contact. Their observance would cost thousands of dollars in the pockets of both rural and urban car owners that is now turned over to the dealers for new tires and tubes. Their observance, too, would please the rubber goods men, as they would then not have to replace so many tires which are now worn out by abuse before the guaranteed mileage is attained.

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True Vigorous & Reliable SEEDS

For 40 years we have furnished seeds of High Quality. Seeds that are particularly adapted for a big field in Canada's climate. Thousands of our seed customers attest this fact. McDonald's seeds are all tested twice. McDonald's guarantee and vigorous growth. Don't take chances this year on poor seed, but write at once for our big new 1916 Catalogue.

KENNETH McDONALD & SONS,
57 MARKET SQUARE,
OTTAWA, CAN.



CHEESEMAKER WANTED, with two or three years' experience. Apply stating wages, to Box 31, Farm and Dairy.

CHEESEMAKER WANTED for the Fraser Creek Cheese Factory, for 1916, season 6 months. 1917 output \$1,000 lbs. checks. 17 miles from railway. Apply stating price per lb. and furnish Supt. Stewart. P.O. and furnish Supt. Stewart.

FARMERS AND FARMERS CLUBS interested in cooperation. Write for information, enclosing stamp, about cooperative insurance. Jas. Lockie, Zephyr, Ont.



Water tanks of the best quality. "Guaranteed."

THE FARMER'S SILO CO.,
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Store your corn in a **BISSELL SILO** and it will keep sweet and happy. **BISSELL SILOS** are built of seasoned timber saturated with Wood Preservative Oil. They are durable, heavy-roofed structures, with air-tight walls and tight doors. In several sizes with or without roofs. Write Dept. R for free catalogues. 97 T. E. Bissell Co., Ltd., Elora, Ont.

FARM CHATS

Fine Points

H. Percy Blanchard, Hants Co., N.S.
A WAY back in the distant days of my childhood there was a song called "Bryan O'Lynn," which, besides its catchy music, served as the basis of many a parody. This was long before the "Lamerick" came into fashion. Each verse contained first of a statement of some particular experience of Bryan's and terminated in some philosophic conclusion based upon this special experience. One of these verses comes to mind at present:

Bryan O'Lynn went a' farming one day,
The men were all busily making their hay;
He set down on a thistle
As sharp as a pin;
There are fine points in farming, says Bryan O'Lynn.

The fact still remains much as Bryan discovered. Not only so, but on occasion the way in which experience thrust upon us is likewise very painful, and the deep-seated knowledge so gained urges us to the same philosophical conclusion.

Often, when we are engaged at some slow, humdrum routine work we think of farming as something fit only for some being provided with muscle and a monotonous mechanism which simply repeats without intelligence the same dull labor. But upon reflection, or comparing experiences with others in different callings, we find that the same routine exists; offer more diversity and relief from monotony than does farming.

The Telescopic Vision.

One of the things that tends to fence us in closely to our own little area is selfishness. There are others—some neighbors, some far away—also engaged in growing grasses or grain, producing plums or peaches with them? If so, to that extent we have widened our bounds. Do we think in terms of one hundred acres, do we aim in relation to our agricultural society, or such live questions as pure stock, cooperation, the share or land tax, and such things? That is the telescopic vision of farming.

Then there is the microscopic view. Last fall the best crop record here was fully 20 per cent. below expectation. The wheat looked good in the field; but what seemed 70 bushels of wheat turned out only about 50. Closer examination showed that there were enough grains of wheat in the bin to make the expected total. If the grain had been full size. Still further examination of some of the over-head seed what had the same fault. And had we pressed this examination to its ultimate analysis (as an orator said), we would have concluded that like beetles like, and that the cure was to have fanned out our poor seed. By such logic we would have justified Mr. O'Lynn in his deduction that there are some fine points in farming. There is my neighbor. He keeps a barn full of scrub cows, chubbulous at the mammy pile but distanced on the milk sale. If by chance he gets a good cow he feels satisfied if he sells it for five dollars plus, and calls it a good trade. I see that error plainly. My doubtless from his viewpoint of my work. I am committing a still greater mistake. Some day we will talk over these things together and both profit. The boys used to think that to swap gun marks was the longest. It certainly hogs good of exchanged experiences.

RENNIE'S SEEDS For Better Gardens

"EVERY back yard should be used for the cultivation of fruits and vegetables" says the Food Controller's Bulletin. Market Gardens must be worked to capacity. But all this effort is wasted unless the seeds sown are capable of producing sturdy, vigorous plants. Plant Rennie's War Garden Seeds and insure a full crop!

Cabbage	Danish Summer Roundhead	10	1.00	1.85	3.50	10.00
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LOOK FOR THE STARS
Our 1916 Catalogue should be in your hand by now. It gives you a patriotic duty to consult it at every opportunity. Our Government insists we must produce more. Start right, then, and be sure and sow good seed—RENNIE'S will pay you to do so.

THE WILLIAM **RENNIE** COMPANY
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HARDY ALFALFA SEED

GRIMM ALFALFA SEED GROWN IN ALBERTA
The hardest known Alfalfa. Practically no danger of winter killing with this seed. Guaranteed pure Grimm. Write for prices and samples
CANADA LAND & IRRIGATION CO., Limited
SUFFIELD, ALTA.
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HIGH GRADE SEED

Registered 1st. Generation. O.A.C. No. 72 Oats \$2.00 per bushel. Government Germination test 99 per cent. Improved O.A.C. No. 72 Oats, grown from strains of registered seed, \$1.60 per bushel. Government germination test 100 per cent. 97 per cent. Improved O.A.C. No. 21 barley, \$2.50 per bushel. Government germination test 92 per cent. Improved O.A.C. No. 21 barley, grown from strains of registered seed, \$2.00 per bushel.
The above grains have been produced from carefully graded, selected seed. Guaranteed true to variety. Free from smut and noxious weed seeds. Small sown on our own seed farms. Samples sent on request. Sacks free. Price f.o.b. Alliston, C. P. R. or C. T. R.
RUTHVEN BROS. R. R. 2 ALLISTON, ONTARIO

130-Egg Incubator and Brooder for \$15.75
If ordered together we send both machines for only \$15.75 and we pay all freight and duty charges to any R. R. station in Canada. Orders shipped from nearest warehouse in Winnipeg, Ken. and Toronto, Ont. Hot water, double walls, double doors, self-regulating. Inexpensive egg tray. Especially adapted to Canadian conditions. Inexpensive and simple to operate. Incubator and brooder ready to use when you get them. **WISCONSIN INCUBATOR CO., Box 223, Racine, Wis., U. S. A.**

The Surest Way To sell your surplus stock is through the live stock columns of Farm and Dairy. The cost is little and the results certain. Send in your ad.



POULTRY

Eliminating Wheat from the Ration

F. C. Eford, Dominion Poultry Husbandman.

EVER since the wheat question looked as though it was going to be a serious problem for Canada and the Allies, the Experimental Farms System has made a practice of

not using any wheat fit for milling purposes in their feed to poultry and we have also advised against this practice. In Canada, wheat, however, is the popular poultry grain and even under existing conditions there are some poultrymen who have fed it, and the better grades of wheat unfortunately have been used in this connection.

We are increasing our mash feeds and cutting down to a certain extent our grain rations. Feeds that enter into the mash are more readily obtainable and are cheaper than the grain feeds. For the grain we are using oats very largely with a mixture of buckwheat and barley where obtainable, also feed wheat to about 25 per

cent of the mixture. Corn for the last few months has not been available, but we are looking forward and hoping that the railways will be able to transport the corn from Chicago to us before very long. We also used buckwheat screenings for the growing of our chicks and we are using it still as a mash feed. It, however, is not a good scratch feed, in that so many of the seeds are black in color and are small.

It might be well to point out that even with the high price of feed it does not pay to stint the poultry; Eggs have never been as high as they are at present, and though dressed poultry was not extremely high in the fall it is bringing good prices at present.

High priced grains will, I believe, do more for the future of the poultry business than all the information the Government can put out for years. It will help the poultry industry on a business basis by eliminating the poorer class of poultry keepers and also the non-producers in the flock. To make money now means that all non-producers must be gotten rid of. We must increase the average egg yield. We must look to better flocks and better management. With these, there is good money to be made in the poultry business even today.

Incubator Pointers

THE incubator must stand dead level. In placing our machine for the season's work we do not rely on the eye. With shingles for wedges, a carpenter's level is used to straighten the machine in every direction. Warm air rises to the highest point and if the machine is not on the level one section of the egg chamber will be warmer than another section and as a result the hatch will be uneven and the percentage lower than might have been the case.

Accurate control of temperature is the most important point in the operation of the machine. We have the thermometer tested every year. When the thermometers are first sent out, the tubes are what are called "green." With greater age the bore of the thermometer changes and this change may cause a sufficient variation in temperature to interfere with the success of the hatch. Eggs seem to need a certain number of heat units to incubate and if the temperature were only down one-half a degree all through the hatch, the detrimental results would be appreciable.

In testing the thermometer, pay a friendly visit to your doctor. He has a clinical thermometer that is absolutely accurate. Put the bulbs of both thermometers in lukewarm water, then add hot water very gradually until the doctor's thermometer registers 103. Note the temperature of your own thermometer in the same bath. That is the temperature at which you should conduct your hatch.

We have found it a good plan to boil the burners in washing soda each season, cleaning the gauze with a brush. Another point in running the heating apparatus, is to be sure that the check disk sets evenly on the vent over the lamp. Start three days ahead and get the machine regulated, so that the check disk stands just about one-eighth inch above the vent when the temperature is correct inside the egg chamber. Then don't worry with the regulator until the hatch is over. Rather regulate the temperature by turning the wick up or down.

Mating the Breeding Pairs

THE shortage of labor and the tremendous increase in feed prices make it imperative that only the very best production should be kept. Stock that would return a substantial profit in pre-war times, when feed was cheap, will now, under the changed conditions, show a loss. This, perhaps, applies more strongly to poultry than to any other class of live stock as the securing of suitable feed is becoming more and more difficult.

In the mating up of the breeding pens these conditions should be borne in mind. Aim to use nothing but your very best birds as it is only from these that the highest results can be obtained.

Selecting the Breeders.

The male to head the flock should be from a high producer and if possible to know that his sisters are showing their ability to lay, all the better. Not only should his pedigree be right, but he should show vigor



Here is a Disc Harrow Built for Service

Strength to withstand any strain—Flexibility to adapt it to uneven land—Spring Pressure to hold the Gangs to their work in hard soil—Easy-Running, Long-Lasting Bearings—These are only a few of the Points which make this Disc Harrow a favorite with the farmer who wants the best value for his money.

Nobody questions the usefulness of a Disc Harrow on the farm. It is almost as necessary as a Plow and as much care should be exercised in its selection. When a field needs the Disc Harrow, you should use one which will cultivate all the surface of the ground, regardless of dead furrows, ridges, etc., and here's the Harrow that will do it.

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In every move. A bird of this description will show a fairly broad head with a rather short stout beak, a bold piercing eye, a skin that is soft and velvety to the touch, shanks with fine scales and showing a certain amount of red pigment down the outer side.

His mates should be vigorous females that have shown by egg production what they can do. If traps nets are not used—and they are not on most farms—band these pullets breeding pairs from them.

The ideal mating is a well developed cockerel of the foregoing description mated to young hens, but if not available the desirable type are not available, so long as they are well mated and vigorous they will give the best of results.—Experimental Farms Note.

A Successful Egg Circle

DURING the past year the Ormmond Egg Circle with a membership of 42, has shipped 13,694 dozen eggs and distributed among its members \$7,006.42, an average price of received was 25 cts a dozen and the highest price 60 cts. The average price received in the two years 1914 to 1916, was 23 cts, 21.32 cts. and 25.36 cts.

In addition to shipments of eggs the members received \$1523 for dressed poultry and \$616.94 for live poultry. The circle is under the management of Mr. J. A. Campbell, the proprietor of the local creamery. It affords an illustration of the cooperation, mutually beneficial, that is possible between a creamery man and his patrons.

"Putting One Over" on Biddy

ARTIFICIAL lighting of poultry houses to stimulate egg production in the winter months is not a brand new idea. Farm and Fireside tells us that 18 years ago Prof. Jas. E. Rice, of Cornell University, found a poultry keeper at Cambridge, N.Y., who was making use of a lantern to keep his hens active during the short winter days. Probably Erie County, N.Y., has done more along this line than any other county in America, more than 100 commercial poultry men in that country now using artificial lighting and getting excellent results.

A test was made of one flock in Erie County beginning Jan. 10, 1917. In a house 16x106 feet, 420 pullets of the flock, or 70 pullets, were placed in a pen containing one-sixth of the floor space of the house, and the lights were turned on. The lighting system was brought into play at 6 a.m. and until daylight and again at dusk and kept going until 8 p.m., then increased their egg production, and on Jan. 29th laid five more eggs than the 350 pullets that day, and they also laid more eggs on Feb. 1st.

For 21 days the 350 pullets laid 1,917 eggs, valued at \$53.04. The 70 pullets laid 1,108 eggs, valued at \$47.01. It takes nearly two weeks, however, for the dormant ova to develop into an egg, so the comparison is most fairly made during the last half of the period, during which time the 350 pullets showed a loss of \$9.95 and the 70 a profit of \$23.07.

Mr. B. S. Moseley, under whose supervision this experiment was conducted, writes that the hens improved in appearance and health as well as in rate of production. Several poultry plants in Canada, including the Hope, are now electrified, and some Canadian data on the value of this "putting one over on Biddy" should soon be available.

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Old Hens, over 5 lbs. each	25c	25c
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Choice Young Gobbler Turkeys, bled and picked clean to wing tips	35c	21c
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Butter, Good Dairy, 40c per pound	25c	25c
We return the money the day the goods are received up to Bank Hours.	30c	30c

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The paid subscriptions to Farm and Dairy approximate 20,000. The actual circulation of each issue, including copies of the paper sent to subscribers, who are but slightly in arrears, and sample copies, varies from 20,000 to 22,000 copies. No subscriptions are accepted at less than the full subscription rates.

See in detailed statements of circulation of the paper, showing its distribution by counties and provinces, will be mailed free on request.

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

Luxury or Necessity?

THE farm automobile. Is it a luxury of a necessity? A recent announcement emanating from the Treasury Department of the United States, would seem to indicate that Uncle Sam's tax gatherers, at least, have decided that the farm car may be classed as a part of the necessary farm equipment. All farmers in the United States must soon file a statement of their income, to comply with the requirements of the new income tax law. The recent order stipulates that the upkeep expenses involved in operating a farm automobile, including gasoline, tires, etc., may be deducted from the income of the farm in the making out of a federal tax statement. In other words, the upkeep of the farm car is regarded as being as much a part of the legitimate farm expenses as is the annual cost of the mower, blower or grain drill.

This order places the farm car where it belongs—neither a luxury nor a necessity, but a desirable part of the operating farm equipment. That the farm car is not a mere addition to the already long list of farm equipment, is indicated by the course of the horse breeding industry. At one time every farmer kept his driver, and the demand for driving horses made the breeding of them a flourishing industry. Now, with cars on the increase in both country and city, the light horse breeding business has been reduced to small proportions. Farmers prefer to drive their heavier work horses in winter, and have their cars for summer use. And it has been the experience of men who use their cars mostly for business, or business and pleasure combined, that the annual charges for gasoline, oil, license and tires is not greater than the cost of upkeep of a good driver. At the same time the greater speed of the car and the time saved thereby, acts as a counter to interest charges and depreciation. Even were the cost of the farm car greater than it is, its value in annihilating distance and bringing county folks closer together would make it a valuable part of the farm equipment.

And yet we would not advise every farmer to own

a car. The young man just trying to get a foothold on the land, the most with heavy mortgage obligations, the renter—in almost all cases these men cannot afford to wait for their car until their financial showing is a little stronger. But for the man with a good farm that is securely his own there is no argument—he will find the car a good investment. To thousands of such men the car already affords "the spice of life."

The One Dark Blot

IN an open letter to the Right Honorable David Lloyd George, written by Rev. Ben. H. Spence, the evils of the liquor traffic as it exists in Great Britain are painted in words which fit the horrible scene of the situation. The letter reads, in part, as follows:

"I have seen the unsurpassed beauty of English valleys and countryside; enjoyed the unbounded hospitality of the people; revelled in the historical associations inseparable from almost every locality; reverently bowed in Westminster Abbey before the monuments to the intelligence and heroism of those who made Britain great; but I have also seen in the cafes and public houses of London, carnivals of vice and debauchery that are a scandal and disgrace; disolute prostitutes and uniformed soldiers drinking and carousing in licentious dissipation. I have seen those who might be big and strong, saviours of our civilization at this time of stress and strain, reeling and staggering in the streets, bleary-eyed, nerve-racked, disease-weakened, going as animals to lairs rather than as humans to homes, while in Piccadilly, the Strand and Whitechapel, men and women and even girls and boys ogled and solicited under the very eyes of officers of the law, and unhindered and unrebuked paired off to practice vices that are striking at the very vitals of the nation."

"This terrible indictment of Old Country conditions was not written from hearsay. The words were penned only after Mr. Spence had spent several months in Britain studying conditions at first hand. The conditions he describes constitute the one dark blot on the escutcheon of British honor. We in Canada, admire the dauntless valor that the British people have displayed in this world-racking conflict. We pride ourselves on the freedom of our British institutions. But many a Canadian mother and many a Canadian father will live to curse the British drink traffic, which has damned, perhaps for eternity, the clean minded, clean souled lads whom they so bravely sent away to fight in freedom's name. We do not blame the lads who fall one half so much as the authority which permits continued existence to the traffic that caused their fall. In no one way could Britain so enable herself in the eyes of Canadians as by destroying the drink traffic, root and branch. And if this were done, with how much more enthusiasm would thousands of Canadian farmers throw themselves into the labor of food production!"

Live Stock Increase a Sound Policy

IF we take the long view of the world's agriculture after peace, we must assume that Europe, with her herds and flocks greatly diminished and the necessity to allow the herd to recuperate, will demand during this period of recuperation the importation of animal products upon an even larger scale than during the period of the war. During the war period some measure of supply will be obtained by slaughtering the herds, but this is burning the candle at both ends.

It must be obvious that after peace, with diminished animal herds, Europe will have less use for fodder grains; that she will have a larger acreage available for planting bread grains; and that instead of so largely importing bread grains, as has been her habit prior to the war, she will import less. Our American farmers would be wise, therefore, to realize that for a considerable period after the war there will be a very poor export market for American bread grains, whereas there will be a wide demand for animal products. Consequently, if the animals be increased, there will be a large demand for fodder grains within our own country. In other words, the outlook of our farmers needs to be turned toward animals and their feed grains, not only now but for many years after the war.—Herbert Hoover.

When to Grow Spring Wheat

SPRING wheat cannot be grown under any and all conditions. The factors which insure its profitable production should be carefully considered before determining on the wheat acreage. In this case of us can afford to learn from past experience. A few years ago, when alfalfa was first extensively advocated, thousands of farmers invested in seed which they sowed on land that was never intended to grow alfalfa. Certain soil conditions were advocated as being necessary to the success of the crop, but many farmers just got the general idea that alfalfa was a good crop, rushed ahead with their seeding, lost their seed and the use of the land for the season, and ended up by "knocking" both alfalfa and its advocates. There is just a danger that many farmers with no previous experience with spring wheat, because of so much being said about it now, will again get just a general idea and attempt to grow spring wheat under unfavorable conditions.

Just what conditions are necessary to profitable spring wheat production are summarised by Dr. C. A. Zavits in a recent letter to Farm and Dairy as follows: "Sow good seed early in the spring on fertile land that is well under drained and, which was plowed last autumn." Later in the same letter Dr. Zavits emphasizes the same points again when he says: "It is exceedingly important to sow spring wheat on well cultivated land early in the spring, and in order to do this it will be necessary to have the land plowed last autumn. If the land is in good condition, and not too tight, and can be sown under favorable conditions this spring, I cannot see why there should not be the prospect of a good crop."

Our folks who are sowing spring wheat for the first time will note the emphasis placed by Dr. Zavits on good soil, fall plowing and early seeding. Spring wheat must be the first crop in the ground in the spring. Sowing under other conditions is a waste of good three dollar seed. Where the conditions can be complied with, however, spring wheat will be a profitable crop and a very necessary crop from the standpoint of feeding the Empire and its allies.

The Dairy Farmer's Advantage

THE dairy farmer has one advantage over the farmer who favors beef cattle, that in itself is sufficient to counter balance many disadvantages—he does not "put" a lot of his eggs in one basket." The situation was well illustrated by R. M. Holtby, of Port Perry, when "bitting with an editor of Farm and Dairy recently. "A friend of mine down in Quebec started in Angus cattle at about the same time that I started in Holsteins," Mr. Holtby told us. "I jolled him about his Dobbies, but he stuck to them for four years. One cold morning this winter he came up from Quebec to see me. He stopped in the barn to look at my cattle. 'Come on into the house and get warm.' He replied that he didn't know but in these cattle." He replied that he didn't know but that he was. "I then made a confession. 'I will have nothing to sell from my herd until I get it well built up but bull calves,' said he. You have the calves and you are getting the milk as well.' He bought four cows to take home with him."

This weakness in the beef producers' business, as illustrated by Mr. Holtby, was recognized by beef breeders several years ago, and to meet the new demand for a steady income, they started to develop dual purpose strains of cattle. In recent months, however, beef prices have soared high, the demand for animals of beef breeding has soared proportionately, and we notice that men who once claimed to have dual purpose herds are now painting the "dual purpose" off their farm signs and taking it out of their live stock advertisements. With a return to normal conditions, however, the demand for a cow that is a steady income maker will again claim predominance, and beef breeders will be again specializing in dual purpose strains. At best, however, the dual purpose cow represents only an endeavor to breed into a beef animal a portion of the outstanding merit of the dairy cow—her ability to make a good income for ten months in the year. Experienced dairymen will continue to prefer the real thing, the dairy bred cow.

In Union There is Strength

Organizing Work in Lennox and Addington

EDITOR, Farm and Dairy.—You asked me some time ago to give you a little report on our cooperative work in Lennox and Addington County. I am giving a little history of the movement so that you may understand it more fully.

When the Ontario Government offered the district representatives 140 cars of bran and shorts the last week in November, I was unable to order one car for the farmers of this county because there were no arrangements made to pay for the cars on arrival. I put a notice in the Napanee papers and invited representative farmers to meet in the District Representative office on Saturday afternoon to discuss the advisability of forming a cooperative association for the county. About 50 farmers attended this initial meeting and were very much in favor of forming this association. Five representative farmers, Messrs. S. C. S. McKim, E. H. Sills, H. Miller, J. M. Rose, and Geo. Chambers were appointed to obtain a charter for the Lennox Farmers' Cooperative Association. A charter was applied for and obtained and at the organization meeting the following officers were elected: Pres., Geo. Chambers; Vice-Pres., M. N. Empey; Sec.-Treas., E. H. Sills; Directors, H. C. W. Miller, Thos. Gould, R. D. Martin, J. M. Rose.

Method of Financing Operations. Applications had been received from over 130 farmers and at the present time nearly 100 of these have become members. Each member of the Richmond Farmers' Cooperative Association pays \$1 yearly membership fee and signs a \$100 on demand note payable to the Cooperative Association. These notes are deposited in the Northern Crown Bank, Napanee, in the association and the association has now as much credit to handle five or six car loads or more of feed at a time. There has been no trouble in getting credit from the bank to pay for car loads of feed; in fact the banks seem very eager to help this movement. A car load of shorts was brought in and sold to the farmers 3¢ cheaper than the prevailing Napanee prices.

Farmers over all parts of the county were very eager to form cooperative associations and the farmers surrounding Wilton organized a Wilton Farmers' Cooperative Association. They have ordered a car load of bran and corn and are placing orders for other commodities. Yarker is their shipping point.

The farmers in the vicinity of Odessa also decided to form their own association. Their shipping point to be Ernestown Station on the G.T.R. This association has ordered 130 bushels of seed corn and is placing orders for binder twine and also an order for a car load of corn from the Government. The Odessa association may be of value to other associations. They conducted a bag campaign and collected 1000 tote bags and short these bags F.O.B. their station.

Organization at Roblinville. The farmers in the northern part of the county felt that they should be able to unload cars on the C.P.R., so the farmers in the vicinity of Roblinville asked me to hold a meeting and as a result applied for a charter forming the Roblinville Farmers' Cooperative Association. This association has already unloaded a car load of shorts, has placed orders for two car loads of feed corn and are ordering other commodities.

The farmers in the vicinity north of Newburg in Camden Township decided that they would like to have cars

unloaded on the C.N.R. at Newburg or Camden East. They therefore held a meeting at which I was present and decided to form the Camden Farmers' Cooperative Association. They have now received their charter and have placed an order for one car of feed also ordering car loads of feed, binder twine, etc.

We already had one cooperative association which had been organized in the spring of 1917, but had never gone any farther than obtaining their charter. I was requested by this association to attend a public meeting at Sillsville and in company with Mr. A. Powers of the United Farmers, I. Fredericksburg and the South Association was re-invigorated and is now obtaining quite a large list of members and intends going into the ordering of feed, seed corn, binder twine, and other commodities. This was one of the best meetings I ever attended and Mr. Powers sold 15 individual (\$25) shares in the United Farmers' Cooperative Company to individual farmers.

Although these associations have been organized for less than two months, four of them—Odessa, Wilton, Richmond and Roblinville—have each over 60 members and prospects are that each of these associations will have over 100 members as soon as a supply of mill feeds can be obtained in car loads. I estimate that within a year from the time the first association was organized the seven associations will have a membership of farmers in Lennox and Addington county, it is easy to see what effect an association with 500 members will have. A county meeting to organize all these separate cooperative associations into a central buying association will be held on Saturday, Feb. 23rd.

The associations are also taking up the shipping of live stock and intend to hold a meeting within the next few days to discuss this matter. Already a number of members of the Richmond Farmers' Association have promised enough hogs to ship one car load. An invitation has been extended to Mr. B. C. Tucker, Harold, Ont., to come and address the association on live stock shipping.—G. B. Curran, District Representative.

Value of Good Land

THE experience of a Peel county farmer, whose farm was included in the Caledon survey of last fall, demonstrates in a striking way the value of good land. This farmer sold his 100 acre farm for \$4,500 and went right next door and paid \$9,000 for his neighbor's 100 acres. The land he bought was recognized as one of the best in the county. The farm he left was not by any means a poor farm and the man who bought it was a good farmer.

Both farms were covered by the survey. On his \$9,000 farm this man had a labor income of over \$1,600. His neighbor on the old farm with just as good stock and apparently just as good a farmer, had only half the labor income. The difference was attributable to the differing quality of the soil on the two farms.

There are one-third of the farmers in the Province of Ontario who are working for less than hired men's wages.—A. Leitch, O. A. C., Guelph, Ont.

The Beabrook and Osmese Farmers' Clubs which have been doing considerable shipping of hogs, cooperatively made a record recently when they shipped in one day three carloads of hogs, 247 in all, the total value of which was \$9,000.50.



Make Sure You Get ALL of Your 1918 Corn Crop by Turning It Into Silage

About 40 per cent of the total stock food material in the corn plant is in the stalks and leaves.

When the farmer harvests only the ears he loses nearly one-half of the crop. On the other hand, when the crop is put into the silo, there is practically no loss.

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OUR FARM HOMES



THE less tenderness a man has in his nature, the more he requires of others.
—Rabel.

The Heart of the Desert

(Continued from last week.)

THE thought of a hot meal was pleasant to the Americans. They followed to Phillips' adobe rooms. Here the half-breed left them to his wife and disappeared. He was gone perhaps an hour when he returned with a bit of cloth in his hand, which he handed to Carlos with a few rapid sentences. Carlos gave the scrap of cloth to DeWitt, who looked at it eagerly then gave a cry of joy. It was Rhoda's handkerchief.

"He found a little girl washing her doll with it at the river," said Carlos. "She said she found it blowing along the street this morning."

"Come on!" cried Jack, making for the door.

"Come on where?" said Billy. "If they are in the village, you don't want to get away very far. And if they ain't, which way are you going?"

"Ask Philip where to go, Carlos," said DeWitt.

He held the little moist handkerchief in his hand tightly while his heart beat heavily. Once more hope was soaring high.

Philip thought deeply, then he and Carlos talked rapidly together.

"Philip says," reported Carlos, "that they must go and watch along the river front so that if they have not some one can catch them if they try. He and I will go visit every family as if I wanted to buy an outfit."

Darkness had settled on the little town when the three Americans took up their vigil opposite the open face of the Pueblo along the river. All that night they stood on guard but not a human being crossed their line of patrol.

CHAPTER XIII.

An Interlude.

Late in the afternoon, Rhoda woke. Kutie stood beside her. His expression was half eager, half tender.

"How do you feel now?" he asked. "Quite well," answered Rhoda. "Will you call Marie?" "I want to dress."

"You must rest in bed to-day," replied the Indian. "To-morrow will be soon enough for you to get up."

Rhoda looked at the young man with irritation.

"Can't you learn that I am not a squaw? That it maddens me to be ordered about? That every time you do you alienate me more, if possible?"

"You do foolish stunts," said Kutie calmly. "And I have to put you right."

Rhoda moaned.

"Oh, how long, how long must I endure this! How could they be so stupid as to let you slip through their fingers so!"

Kutie's mouth became a narrow seam.

"As soon as I get you into the Sierra Madre, I shall marry you. You are practically a well woman now. But I am not going to hurry overmuch. You are going to love me first and you are going to love this life first. Then we

will go to Paris until the storm has passed."

Rhoda did not seem to hear him. She tossed her arms restlessly.

"Please send Marie to me," she said finally. "You will permit me to eat something perhaps?"

Rhoda left the room at once. In a short time he returned with Marie, who bore a steaming bowl which he himself flanked with a dish of luscious melon. The woman propped Rhoda adroitly to a sitting position and Kutie gravely balanced the bowl against

repetition of short mellow syllables pleased Rhoda's sensitive ear and she lay listening. When Marie saw Rhoda's wide eyes she came to the girl's side.

"You feel good now?" she queried. "Yes, much better. I want to get up."

The Indian woman nodded. "Marie clean white squaw's clothes. We me squaw wear Marie's. Now Marie help you wash."

Rhoda smiled. "You are not an Apache if you want me to bathe!"

Marie answered indignantly. "Marie is Pueblo squaw!"

The clothes that Marie brought, Rhoda thought very attractive. There was a soft wool underwear of cream-tint. Over this Marie pulled, fastening it at one shoulder, a gay, many-colored overdress which, like the one she herself wore, reached to the knees. Rhoda pulled on her own high laced boots which had been neatly mended. Then the two turned their attention to the neglected bed of hair.

When it was loosened and hung in tangled masses nearly to Rhoda's knees, Marie's delight in its loveliness knew no expression. She fetched a queer battered old comb which she washed and then proceeded with true feminine rapture to comb the wonderful waving locks. In the midst of this Kutie entered. He gazed on

but he did not speak. For three or four hours the two sat thus in silence. Just as the sun sank behind the mountain, a bell chimed and then fell to tolling softly. Then Kutie broke his silence.

"That's the bell of the old mission. Some one has been buried, I guess. We can look. There are no tourists now."

There was a sound of wailing; a deep mournful sound that caught Rhoda's heart to her throat and blanched her face. It was the sound of the grief of primitive man, the cry of the torments and broken-hearted, un-cloaked by convention. It touched a primitive chord of response in Rhoda that set her to trembling. Surely, when the world was young she too had wept so. Surely she too had voiced a poignant, unbearable loss in just such a wild outpouring of grief!

They moved to the edge of the terrace and looked below into the street. Down the rocky way a line of Indians was bearing hand-mills and jars and armloads of ornaments.

"They will take those to the 'killing place' and break them that the dead ones may have them afterward," explained Kutie softly. "It always makes me think of a verse in the Bible. I can't recall the words exactly though."

Rhoda glanced up into the dark face with a look of appreciation.

"And the grinders shall cease because they are few!" she said, "and those that look out of the windows be dashed and the doors shall be shut in the street when the sound of the grinding is low, because man goeth to his long home and mourners go about the streets."

"And there is something else," murmured Kutie, "about 'the silver cord.'"

"Or ever the silver cord be loosed, or the golden boy be broken or the pitcher be broken at the fountain or the wheel broken at the cistern. Then shall the dust return to the earth as it was and the spirit to God who gave it."

They stood in silence again. The walling died into the distance. The sun touched to molten gold the high shadows of the mountain arroyos. Rhoda was deeply moved by the scene below her. She felt as if she had been thrust back through the ages to look upon the sorrow of some little Juan town.

The little rocky street, the vivid robes, the weird, drying wall, the broken ornaments and utensils that some folded tired hands would use no more, and above all, the simple unquestioning faith, roused in her a sudden longing for a life that she never had known. For a long time she stood in thought. As darkness fell she roused herself.

"Let me go back to my room," she said.

As they turned, neither noticed that Rhoda's little handkerchief, which she had carried through all her experiences, fluttered from her sleeve to the street.

Again it was long before Rhoda slept. Through her window there floated the sound of song, the evening singing of Indian lads in the village street. There was a vibrant quality in their voices that Rhoda could liken only to the music of stringed instruments. There was neither the mellow smoothness of the negro voice nor the flute-like sweetness of the white, yet the voices compassed all the mystical appealing quality of violin notes.

The music woke in Rhoda a longing for she knew not what. It seemed to her as if she were peering past a misty veil into the childhood of the world to whose simple beauty and delights civilized man had turned his back.

(Continued on page 25.)



Helping to Increase the Nation's Food Supply.

The illustration shows a garden which was cared for last year by Italian children at Hamilton, Ont.

the girl's knees. The stew which the bowl contained was delicious, and Rhoda ate it to the last drop. She ate in silence, while Kutie watched her with unspeaking longing in his eyes. The room was almost dark when the simple meal was finished. Marie brightened the fire and smoothed Rhoda's blankets.

"Kutie go now," said the Pueblo woman. "You rest. In morning, Marie bring white squaw some clothes."

Rhoda was glad to pillow her head on her arm but it was long before she slept. She tried to piece together her faint and distorted recollection of the occurrences since the morning when the moon had risen through the dawn. But her only clear picture was of John DeWitt's wild face as she disappeared into the fissure. She recalled its look of agony and sobbed a little to herself as she realized what torture he and the Newmans must have endured since her disappearance. And yet she was very hopeful. If her friends could come as close to her as they did before the mess, they must be learning Kutie's methods. Surely the next time luck would not play so well for the Indian.

Rhoda woke in the morning to the sound of song. Marie knelt on the ground before a sloping slab of stone and patiently kneaded corn with a smaller stone. Her song, a stent

Rhoda's new disguise with delight. Indeed her delicate face, above the many-hued garment, was like a harebell growing in a gaudy nasturtium bed.

"We can only let you on the roof," said Kutie, who was carrying Rhoda's sombrero.

Rhoda made no reply but when Marie had plaited her hair in a rippling braid she followed Kutie up the short ladder. Her sense of cleanliness after the weeks of disorder was delightful. As she stepped on the flat-topped roof and the sweet clear air filled her lungs she felt as if reborn. With Navajo blankets, Kutie had contrived an awning that not only made a bit of shade but precluded view from below. The rich tints of the blankets were startlingly picturesque against the yellow gray of the adobe. Rhoda dropped luxuriantly to the heap of blankets and turned her face toward the mountain, many-colored and bare toward the base, deep-cloaked with pinon, oak and juniper on the uplands. From its base flowed the little river, gurgling over its shallow bed of stone and rich with green along its flat banks. Close beside the river was the Pueblo village, the many-terraced buildings, on one of which lived that girl Rhoda sat.

Kutie, stretched on the roof near by, smoked cigarette after cigarette as he watched the girl's quiet face,

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THE UPWARD LOOK

God's Stirring Up Of Our Nests
As the eagle stirrith up her nest,
Sitteth over her young,
Hearstth them on her wings, so
The Lord alone did lead him.—Deut.
32: 11-12.

I had heard she had to leave her old home. As I knew how she loved it, I thought of her over and over again, with great pity and keen distress. I dreaded so much seeing her that I put off going to her until the very last moment.

I found her packing with her back towards me. Like a great coward I waited for her to turn. To my intense relief and surprise, though her face showed suffering, she greeted me with a smiling countenance and happy voice, which continued during my stay. As I was leaving, I could not resist saying, with a look around the dear familiar room: "How can you bear it?" With a tender, lingering touch of the piano keys, near which she was sitting, she answered her voice: "I am just wondering what is better than this God can have planned me with a force never realized before." "So the Lord alone did lead himself." Then I knew that the Lord lead her.

He had seen best to stir her and shake her out of that dear old home nest, but underneath her was His tender sheltering arms, bearing her up; His great love protecting and strengthening her, and His infinite wisdom planning and preparing for her wellfare.

At this awful war time when nations of the world are being shaken and tortured, we may wonder what then, and in what ways will He alone lead them.—I. H. N.

Banish Letter Writing Terrors With the Household Editor.

HOW many of us have our writing material conveniently placed in the home, so that when any member of the family wishes to write a letter it is some encouragement to set about the task? Too often there is no special place for writing paper, envelopes, etc., and they are probably supposed to be kept in the left hand corner of the top drawer of the sideboard. When someone decides to write a letter and goes in search of the material, they are likely to find that the envelopes which fit the note paper, the mullage on which will not stick and even if these difficulties are surmounted, in all likelihood the letter will have to lie around for a day or two until stamps are purchased. In it any wonder under such conditions hate writing letters?

Letter writing should be encouraged in the home, as a great deal of enjoyment can be derived from conversational friendships are retained, which if letter writing were abandoned would be lost. If frantic hunt through a drawer reveals only a few half sheets of paper, no envelopes, ex-

cept some badly crumpled ones, a pen holder containing a point which scratches furiously, and an ink well with but little ink in it, the chances are that the letters received from us by our friends in other parts of the globe will be few and far between. It is not necessary to have an expensive writing desk, handsomely finished and containing numerous pigeon holes and drawers in which to keep writing equipment. All that is necessary is a drawer in a certain place, which every member of the family may understand is for writing materials. In it a supply of stamps, post-cards, ink, pencils, pen points, etc. may easily be kept on hand. Then when a letter is to be written, no matter whether of a business nature or to a friend, there need be no loss of nerve energy in a fruitless search through the sideboard drawer for materials which are not on hand.

Sparks From the Anvil of a U.F.W.A. Woman

AT the recent convention of the United Farm Women of Alberta, Mrs. Walter Parib, of Alir, president of the organization, delivered a splendid address dealing with the problems of the farm women of Alberta. Many of the problems of Alir with which we in the other provinces have to cope, and the facts as presented by Mrs. Parib may prove helpful to all of us. We would like to publish portions of it which appear herewith:

"In addition to many other lines of war work, we must study the question to-day that any conservation, the greater production and conservation of food—such that the horrors of starvation may not be added to the many others already enduring. Some say there is little waste on the farms. That may well be, and yet there are few of us so frugal, so thrifty, that we cannot find some leakage in our household management which might be stopped. This is not the moment to go into the details of this work. I merely wish to place the question before you and appeal to each one of you to give it your most earnest and sympathetic consideration. Privately in our own households, many of us have for weeks, been doing just what we could. As this subject as part of our work in our committees. Let those who have most economy and domestic science help subject not only in the home and the rural school. The educational value of this work will be of benefit to many of us, and improve many a home on these prairies.

Conservation of Human Life.
"An organized woman there is no question of greater importance to which we can lend our energies than life. Our race is being bereft of the strongest and most physically fit for the needs of the war. Is it not necessary therefore that we women should give the most serious thought and such wisdom as we may possess to the



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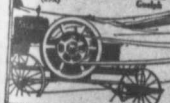
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Why We Should Bathe Internally

Adds Many Years to Average Life

By R. W. Beal.

Much has been said and volumes have been written describing at length the many kinds of baths civilized man has indulged in from time to time. Every possible resource of the human mind has been brought into play to furnish the methods of bathing, but strange as it may seem, the most important as well as the most beneficial of all baths, the "Internal Bath," has been given little thought. The reason for this is probably due to the fact that few people seem to realize the tremendous part that internal bathing plays in the acquiring and maintaining of health.

If you were to ask a dozen people to define an internal bath, you would have as many different definitions, and the probability is that not one of them would be correct. To avoid any misconception as to what constitutes an internal bath, let it be said that a hot water enema is more an internal bath than a bill of fare is a dinner.

If it were possible and agreeable to take the great mass of thinking people to witness an average postmortem, the sights they would see and the things they would learn would prove of such lasting benefit, and impress them so profoundly, that further argument in favor of internal bathing would be unnecessary to convince them. Unfortunately, however, it is not possible to do this, profitable as such an experience would doubtless prove to be. Therefore, then, only one other way to get this information into their hands, and that is by acquainting them with such knowledge as will enable them to appreciate the value of this long-sought-for health-producing necessity.

Few people realize what a very little thing is necessary sometimes to improve their physical condition. Also they have almost no conception of how little carelessness, indifference or neglect can be the fundamental cause of the most virulent disease. For instance, the universal disorder from which almost all humanity is suffering, known as "constipation," "auto-intoxication," "auto-infection," and a multitude of other terms, is not only curable but preventable, through the consistent practice of internal bathing.

How many people realize that normal functioning of the bowels and a clean intestinal tract make it impossible to become sick? "Man of to-day is only fifty per cent. efficient." Reduced to simple English this means that most men are trying to do a man's portion of work on half a man's power. This applies equally to women.

That it is impossible to continue to do this indefinitely must be apparent to all. Nature never intended the delicate human organism to be operated on a hundred per cent. overload. A machine could not stand this and not break down, and the body certainly cannot do more than a machine. There is entirely too much unnecessary and avoidable sickness in the world.

How many people can you name, including yourself, who are physically vigorous, healthy and strong? The number is appallingly small.

It is not a complex matter to keep in condition, but it is a little time and in the strenuous days people

have time to do everything else necessary for the attainment of happiness, but the most essential thing of all, that of giving their bodies their proper care.

Would you believe that five or ten minutes of time devoted to systematic internal bathing can give you healthy and maintain your physical efficiency indefinitely? Granting that such a simple procedure as this will do the most essential thing of all, worth while to learn more about that which will accomplish this end? Internal bathing will do this, and it will do it for people of all ages and in all conditions of health and disease.

People don't seem to realize, strange to say, how important it is to keep the body free from accumulated body-waste (poisons). Their doing so would prevent the absorption into the blood of the poisonous excretions of the body, and health would be the inevitable result.

If you would keep your blood pure, your heart normal, your eyes clear, your complexion clean, your head keen, your blood pressure normal, your nerves relaxed, and be able to enjoy the vigor of youth in your declining years, practise internal bathing, and begin to-day.

Now that your attention has been called to the importance of internal bathing, it may be that a number of questions will suggest themselves to your mind. You will probably want to know WHAT an Internal Bath is. WHY people should take them, and the WAY to take them. These and countless other questions are all answered in a booklet entitled "THE WHAT, THE WHY AND THE WAY OF INTERNAL BATHING," written by Doctor Chas. A. Tyrrell, the inventor of the "J.B.L. Cascade," whose life-long study and research along this line has given him pre-eminent authority on this subject. Not only has internal bathing saved and prolonged Dr. Tyrrell's own life, but the lives of multitudes of individuals have been equally saved and prolonged. No other book has ever been written containing such a vast amount of practical information to the business man, the worker and the housewife. All that is necessary to secure this book is to write to Dr. Tyrrell at Room 392, 163 College Street, Toronto, and mention having read this article in "The Farm and Dairy," and same will be immediately mailed to you free of all cost or obligation.

Perhaps you realize now, more than ever, the truth of these statements, and if the reading of this article will result in a proper appreciation on your part of the value of internal bathing, it will have served its purpose. What you will want to do next is to avail yourself of the opportunity for learning more about the subject, and your writing for this book will give you that information. Do not put off doing this, but send for the book now, while the matter is fresh in your mind.

"Procrastination is the thief of time." A thief is one who steals something. Don't allow procrastination to cheat you out of your opportunity to get this valuable information, which is free for the asking. If you would be natural, be healthy, it is unnatural to be sick. Why be unnatural? There is such a simple thing to be well? (Adv.)

How many people can you name, including yourself, who are physically vigorous, healthy and strong? The number is appallingly small. It is not a complex matter to keep in condition, but it is a little time and in the strenuous days people

question of public health? Is it not right that we should endeavor to so adjust conditions that every child born into the world shall have the least, at a fair chance of a healthy normal life, that every mother shall have the care which is her right, when she takes that journey into the valley of the shadow, from which in this western country she so often does not return? Is it more than justice that every child of school age should be given a square deal in his health by being thoroughly examined by a qualified medical man, at certain intervals during his school life? At a recent examination of every school child in a certain municipality in Manitoba, not one child was found to be absolutely normal; not one child physically perfect out of some 500 children. Defective eyesight and hearing, nose and throat trouble, imperfect teeth were the most common troubles, but there were also cases of tuberculosis, endangering the health of other children in the school. I have come across many worthy people who disapprove of war, who think it can be abolished by the wisdom of words, who indignantly declaim against the hideous and unnecessary wastage of human life through the process of modern warfare, and who yet remain cold, callous to the fact that more children and young men of our race have died within the British Empire since the war began than there have been killed, or that here in sunny Alberta, with no big cities and no deleterious feasting saloons, their reeking tents, as an excuse, we have a death rate, one-half of which consists of children under five years of age, one-third of children under one year. Is it not a veritable triumph of inefficiency for that country that prides itself on its democratic progressive principles?

"Because the care of the race is not the man's job, it has never appealed to him in its full significance. It has ever taken a secondary place. For this reason, medical inspection of our rural school children, by nurses or health nurses, are still things we see only in our dreams. It is up to you, as organized women to take up your burden, to shoulder your work, part of your work which has been taken out of the home in the dim past of history, and bring these dreams to life."

COOK'S CORNER

Who Has Tried Potato Bread?

HOW to conserve the limited wheat supply, is an ever-present problem with the conscientious housewife who realizes that the conservation of this food product is very necessary. Mrs. Carroll, of the Agricultural Extension Department of the U.S. Department of Agriculture, has been conducting extensive experiments in making small potatoes make the place of wheat. It is said that her bread, biscuits and doughnuts taste "like more," and, due to the potatoes, the bread doesn't dry out quickly.

Mrs. Carroll points out that there are nearly 125,000,000 bushels of small potatoes wasted in the United States every year, and that these should be used to take the place of and do the work of one-third of the wheat crop used for bread. If housewives across the line can make use of potatoes for this purpose, can we not do the same? Here are some of Mrs. Carroll's recipes for making potato bread, biscuits, doughnuts, etc.:

Potato Bread.

Two-thirds of cup sweet milk, one cup potato, two cups flour, one teaspoon salt, one teaspoon sugar, one-half yeast cake. These measurements make one loaf. Heat milk to boiling point, then cool to lukewarm. Bake or boil potatoes, then peel and mash or put through ricer. Dissolve yeast cake in a small amount of water as follows: Mix milk, yeast

cake, salt, sugar, all the mashed or riced potatoes and half of the flour. Beat well, let stand over night to rise. In the morning add balance of flour, salt and sugar, let rise again, then mold into a loaf. Let rise again until double in bulk, then bake 40 minutes in a moderate oven.

Potato Biscuits.

Two cups flour, one cup riced potato, three teaspoons baking powder, one scant teaspoon salt, one tablespoon shortening, one teaspoon sugar, sweet milk to make a stiff dough. This can be rolled for biscuits. Sift flour, baking powder, salt and sugar together. Work shortening into flour; add potatoes, which should be boiled or baked and put through ricer; then add milk to make a dough which can be easily handled on board. Roll out about half an inch thick, cut with biscuit cutter and bake 15 minutes in a quick oven.

Potato Doughnuts.

One cup sugar, half a teaspoon shortening, one egg, half a cup sweet milk, one-quarter teaspoon cinnamon, one-quarter teaspoon black pepper, two teaspoons baking powder, one cup riced potatoes, two cups flour, half a teaspoon salt. Mix sugar, spices, salt and shortening. Add well-beaten eggs and beat thoroughly. Add riced potatoes, then flour and baking powder, which have been sifted together. Mold on board and roll half an inch thick, cut with doughnut cutter and fry.

Salads and the Man of the House

SOME people seem to think that salads are an extravagance, also that they contain little food value and are used on our tables mainly "for show," when company comes. If we appreciate the food value of salads, however, we will see to it that they contain the best of everything, just when company comes or when we are asked to take something to a social gathering in the community.

In the first place, any salad dressing containing green herbs and good fat, as it is usually made with oil or eggs. Butter and cream which form important ingredients in salad dressings are valuable foods also. A salad of lettuce or other green herbs will contain much food, but furnishes valuable mineral constituents as well as gives bulk.

There are many types of salads besides those made from greens. If the meal consists of heavy foods, fruits, furnishing water and minerals, such as apples, peaches, oranges, bananas, etc., might well be chosen. If on the other hand the meal is light, the more nutritious animal or vegetable foods, such as meat, fish, eggs, nuts, cheese, beans, cabbage, tomatoes, etc., may be used.

From the point of view of economy, the odds-and-ends salad is what I commended, for it is a satisfactory way of using up the left overs. For instance, we may have a small amount of potatoes, cabbage, beans and tomatoes left over from previous meals. There is not enough of any one to serve separately and yet by mixing altogether and pouring a good salad dressing over the mixture, we have a palatable and nourishing dish.

Salads are just as valuable for the man doing heavy work as for the man following a sedentary life. Some of the men on our farms seem to have the opinion that such dishes as salads are meant only for "monocles" or "sawed mollycoddies" and are of no value to men like themselves who are engaged in hard physical labor. This is a mistaken viewpoint, however, and the man who makes a habit of dining under this impression will give the salads which appear on our tables a more friendly reception, we believe they will soon be forced to admit that a salad is not such a bad companion after all.

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An Up-to-Date and Attractive Home in New Ontario.

The illustration shows a side view of the splendid home of Mr. P. McDonald, a description of which is given in the article adjoining. With the assistance of his sons, Mr. McDonald did most of the work in connection with building his fine home, and it is, therefore, well built and conveniently planned.

More in Algoma District than Rocks and Marshes

A Visit to a Home Up-to-Date in Every Respect and One Which Any of Us in Old Ontario Might Well be Proud to Possess.—J. Ross, Huron Co., Ont.

ON my travels up north last summer I visited a home in the Algoma district which gave me one of the greatest surprises I had received for many a day. On my way up by train I had formed the opinion that Algoma was nothing but a coun-

Between the dining room and parlor there is a large colonnade, as is also the case between the hall and living room, there being sliding doors to separate the hall and parlor. As will be noticed also, a room which is a great favorite on this floor is the den with library. There is a double fireplace in the living room and den. A built-in bookcase is another attractive feature of the den. This room faces towards the barns so that Mr. McDonald can keep his eye on things when sitting in the house.

The second floor is nicely laid out with good-sized closets off each bedroom and also off the sewing or living room, which opens on to the this floor to the attic, which is a room 10 x 39 feet.

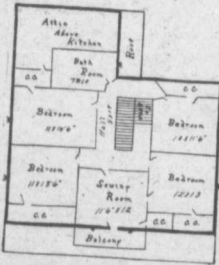
The cellar is a good size, being under the whole house, and is finished with concrete floors and walls. In this basement is a cistern which holds 58 barrels of soft water and a pneumatic water system tank which holds 360 gallons. Water is on tap all through the house. There is a lavatory in the basement which is a feature to be recommended. The laundry, and of course, the furnace, which heats every room in the house. An electric lighting plant is still another feature, which is located in the base-

try of rocks and marshes. Later, however, I motored down to Thessalon by what is called the trunk road, passing through Echo Bay, MacLennan, Desbarats and Bruce Mines, and I passed through some of the finest farming country I have ever seen, which was beautified now and then by a small mountain, or bluff, as it is commonly called. The very substantial buildings for such a new country surprised me, and the home of Mr. P. D. McDonald, one mile east of the village of MacLennan, impressed me most favorably.

We stopped in front of the beautiful lawn, opened a gate and walked up the cement walk to the wide verandah. We asked for some water for our engine and were handed a pail and tap. I expressed surprise at finding a home with such fine equipment, and Mr. McDonald then offered to show us through the house.

To my way of thinking it is one of the best laid out houses I have ever been in. The main part of the house is 22 x 40 feet with a kitchen, pantry and storeroom to the north 12½ x 18 feet. There is a verandah on the east side of the kitchen as well as one across the front of the house. The well will give one a good idea of how the house is laid out.

A commendable feature about the layout of the ground floor is the situation of the pantry, which opens off both the kitchen, which opens off there being a swing door between, pantry and dining room. There is a fine cupboard and a row of shelves in the pantry which makes it very convenient.



ment. The dynamo is run by the same engine that pumps water to all parts of the house. There are 25 lights in the house, and the barn is lighted in the same way. The capacity of the plant is 70 lights, so that the batteries do not need to be charged more than once or twice a week. All the first floor, with the exception of the kitchen, is finished in a select quality of Southern oak, while the kitchen and the second floor are finished in Georgia pine. The floors

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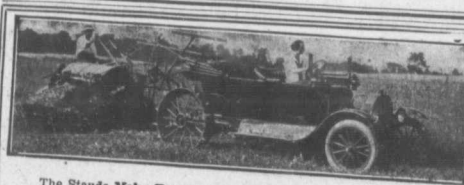
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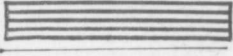


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are choice maple. The woodwork is varnished in the natural wood finish, which shows up the fine grain of the wood. The outside is of pressed brick 10 feet up, while the roof and gambrel is of slated shingles, red and green.

We were surprised to learn that we had an opportunity also to look through the barns and stables and found everything up-to-date, including cement floors, steel stanchions, litter and other things, including engine, cutting box, etc., each department being divided off by itself.

The Girls in the Institute*

Miss Ethel Chapman, Toronto, Ont. THINGS have to be worked out on an entirely new angle under the new conditions brought about by the war. If a girl is going to make a living at something, she does not wish to do something that is going to be a "make-shift job." The girl who is a trained nurse, for instance, has a line of work through which she can be living out practically the same life as if it were over the same kind of matter to others. To a certain extent, teachers can do the same, as can also girls engaged in social service work. In a line of work that is purely business, or probably when living in the rural districts, the girl has not a full opportunity to express herself. We want to get something outside of work that will supply an outlet for her emotional nature. This may be done in some way as through good reading, amateur theatricals, pageants, pantomimes, drills, etc.

Take the girl side of farms life for the girl is not as it should be. I have in mind a particularly good farm. The returns from it are excellent. There are four girls on that farm, and they have contributed largely in bringing in the returns. Yet these girls who are contributing so much to the farm, haven't \$50 of their own to invest in a Victory Bond. There should be some cooperative schemes on the farm by which girls can make money for themselves. The canning center and gardening schemes afford good opportunities for "retaining and saving" money, also egg - circles. Why should they not also have poultry clubs or try hog production. A great many girls are afraid to go into these lines of work unless fostered from somewhere. They should be brought into the Institute and encouraged along such lines. The fathers, too, could do much, especially in helping them to sell their products.

We cannot hope to help the girls on the farm until we get in touch with them. I have never yet come across a Women's Institute where there was not a woman or two from whom I could learn something that would help me in the line of work from which I make my living. The personal influence of individual women will mean more to the girls on the farm than the Institute can help to fill the needs of the emotional nature of the girl. The trouble too often is that the mother

*A sponsored report of an address delivered at the meeting of the Women's Institute delegates at the recent convention held in Toronto.

or misunderstands the girl who is coming into her teens. When she gets the "boy craze," mother thinks she is not doing her duty unless she crushes this part of her nature. The fact is lost sight of that this is at the very beginning of all creation, and it should be cultivated in the right way. There should be a good library in connection with the Institute, and for some time to direct the girls in their reading. I know also of a girl's club where a woman has taken the trouble to train the girls to take part in drills, plays, etc. It is a fine thing for a community to have such talent in their midst and it is better still to be developing the emotional nature in the proper way.

The war has upset the whole natural scheme of things, marriage and homes. We must try to supply some of these vanished social relationships. Give the girls a chance to help other girls. The children of the Institute had a plea sent to them in connection with the Fresh-Air work among the children of the cities. Each girl in that Institute took a charge of 10 children for two weeks, and it was a source of great benefit both to the children and the girls. In connection with another Institute, the children are gathered together on Saturdays afternoons and some of the girls take charge of them, telling them stories and training them in various ways. It is a splendid idea also to cooperate with the Junior Farmers' Club at Streetville, the girls meet with the Women's Institute every Saturday afternoon, and through the winter meet with the Junior Farmers' Club at Streetville, taking the form of a literary or dramatic society.

An account of this country's loss so many of its good men, and of the sad state of the country - mentally impaired, the best hope for the next generation depends on the making today of the best type of girl. Outdoor living and training will do much to make the future mother physically fit.

Information on Mortgages

WHAT do the majority of us women folk know about mortgages. If the truth were known, in all probability few of us can claim much familiarity with the term. The following information was delivered before the King Women's Institute, York Co., Ont., by one of their lawyer friends and it should be worth keeping for a study and reference.

A mortgage is a pledge of lands as security for a debt, whereby the debtor pledges, or as he is commonly called, the mortgagor, conveys the land to the creditor or pledgee, or as he is commonly called, the mortgagee, subject to a condition or proviso that if the debt is discharged by the day named, the pledge shall be void and the mortgagor shall be entitled to repossess the land free from all claims created by the mortgage. If the debt is not paid on the day named, the land, at law, becomes the absolute property of the mortgagee and may proceed to take possession of it; quietly if he can and if not, by means of ejectment. Mortgages should be executed in duplicate and one part left in the registry office in case of a deed of land. When a registered mortgage is set off, a discharge should be signed and registered; it will then be marked as discharged in the books of the registry office. A discharge must be signed by the mortgagor and the mortgage has been assigned, by his assignee, or by his executor or administrator if he be dead. When a mortgage has been made in favor of a married woman, both husband and wife should properly sign the discharge. One witness to the signature is sufficient and he must make and subscribe the usual affidavit of execution.

It is a good practice to have all payments by the mortgagor, whether of

instalments of principal or interest, received by the mortgagee under a full written memorandum upon the back of the original mortgage itself. When a mortgage is paid, care should be taken that it is at once properly discharged and the discharge registered. The mortgagee is entitled to the custody of all deeds and documents of title until he is paid off and to direct the use of the same and secure them. He should also register his mortgage promptly. If the wife of the mortgagor does not join with him in the mortgage for the purpose to bar dower claim, the mortgage will be subject to it. Mortgages on real estate in Ontario and Manitoba, out-law in 10 years after maturity or last payment, and in all other provinces, in British Columbia, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland they out-law in 20 years; in Alberta, Saskatchewan, people's children and the Yukon 12 years; and in Quebec 30 years if the mortgage is duly registered. In each province and country a part payment of either principal or interest will extend the term of a mortgage for 12, 20 or 30 years as the case may be. The right to recover dower by a widow out of her deceased husband's estate is also barred in the same length of time, a mortgage on real estate is barred. The right to dower accrues at the husband's death. Arrangements of dower barred in same time that interest is.

A chattel mortgage is a lien on personal property - goods and chattels. It is in reality a deed or conveyance of the property as security for a debt or borrowed money, with a proviso that when the debt is paid the mortgage becomes null and void. The debtor is called the mortgagor and the creditor the mortgagee. The effect of a chattel mortgage is practically the same as if a deed or conveyance of the title, but not of the possession of the property; but the mortgagee may take possession of the property also on a breach of any of the covenants. The most important part of a description of the goods and chattels, so they can be readily distinguished; also, where they are located and whose possession they are in at the time. To hold the goods against judgment, creditors, etc. they require to be registered at the office of the Clerk of the County Court within five days after their execution. They remain in force for one year from their renewal. Fee for registration, 50 cents. Would advise that men have nothing to do with chattel mortgages and even more particularly a woman, unless there is no alternative.

Unique Food Slogans

RECENTLY a competition was held among the school children of the State of Indiana by the Federal Food Administrator of that State and prizes were offered for food conservation slogans. The children who participated in this contest with poster designs and food saving slogans. The following are given as examples of the slogans received from the children:
Be Canny With Food.
Peel Thins and Win.
Not That We Love Food Less, But We Love Liberty More.
Spread Butter Thin - Help the Hamlets Get it Off.
Be a Conservative Boy.
Bread and Buns Will Beat the Hunn. Fill All Cans But Garbage Cans.
Every Spud is a Bullet.
Save Bacon - Kill Berlin Is Taken.
Save Navy Beans - Twill Kill the Submarines.
Wise Wives Won't waste.
Kill Katerwim in the Kitchens.
Wise Wives Shouldn't pro- Eat Fat - A Good War Diet.
The Nation Beats That Saves Lots Pickle and Can Uncle Sam.
The Kitchen is Your Fort.
Yours is a War - Fryin' Pan - Bake, Fruit, and Roll All You Can.

The Heart of the Desert

(Continued from page 20.)

The vibrating voices chanted slower and slower. Rhoda stirred uneasily. To be free again as these voices were free! Not to long for the civilization she had left but for the civilization trails! To be free again!

As the voices melted into silence, a guitar was touched softly under Rhoda's window and Kut-lie's voice rose in La Golondrina:

"Whether so swiftly flies the timid swallow?
What distant bourn seeks her untiring wing?
To reach her nest what needle does she follow?
When darkness wraps the poor wee storm-tossed thing?"

Rhoda stirred restlessly and threw her arms above her head.

"To build her nest near to my couch I'll call her!
Why go so far dark and strange skies to seek?
Safe would she be, no evil should befall her,
For I'm an exile sad, too sad to weep!"

Mist-like floated across Rhoda's mind a memory of the trail with voices of mating birds at dawn, with stars and the night wind and the open way. Kut-lie and the merry smile, of the gentle touch. The music merged itself into Rhoda's dreams.

She spent the following day at the roof. Curled on her Navajo she watched the changing tones on the mountains and listened to the soft voices of the Pueblo women in the street below. Naked brown babies climbed up and down the ladders and peddled in the shallow river. Indian women with scarlet shawls, across their shoulders filled their ollas at the river and stood gossiping, the brim-ering ollas on their heads. In the early morning the men had tramped to the alfalfa and melon fields and returned at sundown to be greeted joyfully by the women and children.

Kut-lie spent the day at Rhoda's side. They talked but little, though Rhoda had definitely abandoned her role of silence toward the Indian. Her mind during most of the day was absorbed in wondering why she so enjoyed watching the life in this Indian town and why she was not more impatient to be gone.

As the sun dropped behind the mountain Marie appeared on the roof, her black eyes very bright.

"Half-breed Philip find white squaw's handkerchief. Give to white men, maybe! Marie see Philip get handkerchief from little girl."

Kut-lie gave Rhoda an inscrutable look, but she did not tell him that she shared his surprise.

"Well," said Kut-lie calmly, "maybe we had better mossy along."

They descended to find Marie hastily doing up a bundle of bread and fruit. While Kut-lie went for blankets Rhoda, at Marie's request, donned her old clothing of the trail. She had been wearing the squaw's holiday outfit. Marie, they were in the dusky farewell to "Shall I see you," asked Kut-lie, "or will you give me your word of honor to give neither sign nor sound until we get to the mountain, and to keep your face covered with your Navajo?"

Rhoda sighed.

"Very well, I promise," she said. "In a very short time they had reached the end of the little street and were climbing an arroyo up into the pinnacled mountain. When they reached the pinnacled Rhoda saw the coyote call. It thrilled Rhoda with the misery of the sight of her capture. Almost immediately there was an answering call from the shadow of the pinnacled mountain. Alchise and the two squaws. Molly ran to Rhoda with a squaw of boy and patted the girl's hand, but

Alchise and Cesca gave no heed to her greeting.

The ponies were ready and Rhoda swung herself to her saddle, with a little horse. And once more she rode after Kut-lie into the mystery of the night trail before her.

The sound of water falling, the cheep of wakening birds, the subtle odor of moisture-drenched soil roused Rhoda from her half sleep on the horse's back at the end of the night's journey. The trail had not been hard, though an endless pine forest, the most part. Kut-lie drew rein beside a little waterfall deep in the mountain masses huge and distorted, as if an inconceivably cruel and gigantic hand had jugged with weights seemingly immovable; about these the loveliness of vine and shrub; above them the towering junipers dwarfed by the rocks they shaded; and falling softly over the harsh brown rifts of rock, the liquid green and white of a mountain brook which, as it reached the level, rushed away in a roar of foam.

Rhoda's horse drank thirstily and she stood beside him watching the mystical gray of the dawn lift to the riotous rose of the sunrise. She wondered at the quick thrum of her pulse. It was very different from its wonted soft beat. Then she threw herself on her blanket to sleep.

When Rhoda awoke, late in the day, Kut-lie had spread Marie's cakes and fruit on leaves which he had washed in the brook.

"They are quite clean, I think," he said a little anxiously. "At least the squaws haven't touched them."

Rhoda and Kut-lie sat on a rock and ate hungrily. When she had finished Rhoda clasped her hands about her knees. She looked singularly boyish, with her face and short locks of damp hair curling from beneath the crown.

"Isn't it queer," she said, "that I clude Jack and John DeWitt so easily?"

"The trouble is," said Kut-lie, "that you don't appreciate the prowess of your captors."

"Humph!" sniffed Rhoda.

"Listen!" cried Kut-lie with sudden enthusiasm. "Once in my boyhood Geronimo and about twenty warriors, with twice as many squaws and children, fled to the mountains. They never drew rein until they were one hundred and twenty miles from the reservation. Then for six months they were pursued by two thousand American soldiers and they never lost a man!"

"How many whites were killed?" asked Rhoda.

"About a hundred!"

"I don't understand yet," Rhoda shook her head, "how savages could outfit whites for so long a time."

"But it's not a contest of brains. Whites must travel like whites, with food and rest. The Apache travels like the coyote, living off the country. Your ancestors have been training your brain for a thousand years. Mine have spent centuries of days, twenty-four hours a day, training the body to endure hardships. You have had a glimpse of what the hardships white!"

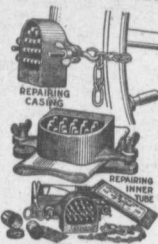
As Kut-lie talked, Rhoda sat with her eyes fastened on the rough face of a distant rock. As she watched she saw a thick, leafy bush move up to the glance at the unconscious Kut-lie, then back at the bush. It moved slowly back among the trees and after a moment Rhoda saw the undergrowth far beyond move as with a passing breeze. She glanced at the nodding Alchise and the squaws, then smiled and turned to Kut-lie.

"Go on with your boasting, Kut-lie. It's your own weakness, I think."

Kut-lie grinned.

(Continued Next Week.)

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DUNLOP TIRES

Alberta Dairymen Convene

THE 13th annual convention of the Alberta Dairymen's Association, held recently in Edmonton, completely disproved the old superstition that 13 is an unlucky number. It was the largest and most successful convention yet held in Alberta, with 150 delegates in attendance. Hon. Duncan Marshall stated that in the period from 1914 to 1917, there had been an increase of over 33 per cent of dairy cows in the province, the general increase in cattle being only 41 per cent. Along with this increase in quantity of dairy output, had been a corresponding increase in quality and Alberta's great strides in quality production he attributed almost entirely to the work of Mr. C. Marker, the Dairy Commissioner of the province. He also took occasion to inform Alberta farmers that the new Ford tractors purchased by the government would be available in that province at \$795. Mr. Marker himself expressed the growth in dairying in another way. In 1913 there had been an average of 2.4 dairy cows per farm. In 1916 there had been four. Speaking of the advantages of cream grading he cited the example of the Woodland Dairy of Edmonton, that had increased its proportion of "specials" from 18.4 per cent. in 1916 to 60.3 per cent. In 1917, Mr. P. Palsonen of Edmonton scored the cream buying stations which he

said were lowering the grade of butter, were costing too much and were causing the employment of unnecessary labor which could be used to much better advantage elsewhere. He suggested either that the convention get together and agree to give up all the branches, or that the representatives put in such regulations and restrictions that "we will have to quit them." W. F. Stevens, Live Stock Commissioner, spoke of the cow milk, through which 100 per cent of the cream is to be loaned to farmers to enable them to buy cows. Up to December 31st, \$1,566,380 had been applied for, but could not be supplied due to lack of funds.

A move was taken to establish the Dominion Dairy Council and a permanent committee was appointed to deal with the subject. Prof. R. M. Washburn of Minnesota, spoke at a couple of the sessions and at a general evening meeting gave a convincing illustration of the food value of milk. Whole milk at 12 cents a quart and relieved of its useless water content, the dry matter would cost 36 cts. a lb. The cost of other foods, with waste and water eliminated per pound, is as follows: Cheese, 48 cts.; cottage cheese, 33 cts.; "top milk," 48 cts.; Hamburger steak, 90 cts.; eggs, \$1.25; oysters, \$2.50; white fish, \$1.45 and fat cow, \$1.12. T. A. F. Wiancko of British Columbia, claimed that as a result of compulsory tuberculin testing, the dairy herds of his province were free of the disease than any other part of the world with the exception of Jersey Island. William Hansen of Innisfail, won the trophy offered by the Department of Agriculture to the winner of the season's butter scoring contest. A. Storror of the Carlisle Dairy Co., Calgary, was the winner for highest average score in the convention creamery butter exhibit. W. Hamilton of the Calgary Central Creamery had the highest score in the cheese contest. Resolutions adopted by the convention were as follows:

Resolutions.

Whereas, our federal government at Ottawa has seen fit to allow oleomargarine to be imported into, manufactured and sold in Canada as a war measure, that this convention, on record as having the manufacture, importation and sale discontinued immediately at the close of the war, and that the regulations governing its manufacture and sale be strictly enforced.

Whereas, the renovating process of dairy butter would be detrimental to the best interests of the producer, and the manufacturer of fancy creamery products; therefore, he it resolved that the provincial and federal authorities be asked to prevent such a measure being adopted.

That we ask the department of agriculture to establish a system of grades and grading of cheese to conform as nearly as possible to the system now used in regard to our butter, and that the grade standards and samples be left to the discretion of the dairy commissioner.

That it be made compulsory to maintain uniform prices at all points for the same grade of cream or milk except that the creamery or cheese factory operators be allowed to meet their competitors at individual points.

That only persons or firms actually engaged in the manufacture of butter, ice cream or sweet cream vendors, or their employees, be allowed to purchase cream.

Whereas, it was decided at the Dairymen's convention held at Winnipeg on January 30, 31, and February 1, 1918, to make an effort to form a Dominion Dairymen's association; therefore, be it resolved that this convention heartily endorse such a movement, and that at least two delegates be elected to act for Alberta on an interprovincial committee for the purpose of completing such an organization.

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FIELD NOTES

By G. C. McKillican, Field Representative, Farm and Dairy.

ONE of the most noticeable features on Eastern Ontario farms during the present winter as compared with the Western part of the Province is the quantity of corn still stocked in the fields. There are various reasons for this. In the first place Western Ontario is possibly better supplied with silos, while for this year at least, Eastern Ontario has a much better corn crop and consequently is better supplied with the wherewith to fill them. While on some farms in Eastern Ontario the corn was not a good crop and required little storage room, yet on many others, especially where a second silo was not provided and where there wasn't any silo, much corn is still in the fields or standing near to the buildings. Some of this will be fed "long." At other places it will be run through the cutting box and fed dry or mixed with palmed roots, while on many farms the silo was refilled some time during January. This silage will probably be not as good as if handled in the usual way, but yet is a valuable addition to the live stock food supply.

Another thing one notices, more especially in the great hay growing sections of Eastern Ontario, is the number of stacks. When the present season's crop was ready to be harvested, many barns contained quantities of old hay, for which no market was available. Consequently in many places, even where help was not available for cutting, and much was not cut, there is part of two years' crop on hand. These two factors, in addition to the high prices of all kinds of grain feed, mean that very little of the latter are being fed this winter, also less straw, corn stlage and hay forming the bulk of the ration on many farms, even where winter dairying is being carried on.

As a result of this, many farmers, who in years past have taken considerable pride in the winter condition of their cows, speak in rather an apologetic way regarding them when showing visitors through the stable. Other farmers avain figure that a little grain is profitable, even at high prices, and are making judicious use of home-grown grain as well as some of the more profitable commercial concentrates.

While travelling in Ontario during the recent cold snap, I have had a splendid opportunity of noticing the effect of the extreme cold in the various types of stables in which I have been. In some the air becomes damp and foul, others are cold, with white frost on the walls, while others have an air of comfort, a combination of warm dry air with an absence of foul odor that means healthy cows and pure milk. While ventilation plays an important part in this regard, I have at the same time reason to believe that a great deal depends on the character of the wall. One of the barns I have been in where pure dry air is most noticeable is Mr. Geo. M. Henick's new barn at Vankleek Hill. The stable wall is built of cedar blocks laid in mortar and no dampness seemed to collect on the surface. Another stable in which the air seemed noticeably dry and pure was the small model dairy barn at the Central Experimental Farm. This stable is equipped with a system of ventilation and is boarded within and without the studding. No moisture whatever stood on the inside walls. I saw the walls of the double wall well illustrated at the farm of Wilbur Bozox of Moose Creek, where three sides of the stable was double boarded and felled both inside and out. The fourth side was next to another building and Mr. Bozox did not consider it necessary to make the wall double there.



Some Sale!!!

Hill-Crest Holsteins — Plus — Avondale & North Star Herds
G. A. Brethen Dispersal 12 Beauties 5 Head 30 lb. Quality

In order to make our sale even more attractive in size, as well as quality of offering we have invited Messrs. A. C. Hardy and J. W. Stewart, of Brockville, Canada, to make a draft from their well-known herds that will "nick" our own in breeding and individuality.

NOW! SEE WHAT WE'VE GOT!!

- 3 30-lb. Cows (two over 34), with good prospects of more coming. One milking up to 122.5 lbs. (SHIR in Test.)
- 6 Sons of 30-lb. Cows—Two from 34-lb. dams. One from a 31-lb. dam. Three from dams with over 35. These six dams (two 3-year-olds) average 165.7 milk in one day.
- 2 Canadian Champions, including senior 3-year-old Better Champion. (Holds six Canadian records for milk: 1 day, 163.3 lbs.; 7 days, 658.6; 30 days, 2738.1) and leader in 3 divisions over America in M. H. Gardner's last report. A grand-daughter of King of the Pontiacs (21.25-lb. daughters). Her dam and sire's dam average 1094 lbs. butter, 58,417.7 milk in 1 year A.R.O. Also the junior 4-year-old R.O.M. champion in 3 months after freshening. Div. A 22,000-lb. A.R.O. junior 3-year-old daughter.
- 4 Sons of 20,000-lb. Cows—One whose dam and junior 3-year-old daughter made 45,635 milk in 1 year. Another whose dam and sire's dam average 27,724.3 lbs. milk, 1,067.12 butter in 1 year. (Highest record bull in Canada.)
- 2 20,000-lb. Yearly Record Heifers (Each a Canadian record when made.)
- 30 or More Daughters and Grand-daughters of 30-lb. and 20,000-lb. sires and dams, every-one of which was raised, bred, and developed at Hillcrest.

May Echo Sylva
A Son of "Champion Echo Sylvia Pontiac," the famous 44-lb. son of the great 41-lb. cow, "May Echo Sylvia" (acknowledged the greatest milk producer the world has ever known).
A Dozen Daughters of the great Avondale sire—Prince Hengerveldt Pictle (730-lb. daughters) King Pontiac; Sir Clyde, most of these being safely in calf to "Champion Echo Sylvia." Here is opportunity!

Rag Apple Korndyke 8th.
Just to Cabana this sale we have induced Mr. J. W. Stewart to put in his beautiful son of the "Greatest Bull in the World," out of a 24-lb. dam, with a 31-lb. daughter. As this animal is a show bull from the ground up, and his baby brothers have been selling for \$20,000, \$35,000, and \$53,200, respectively, this will be some interesting offering. Also a son and a daughter of a 31-lb. cow, with a 110-lb. milk record, and dam of a 24-lb. 3-year-old daughter.

Because We Believe
that this is the Greatest Sale of Officially Tested Holsteins ever held in Canada, and that Breeders generally will be interested, we have decided to hold sale at

The Union Stock Yards, Toronto, Thursday, March 28th
For Catalogues and all information Address
G. A. BRETHEN Box 40, Norwood, Ontario

BACKED BY RECORDS AND BREEDING FOR SALE
Two 3-year-old heifers, who have 5 sisters that gave over 100 lbs. milk each day in 1 day last spring, and averaged 30 lbs. butter in 7 days. Their dams are sisters to MAX ECHO SYLVIA and LULU KEYES. They are bred to KING SEGIS ALACRITA SPOFFORD.
Also a 2-year-old daughter of "KING" and 1 young bull fit for service. These are straight as lines, almost perfect individuals.
BEN R. LEAVENS, BLOOMFIELD, ONT.

Here's a keal Bull!
Elmapple Stock Farm is offering an 11 month old Holstein bull, sired by King Segis Alacrita SPOFFORD, a son of the \$50,000 bull. His dam is by Count Segis Walker Pieterie, who has 15 R.O.M. daughters, of milk per day, and whose butter records average over 30 lbs. in 7 days. Write, phone, or come and see him and his dam.
J. E. HUFF & SON
R.R. No. 1 - Bloomfield, Ont.

Make Your Sale a Success — Advertise it fully in
For Full Particulars Write
C. G. McKILICAN—Live Stock Representative
FARM AND DAIRY

Stoneycroft Stock Farm

ENTIRE DISPERSION SALE

OF

Pure Bred Ayshires, Grades and Clydesdale Horses

Our Ayrshire herd, in uniformity of type, breeding and production, will compare favorably with any similar lot ever before offered to the public. A special feature of the sale will be our herd sire, Hobsland Record Piece, 54821, a son of that undefeated champion and grand champion, Hobsland Perfect Piece, 10665, while his paternal grandsire is the Ness champion, Hobsland Masterpiece, 6795, whose get have always won first prize wherever exhibited. His dam is Hobsland Mary 3rd, the only living cow by the world renowned sir, White Cockade of Nether Craig, 2852. She has an A. L. Scottish Record of 9290 lbs. milk at 3.74 per cent. in 320 days, and she made this record at 15 years of age. As an individual he upholds that perfection and symmetry of form possessed by his paternal ancestors.

Herd sold subject to Tubercular Test.

The Place is

Ste. Anne de Bellevue, Que.

MARCH 26, 1918 at 12 o'clock

Terms of Sale:—25 per cent. cash. Balance 4 months' credit on furnishing approved joint notes.

Write for Catalogue.

H. M. MORGAN, Proprietor.

L. C. McOuat, Manager.

OFFERING No. 2 SUNNYDALE FARM

Bull 3/4 white. Born Feb. 25, 1918. Sire—PIETJE PAUL, a 29 lb. bull with 4.7% fat. No daughters old enough to milk. Dam—FRANCY ORMSBY BEETS, butter 16.14 lbs.; milk 445 lbs. 7 days, 65.5 lbs. in 1 day as junior 2-year-old, sired by a son of FRANCY 3rd, 29 lbs. Her dam is a 24 lb. 4-year-old, 62 1/2% sister to MAY ECHO SYLVIA, butter 41 lbs., milk 1,005 lbs. in 7 days.

DONT DELAY. WRITE US TO-DAY.

A. D. FOSTER & SONS, BLOOMFIELD, ONT.

45 HEAD DISPERSION SALE OF HOLSTEINS 45 HEAD

at Fairmont Farm NEWTONVILLE STA. 10 Miles West of Port Hope. G. T. R. AND C. P. R.

On Wed. MARCH 20, at 1 P.M.

Included in the sale will be our herd sire KING SEBASTIAN ALZARTEA HENGERVELD, son of King Sebas Alzartra Spford, owned jointly by Purteile & Leevens, and W. L. Shaw. Former herd sire was INKA SYLVIA PLUS, by same sire as MAY ECHO SYLVIA, and whose dam is a 24.80-lb. 4-year-old, daughter of DeKol Plus, 1913 Canadian champion. This sire has 11 daughters to be sold. Sale will include 21 registered females, 4 of which will freshen shortly, plus and Evergreen Fannies. Also 12 high-grade Holstein cows of 20 years' selection, just fresh, or due to freshen. Three 2-year-old springers of excellent breeding, five calves; horses and farm machinery will also be sold.

For Further Particulars Write

F. R. MALLORY, Sale Manager.

W. A. MEADOWS, R.R. No. 3 Newcastle, Ont.

J. W. WILSON, Auctioneer.

Advice From the Food Controller

Office of the Food Controller, Ottawa, February 8, 1918.
Dear Sir:—I would respectfully suggest that in your advertising to maple sugar and syrup producers you emphasize the opportunity for Canadian maple products, and call attention to the clean and best sugar shortage. You have authority for using any influence with the approval of this office for the campaign for increased maple sugar production, so our advice to each maple grove owner is—

Tap More Trees—Tap Every Tree You Can

Maple sugar is more than ever a food, a national necessity. Make preparations now to save this valuable crop, and double or triple the production. Every pound of sugar, every gallon of syrup helps food conservation.

With a GRIMM CHAMPION CUTTIP you can make more syrup with less help, and in less time, and at less cost, than any other way.



The Champion

Put your maple bush in working order, and get in touch with us on the question of outfit.

The Grimm Manufacturing Co., Limited
60 Wellington Street, Montreal.

SPRING VALLEY STOCK FARM

"Blood will Tell" "Like begets Like"

BUTTER GIRL PLUS ARTIS—Female—4 weeks old—A BEAUTY

SIRE—Jonah Hengerfeld, a grand (grandson) of King Berk, whose dam, DeKol Plus, produced nearly 32,000 lbs. milk in one year, and whose sire, Sir Waldorf Burke, sired Victoria Burke, 30.50 lbs. butter in 7 days.

DAM—Corale DeKol's Butter Girl, whose dam has a record of 28.55 lbs. butter in 7 days, 4.6 per cent. fat, and whose sire is a grand son of DeKol Plus, 38 lbs. milk in one day.

This calf is a thorough combination of individuality and breeding, over two-thirds white and showing very strong constitution. She traces twice to King Sebas Alzartra Plus, and also ten daughters of Sir Lyon Sebas, ten daughters of King Sebas Alzartra Plus, and also ten daughters of Sir Lyon Sebas Alzartra Plus. The offering will also include two one-hundred-lb. cows, one thirty-lb. cow, record made twice; one 28.68-lb. cow, one 28.80-lb. cow, eleven others above twenty lbs. and five junior two-year-olds, averaging over twenty lbs.

Reason for selling, scarcity of help; 235 acres of the 400-acre farm will also be offered for sale.
TERMS—Six months' credit without interest or 3 per cent. off for cash.

R. R. VALENTINE

Odessa, Ont.

BIG AUCTION SALE

80 Head Registered Holsteins 80 Head

AT THE

Allison Stock Farm, Chesterville, Ont.

MARCH 21st, 1918

The offering will consist of thirty mature cows, seventeen two-year-old heifers, eighteen yearling heifers, nine bulls. Forty head of the females have been bred to Riverdale Lyons Pouch, whose dam, Lawrence's May Echoing there will be thirty-five daughters of Sir Lyon Sebas, ten daughters of King Sebas Alzartra Plus, and also ten daughters of Sir Lyon Sebas Alzartra Plus. The offering will also include two one-hundred-lb. cows, one thirty-lb. cow, record made twice; one 28.68-lb. cow, one 28.80-lb. cow, eleven others above twenty lbs. and five junior two-year-olds, averaging over twenty lbs.

Reason for selling, scarcity of help; 235 acres of the 400-acre farm will also be offered for sale.

TERMS—Six months' credit without interest or 3 per cent. off for cash.

W. P. ALLISON, Allison Stock Farm, CHESTERVILLE, ONT.

CHOICE BULLS READY FOR SERVICE

No. 1.—By a son of MAY ECHO SYLVIA. His two nearest dams (both Canadian champions), average 35.82 lbs. butter in seven days. Price \$1,000.
No. 2.—By a son of MAY ECHO SYLVIA. His two nearest dams (one a four-year-old), average 34.17 lbs. butter in seven days. Price \$600.
Some extra choice young bull calves from \$200 to \$1,000. We have sold thirty-five bulls this winter.

HIGHLAND LAKE FARMS

R. W. E. Burnaby Farm at Step 55 Yonge Street Radial Jefferson, Ont.

ALLUVIALDALE STOCK FARM

Offers For Sale

Young Holstein Bulls and Cows, grandsons of KING BEGIS. Sire's 7 nearest dams average 30 lbs. From a full dam, some ready for service, good individuals, half to seven-eighths white. Send for photo, pedigree and prices.
THOS. L. LESLIE, Nerval Station P. O., HALTON CO., ONT.

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

Patrol L. A.

F. L.

Legs, clef, jectonal, butter quality of the patre, succeeds liver a b can hope the pressure can bring by pasten will not im but if the ranchd the old rancid we should able in the to improve overlook the improvement by scouring



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"Use half ax"

Axles are causing fric flakes fill the grease keep Mica Grease wheels and sure relief strain on h

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"Langhorns"

replaces the n dry out of the new life in o penetrates the it soft and pli comes the wor harness—water

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EMPERIAL O

BRANCHES IN ALL CITIES



MICA AXLE GREASE

The Makers' Corner

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

Patron Responsible for Flavor
L. A. Zubeit, of the E.O.D.A. Convention.

FLAVOR which is the predominant quality of butter should be clean, mild and free of any objectionable odor. The quality of the cream as received from the patron. Unless the maker can succeed in getting his patrons to deliver a better and sweeter cream we can hope for but little improvement in the present quality of our butter. We can bring about certain improvements by pasteurization, but pasteurization will not overcome all the defects. It will improve the keeping qualities, but if the cream is old, sour and rancid the butter will have the same old rancid flavor as the cream. We should employ every means available in the manufacture of the butter to improve its quality we must not overlook the fact that the greatest improvement can be brought about by securing a better cream supply.

So long as the present method prevails of paying the same price for all creams, irrespective of quality, we can never hope to produce in Ontario a really high grade butter, even with the most up-to-date methods of manufacture.

In order to overcome the disadvantage of keeping old, over ripe cream another twelve hours or more, thus further injuring the quality, some of our better equipped creameries have resorted to pasteurization, cooling and churning immediately. I believe Saskatchewan has adopted this method in nearly all of their creameries with satisfactory results. If a sufficiently low temperature cream is taken in cooling the cream to churning no excessive loss in the buttermilk will occur and undoubtedly the prevention of the deterioration which would take place in twelve hours in a cream already too old is a very desirable consideration.

Paraffin Storage Cheese

Prof. H. H. Dean, O. A. C. Guelph.

In order to save shrinkage on cheese which are held either in cold storage or in ordinary curing rooms, it is becoming customary to dip the cheese in hot paraffin wax when made from three to ten days. This prevents loss by evaporation, and possibly also cheese which result in loss of weight during the curing, or more properly, the ripening of cheese. The following table shows the per cent. shrinkage on cheese weighing about 40 lbs., held in cold storage at a temperature of about 35 deg. F., and in a curing-room which ranged from 60 deg. to 75 deg. F. during the months of June, July, August and September, when the tests were made:

Per cent shrinkage in Storage	Cheese Paraffined & held in Cold-Curing Room		Cheese Not Paraffined & held in Cold-Curing Room	
	P.C.	P.C.	P.C.	P.C.
One week	27	24	1.18	1.54
Two weeks	27	1.40	1.37	2.13
One month	27	1.47	2.02	2.94

The shrinkage on a cheese weighing 71½ lbs., which was paraffined and held in cold storage, amounted to one half of one per cent for one month, and a little over three-quarters of one per cent for two months. Similar cheese held in the ripening room held in weight 1.7 per cent. in one month, and but two per cent. in two months. Where cheese are held for any length of time, it will pay to coat them with paraffin. With a suitable dipping tank, the work is done very quickly and at small cost, though paraffine wax advanced to fifteen cents per pound in 1917, which is double the price a few years ago.

A story was given wide publicity recently to the effect that a young lad was compelled to drive a load of wood several miles in the market at Kitchener, that his fingers were frozen, and that he would be permanently injured. This report was carefully investigated on instructions from Mr. J. J. Kelo, Superintendent of the Government Branch dealing with children, and was found to be grossly exaggerated. The boy was not a ward of the Children's Aid Society, but was placed in this home by a relative. He was well treated, was comfortably clad, had a nice room in which to sleep, and any hardship to which he was exposed was due to the extremely cold weather. His fingers were frost-bitten, but not frozen as stated.

Farmers have been asked to go into bacon production almost entirely on patriotic grounds. Thousands have already acceded to the request. I believe they are the only class of people on earth who would do it.—Prof. Geo. E. Day.



HAULING BIGGER LOADS

without extra spanning is easily accomplished when you use

MICA AXLE GREASE

"Use half as much as any other"
Axles are rough and porous, causing friction. The mica flakes fill the pores and the grease keeps them there. Mica Grease prevents locked wheels and hot boxes, gives sure relief for unnecessary strain on horses and harness.

EUREKA HARNESS OIL

"Lengthens leather life"
replaces the natural oils that dry out of the leather and puts new life in old harness. It penetrates the leather leaving it soft and pliable, and overcomes the worst enemies of harness—water and dirt.

Sold in standard sized packages by five dealers everywhere.

IMPERIAL OIL LIMITED

BRANCHES IN ALL CITIES



41 Holsteins AUCTION SALE OF 47 HEAD Holsteins and Clydesdales Malton, Ont., March 19th, at 12 o'clock

This is an excellent opportunity for breeders on the lookout for some choice animals to procure them. Included in the sale are grand daughters of the females are in calf to my herd sire, Count Pontiac Artis Canada. Most also are 2 daughters of Sir Lyons Hengerveld Stag. One is Pauline Can. P. H. Alpha, who was first at Toronto in 1916 as a 12-lb. 2-year-old. There is also an extra well bred bull, son of King Segis Pontiac Pouch and Water Nix Clydesdales are also included in the sale. These are exceptionally fine animals, including 2 imported males. Recently I refused \$500 for one of these Clydes in the sale. Excellent D. H. facilities. Parties met at Malton and Weston G. T. H. on day of sale, and Kingston G. T. H. Write for catalogue to



C. SLAVIN R. R. 4 Malton, Ont.
J. K. McEWAN, Auctioneer Weston

LYNDENWOOD HOLSTEINS
PRESENT OFFERING—4 YOUNG BULLS 11-15 MONTHS. Excellent type and breeding, all from officially tested dams, also a few choice females, due to freshen in the spring, in calf to our stock bull.
W.J. BAILEY **JARVIS, ONT.**

EPWORTH FARM HERD
WE ARE OFFERING TWO BULL CALVES
No. 1—Dam 11,267 lbs. milk, 480 lbs. butter as a Junior 1-year-old. Second dam, 12,249 lbs. milk, 605 lbs. butter. Sires—A full brother to EPWORTH PARKER, 16,000 lbs. milk, 742 lbs. butter. Sire—A full brother to EPWORTH PARKER, 12,177.
No. 2—Dam 11,820 lbs. milk, 593 lbs. butter. 2nd dam an R.O.M. also cow. Sire—A son of LADY AAGIE TOPILLA OP RIVERSIDE, 36,48 lbs. butter, 606.7 lbs. milk 7 days. His 2 nearest dams average 26½ lbs. butter in 7 days.
WRITE FOR OUR BOOKLET "ABOUT EPWORTH FARM HOLSTEINS."
F. H. McCULLOUGH & SON **NAVAN, ONTARIO**

SUNNYBROOK FARM HOLSTEINS
We are offering at a most reasonable price 5 young bulls of serviceable age. These are from approved dams, testing from 18.27 to 29.34 in 7 days; also choice females, due to freshen in the spring. Write for particulars.
Jos. Kilgour **Eglinton P.O.** **North Toronto**

43 HEAD THE DUNROBIN FARMS 43 HEAD
DISPERSION SALE OF
Registered Holsteins
The property of Col. John A. Gunn
WILL BE HELD ON
Friday, April 5th, at the Union Stock Yards, Toronto
Inadequate railway service and scarcity of efficient help compel us to go out dairying. The herd is being sold in Toronto as train connections for Beaverton are not good for buyers from a distance. Some 20 of the herd bred to Echo Segis Champion, whose sire is a full brother of May Echo Sylvia.
For Catalogue (ready March 15th) Apply to
The Dunrobin Farm, Beaverton, Ont.

A 35 lb. BULL
COMET BLACK KNIGHT—Born November 15, 1916, a good individual, dark in color. Dam—MIDNIGHT COMET DEKOL, milk 7 days, 580 lbs.; butter, 84.98 lbs.; milk 14 days, 1117 lbs.; butter, 68.28 lbs. Sire's dam at 3 years old 25.81 lbs. butter, 559 lbs. milk. Good yearly records behind him. Price for quick sale, \$300.
Write, or better, Come and see him.
Jas. G. Currie & Son **Ingersoll, Ontario**

BOOKS
Make yourself more efficient. Improve your spare time by reading. Send for our descriptive catalogue of Farm Books. A postal will bring it to your address. Write.
Book Dept. FARM & DAIRY Peterboro

"WHY" & "HOW"

Get our up-to-date book on

"QUESTIONS AND ANSWERS" relating to modern automobile Design, Construction, Driving and Repair.

By Victor W. Page, M. E. 650 Pages (8 1/2 x 7 1/2). 200 Illustrations and 4 plates. Cloth binding. Price, \$1.40.

It is a self-educator on automobiling without an equal. It contains over 2,000 questions and answers completely covering everything relating to the modern automobile. This book will be sent to you prepaid on receipt of catalogue price.

Write for it at once to
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Rural Publishing Co., Ltd.
PETERBORO - ONTARIO

WANTED—Woman wishes out-door work, poultry yard or fruit farm preferred. Address Box 223, Farm and Dairy.

CHEESEMAKER wanted for Elma and Mornington Cheese & Butter Co. for 1918 duties to commence in April. Make quantity of factory 125 tons. Apply, stating experience and salary, to Geo. Hargreaves, President, R. R. No. 2, Lefrere, Ont.

Meeting Larger Markets

For years after the war, Europe will continue to require all the butter Canada can produce for export. With markets assured, farmers and dairymen demand a cream separator (1) that meets increasing demands without expense and delays of changing machines, in order to get larger capacity; (2) that will get the greatest possible amount of first quality cream. A machine that meets both requirements is the

Renfrew

Interchangeable Capacity—When your herd increases you can enlarge the capacity of your Renfrew by simply changing the bowl and attachments. The Renfrew has but one size of frame and driving mechanism—suitable for the highest capacity. If you have a 350 pound capacity machine and later want to enlarge it to 450, 650, 800 or 1000 pound capacity, all you have to do is to order a bowl of the larger size with attachments—not the whole machine.

A large production of rich cream—Maximum production of firmer, sweeter butter-fat from the milk is accomplished by the Renfrew's exclusive curved wing center-piece. The Renfrew skims down in the first three ounces in every ton of milk skimmed. If you have eight cows or more, this means a saving of butter-fat over the results from ordinary machines that will soon pay for the Renfrew.

The Renfrew's close skimming records are fully explained in our latest illustrated booklet, also results of tests by Government Dairy Schools.

The Renfrew Machinery Company, Limited

Head Office and Works: Renfrew, Ont.

Eastern Branch: Sussex, N.B.

Agencies Almost Everywhere in Canada.

U.S.A. Branch, Milwaukee, Wis.

OFFERING No. 2

Premier Pietertje Posch 33892

Born Jan. 24, 1918. Slightly more white than black, a very straight, showy calf with lots of size and guaranteed in every way to suit the purchaser.

DO NOT MISS THIS RARE CHANCE OF SOMETHING CHOICE. SIBB—GANSO SCHUILLING POSCH, a young sire of excellent breeding, his butter, and her dam, IDEAL DAIRY, with a record of 663 lbs. milk and 21.0 lbs. of butter. His sire, KING GANSO SCHUILLING, is a son of Netherland Schuiling with 22.3 lbs. butter from 543.3 lbs. milk. DAM—HIDEAU PIETERTJE DEKOL, with a 7-day record of 586 lbs. milk with 24.09 lbs. butter, a sister to POTILLIA OF RIVERSIDE, with an R.O.M. of 29.04 lbs. milk with 1.075 lbs. butter (CANADIAN CHAMPION BOP MATURE CLASS), and of Jemima Johanna Wayne with 22.32 lbs. butter. Her dam is a sister to Netherland Aagje Dekol with 21.66 lbs. milk in R.O.P.

GENERATIONS of 7-day and yearly records that are a credit to a bull, back this calf. His 2 nearest dams average 26.55 lbs. butter and 625 lbs. milk in 7 days, giving an average of 25.2 lbs. milk per day. His 6 near dams average 24.63 lbs. of butter.

WRITE—PHONE—WIRE—AT ONCE, ANOTHER BARGAIN.

Bell Phone, Brantford, No. 708.

W. G. BAILEY, Oak Park Stock Farm R. R. No. 4 PARIS, ONT.

Come to Stratford, March 13th

We are consigning to the Perth Sale a daughter of Pontiac Hermes, a 24.56 lb. cow; two cows with 2 yr. old records of 15 and 16 lbs. each. Three of these are heavy in calf to KING SIGIS ALCARTRA CALAMITY; two young daughters of KING, just bred to DUTCHLAND PONTIAC COLANTHA, Canada's greatest yearling bull; four out of his seven nearest dams and his grand sire's full sister (PONTIAC CLOTHILDE DEKOL 2nd) had average yearly records of 26.240 lbs. of milk and 1.140 lbs. of butter. DUTCH will sure go over the top.

ARBOGAST BROS. P. S. ARBOGAST, Sebringville, Ont. Mitchell, Ont.



"To increase the capacity I do not have to change the whole machine—just this bowl!"

MADE IN CANADA

Write for illustrated booklet to-day. It explains also the Renfrew's self-oiling system, its easy-to-run, easy-to-clean features, its low supply tank and high crank; its milk-tight and dust proof neck bearing and other important features.

Other Lines: Renfrew Kerosene Engine; Happy Farmer Tractors; Farmers' 3000 lb. Truck Scale.

NOTICE: The Renfrew Separator illustrated here was formerly sold under the name "Standard," which denotes a high efficiency cream separator. The name "Renfrew" has been used since the same machine for several years for our United States and foreign trade and under that name has become as popular in those markets as under the name "Standard" in Canada. Now the name "Renfrew" has been adopted for our company and so that we can sell the machine under a uniform name throughout the world.

THE GLENBOVIE DISPERSION.

TWO of the greatest events in the history of Jerseys in Canada will take place in Woodstock, on Monday, March 11th, when the most celebrated boy's Jerseys will be dispersed by public auction.

During the past few years this herd has been achieving a remarkable success in R.O.P. work, and the most eloquent argument of the proprietor and of Mr. Flood, the herdman, more High records have been made in a few years than in any other herd of its size in Canada.

The outstanding highest record is Beauty Maid, 4-year-old record 14,652 lbs. milk with 500.3 lbs. butter. The next record any age or breed for 1917, included in the sale will be her dam and her two sons both ready for service, and sired by the senior sire, Imperial Majesty. This sire is one of the best in Canada—an animal of great size and substance. He will also be included in the sale.

Another animal of great merit is Flood of Glenbovie, who has a 2-year-old record of 11,854 lbs. milk and 421 lbs. of butter. 3 of her daughters by Imperial Majesty, —Springbank Butter Girl 12,644 lbs. milk and 608 lbs. fat at 3 years, and her daughter by Imperial Majesty and Beauty Maid; Fontaine Belle of Donlonia 9,842 lbs. milk, 631 lbs. fat, record for 15 years or over; and Saddle Mile Posh, 9,774 lbs. milk, 544 lbs. butter at 2 years.

These are excellent records, and the animals holding them are excellent individuals. It is the wish of the highest breeders to secure some of the best milking cows of the breed or to secure a good sire.

WM. STOCKS' CONSIGNMENT AT STRATFORD

A CONSIGNMENT to the Perth District Breeders' Sale at Stratford on Wednesday, March 13th, of a great variety of interest to local breeders, will be made by William Stock, of Sovereign Stock Farm, Tavistock, Ont. This includes Lord Jones Hengerveld, a young bull of service age, who individually is as good as his breeding. His dam, Madoline Dolly DeKoi, has a record as a Junior 4-year-old of 25.64 lbs. butter and 554.3 lbs. milk in 7 days. His sire is one of the strongest bred sires in Canada.

Among the females in this consignment are Segis Hengerveld Pontiac with 15.88 lbs. butter as a 2-year-old. Sired by Segis Pontiac Duplicate, three-quarter son of K. E. J. Aiken, the \$50.00 bull, and has many other names of famous animals appearing on her pedigree. My House's Posch with a record of 12.97 lbs. butter, is due to freshen the 1st of March. Her sire is a son in calf to King Segis Alcartra Champion, whose dam and sire's dam averaged 34.2 lbs. butter. For catalogue go to the Secretary of the sale.

THE MALTON SALE.

ATTENTION is called to the sale of registered Holsteins, the property of Mr. C. Havin, to be held at Malton on March 20th. The animals for sale are many choice animals, daughters and/or daughters of such noted sires as Channahua Rose the 4th, Lancelotti, Hengerveld, Payne DeKoi and King Pontiac Artis Canada. The herd sire is Count Pontiac Echo, a son of K. E. J. Aiken, who has more R.O.M. daughters than any other bull in Canada to date. The dam of Count Pontiac Echo is Dolly Echo DeKoi, who has nearly a 26 lb. L.L.O. record. All the mature cows in this sale are in calf to Count Pontiac Echo. There is also included in the sale a choice young bull, sired by King Segis Pontiac Posch. The dam of this young bull is Manor P. H. who has two 20 lb. records, and a record of nearly 19 lbs. butter in 7 days. Breeders would be well advised to write for a catalogue.

SOME SPLENDID ANIMALS IN THE RIVERS OFFERING.

N WALBORN Rivers's consignment to the Oxford Breeders' Sale at Woodstock on March 20th, includes many excellent material, including Pioneer Duchon Hartog, 3922. On her dam's side she is sister to Duchon's 2-year-old sire, Canadian Champion 2-year-old R.O.P. with 15,714 lbs. milk, 546 lbs. butter in 7 days, and as a Junior 4-year-old she has 22.82 lbs. butter in 7 days. Another sister is Duchon's Wayne Canary, 35, 20 lbs. butter in 7 days. Her sire is Canary Hartog, whose 7-day record was over 30 lbs. butter in 7 days and 107 lbs. milk in 1 day. This granddam on the sire's side is the great cow, Dupontion DeKoi Violet, at 10 years old 29,963 lbs. milk, 1,260 lbs. butter in 7 days. Pioneer Duchon Hartog will freshen before the sale, and will be tested as a 2-year-old. Another animal is a sire of a good 3-year-old, due to calve about the middle of next month, is a young bull, sired by Canary Hartog, and whose dam is sister to Calamity Show Melchilde 2nd, who has completed a record of over 35 lbs. butter in 7 days, and over 1,000 lbs. butter in 365 days, as a 3-year-old.

ADVERTISE in these popular columns, which others find so profitable—costs you only 15¢ an inch.

Three-year-old
Five-year-old
Seven-year-old
Nine-year-old
In 1906 the record
of Jersey cows was
set by the National
Canadian Dairy
still patronizing
Chas. S. Jones
shows are already
crises in registration
Jersey
Report No. 1 of
of performance
and did not come
out of Jersey
in May, 1916,
of only three
before. Since it
published, Jersey
established themselves
now over 200
to 25 qualified J.
As stated above
Jersey records
three two-year-old
age number of pure
187. The average
of 48 Jersey cows
48 Jersey cows
of 24 lbs. and, and
of 24 lbs.
Report No. 3 has
two-year-old with
highest and average
15.8 lbs. respectively
did not show the Jersey
at the Appleton 25
Wants 27.5 lbs.

In report No. 4 the

CLOVER BAR OFFERS

At Perth Holstein Sale March 13, at Stratford

Lady Palatin R.O.M. at 3 yrs., 2158 lbs. butter; R.O.P. 10911 lbs. milk, 572.50 lbs. butter. Nancy Pieterje at 2 yrs., 7601 lbs. milk, 3314 lbs. butter. Also two heifers in calf, one due to freshen in May; out of heavy producing dams. Also a young sire fit for service whose three nearest dams average 2875 lbs. butter in 7 days and 93 lbs. milk one day. All females in calf to Francy 3rd Hartog 2nd, whose two nearest dams average 32 lbs. butter in 7 days, and 102 lbs. milk in one day. We stake our reputation on this offering. Have also a couple of young bulls fit for service. Write for catalog to

J. C. Park, Listowel, Ont.

Take a day off and come to the sale.

P. SMITH R. R. 3 STRATFORD, ONT.

LIENROC STOCK FARM

ON THE BOULEVARD OF THE BEAUTIFUL NIAGARA RIVER

We offer a fine young bull, by our Senior Sire and from a 29-lb. cow. ALSO A YOUNG BULL, by SIR VEEMAN HENGVERVELD, and from a 15-lb. 2-year-old, who is a grand-daughter of DIONA KONIGEN PIETERJE 37 lbs.

Write for prices and pedigrees. Address

W. C. HOUCK - R.R. 1, Chippawa, Ont.

BROOKSIDE HOLSTEINS

We offer for sale 2 grandsons of JOHANNA RUIE, who carries 27 1/2% of Field's great CORANTHA JOHANNA LAD. No. 1, 2 years old, a splendid individual, nicely marked; dam 1970 lbs. milk, 970 lbs. butter in 1 year, semi-official test. Price, for quick sale, \$150.

No. 2, 2 months old, a dandy calf every way. Out of a sister to dam of No. 1, having a record of over 10,000 lbs. milk in 6 cows, in R.O.P. test. Good enough to beat almost any herd. Price \$75.

Write for particulars; they won't keep at these prices.

W. L. LAMBRIN, R. R. No. 2, GORRIE, ONT.

HOLSTEINS

We have the only two sons in Canada, of the 46-lb. bull Ormsby Jane King—only mature son of the world's most famous cow. One of them is also a 30-lb. bull whose dam averages 44 lbs. butter in 14 days. Also 11 bull calves of lesser note, and females of all age.

R. M. HOLTBY, R. R. No. 4, PORT PERRY, ONT.

LYNDALE OFFERINGS

No. 1—A son of CHAMPION ECHO SYLVIA PONTIAC, 12 months old—a show bull—dam a 15-lb. junior 2-year-old daughter of KING PONTIAC ARTIS CANADA.

No. 2—A 12 months old son of MAY SYLVIA PONTIAC COENNOOPIA (a brother to Champion Echo Sylvia Pontiac). Dam—PERTIS INKA PIETERJE—butter 7 days, 4-year-old, 3077 lbs.; 29 days, 124.34 lbs.; milk 1 day, 109 lbs. in 23 days, 106 lbs. Also 2 grandsons of KING PONTIAC ARTIS CANADA, ready for service, one from a 19.25-lb. 2-year-old.

BROWN BROTHERS, LYN, ONTARIO

SPRUCE GROVE HOLSTEINS

4 HEIFERS FOR SALE, 6, 7, 13 and 19 months, respectively, by our herd sire MAY ECHO CHAMPION, full brother to MAY ECHO SYLVIA, World's record cow for milk, 41 lbs. butter in 7 days; two daughters of 31.1.

FARM NEAR STOP 35, YONGE STREET RADIAL, GEORGE COOPER, WILLOWDALE, ONTARIO

LANINGDALE STOCK FARM

HOLSTEINS Offers for Sale HOLSTEINS
Bull fit for service, out of a 32-lb. cow, who has 4 R.O.M. daughters, 28.50 lbs., etc., and sired by a 29.42-lb. cow, who has 23 R.O.M. sisters. Price \$125. A few good R.O.M. cows, bred to our 31.18-lb. bull. Write or come—long distance, please.

ROBERT C. LANING, VILLA NOVA, ONTARIO

LAKEVIEW STOCK FARM

offers for sale several daughters, granddaughters and grandsons from the following cows—LAKEVIEW HATTLER, 37.54 lbs. butter 7 days, and the present Canadian Champion 30-day butter cow, 8 months after calving; LAKEVIEW DUTCHLAND ARTIS, the 34.66 lb. Canadian Champion 30-day butter cow, 18 1/2 months after calving; QUEEN INKA, 37.73 lbs. milk in 27 days, 37.73 lbs. butter after calving; QUEEN INKA, 37.73 lbs. milk in 27 days, 37.73 lbs. butter after calving; QUEEN INKA, 37.73 lbs. milk in 27 days, 37.73 lbs. butter after calving; QUEEN INKA, 37.73 lbs. milk in 27 days, 37.73 lbs. butter after calving. And her granddaughter, LAKEVIEW QUEEN HILL, 18 1/2 lb. 2-year-old, and Canadian Champion 30-day butter cow, 8 months after calving, 15.91 lbs., who is now on test as a 2-year-old, and running over 80 lbs. milk a day. This is the first time in the history of Canada that such high producing Holsteins have been offered for sale.

DON'T WANT TO WRITE, but take the first train for Brants, Ont. Terms, cash or time.

Major E. F. Ouler, Prop. BRONTE, Ont. T. A. Dawson, Mgr

HANMER'S SALE AT NORWICH.

Sale of H. C. Hanmer on March 15 Has Much to Commend to the Notice of Breeders.

THIS young herd sire is one of remarkable quality. Not only is he a 30-lb. bull, but he carries with it the individuality that is excelled by few. He has his whole life in his legs, as he is only 15 months old. He is being used on quite a number of high R.O.M. cows, as well as some extra quality young females that will make good records in the future. On the sire's side of the dam, he comes from show stock. Both his dam and her sire and dam have been winners at Toronto, Ottawa and London. His dam has 20.20 lbs. butter at 2 years and 13 days, and was winner in her class at Ottawa Winter Fair, after completing his record. Her sire is the grand sire now, Pauline Colantha Poch, 34.32 lbs. butter in 7 days, at 10 years old. She won first prize at Toronto on three occasions. Her sire is that noted bull Prince Abbeher Mercena, who won so many medals and championships at Toronto, Ottawa and London. He has 23 tested daughters and sold for \$170 at public auction at 3 years of age.

The sire's side of this young bull's pedigree is equally good. His sire's two nearest dams average 25.52 lbs. butter in 7 days. The sire's dam is a 29-lb. 2-year-old daughter of Prince Abbeher Mercena, and was second prize cow at Toronto, 1916. She is now owned by Stecker, of Detroit, Mich. Her dam is also a 29-lb. cow, her record in a stable such as the one she is now in. The sire's sire is a son of the world-famous sire Ticho Bythe. Enough said. Where can you find the equal of this here sire's own price?

The cows in this herd combine show qualities with high production. Angie Fox French, whose sire appears in our ad, elsewhere in this issue, is a sample of the cows. She finished on Dec. 1st and is running as a 4-year-old in the R.O.P., and during December and January she has produced 107.2 lbs. of highest testing milk. She gave 91 lbs. her best day. Her first calf, a 2-year-old, is Angie Cornucopia Poch, made 17.47 lbs. butter in 7 days, 31.02 lbs. butter in 14 days, 44.17 lbs. butter in 21 days, and an average test of 27.2 per cent. fat, as a 2-year-old. She finished on December 19th, and in the first 61 days she produced 202.4 lbs. milk and still going over 40 lbs. a day in the 64.7. Her bull, sired by a 25.44-lb. bull is included in the sale. Another yearling daughter of Angie Fox French is also in the sale. She is a very typey heifer, showing great early development and is sired by a 26-lb. bull. Her last calf is a bull and is a fine individual. He is also sired by the sire of the herd bull.

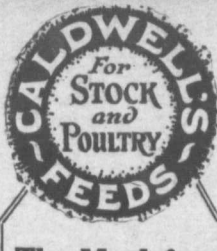
Another very typey cow is Lady Abbeher May Pouch, who was the dam of Angie Fox French. Some others are Rolo Mercena, 26-lb. cow, a very fine 2-year-old that made 23.10 lbs. butter from 491 lbs. milk in 7 days at 4 years and 2 months. She produced two calves within 11 months without being dry. In R.O.P. for her first 20 days she produced 31.02 lbs. milk, and made her best day's milk on the 77th day by producing 75.7 lbs. She has two daughters, one of which sired a 26-lb. bull, and her heifer calf sired by Hattie 25-lb. cow. The next cow is a 26-lb. cow at Guelph, 1917, that made a record of 26 lbs. butter and 5.56 lbs. milk after the cow home here. She is not a large cow, but has excellent type. She has 1 grand daughter and her 1 calf in the sale. This cow has several daughters scattered in some good herds that will in all probability be heard from when they come to maturity. She has never been dry since she freshened as a 2-year-old, until before this last freshening. She is also running strong in the R.O.P., with 42.9 lbs. milk in 27 days.

There are four sisters of this cow in the herd and nearest to her are the direct descendants of her dam. Another 2-year-old with 33.52 lbs. butter and 54.3 lbs. milk in 7 days, butter 44.17 lbs. in 14 days, milk 14.91 lbs. in 14 days at 2 years old. She has two daughters, one of which is sired by a 26-lb. bull, and the other 18 months old, sired by King Sire's Alcira Canada. The 25-lb. cow is the 20-lb. bull. Her dam and sister sired by 33.05-lb. bull.

There are three daughters of a cow—two of which have records of 22 lbs. and 12.40 lbs. butter at 1 year, with their first calves. Also two daughters of the show heifer. There is also a grand daughter of Royalton Kordville King, from one of the best cows ever owned in the herd. Every cow freshens on November 1st is entered in the R.O.P.

65 JERSEYS AVERAGE 317.

SIXTY-FIVE head of Jerseys were sold by auction at a dispersal sale held at the home of Mr. J. C. Green at Guelph. While the animals were pure bred they were not registered, and production records had not been kept. They were, however, in fine condition, and all gave the appearance of being young animals. Average price obtained for the 65 head, running all the way from mature cows to 2-year-olds, was \$116.00. The best cow about a week old sold at \$20 to \$30, and yearling heifers ran from \$10 to \$15. Thirty mature cows averaged \$125.50. Mr. W. P. Hurkman, Ottawa, bought four head at prices ranging from \$116 to \$200, and Mr. Arthur Simpson, Aitwood, took 12 cows and yearlings at a total of \$187. Eight cows sold at \$70 to \$80 each, and six heires realized \$70.

**The Meal for Making Yeast**

Caldwell's Calf Meal has been making choice yeast on thousands of Canadian farms every year. This year it is in greater demand than ever, because it takes the place of whole milk in a very satisfactory manner, and the fat that would otherwise be lost is turned into butter and cheese for human food.

Your calves will gain just as rapidly on Caldwell's Calf Meal and Separator milk or water, as on new milk, and the cost will be considerably less.



Sold in 100, 50 and 25 lb. Sacks.

At Most Feed Stores

THE CALDWELL FEED AND CEREAL CO., Ltd.

Dundas, Ont.

Makers also of Dairy Meal, Molasses Horse Feed, Hog Feed and Poultry Feeds of all kinds.

FOR SALE

Two fine young bulls, 7 and 15 months old, respectively, sired by KING SIRE'S ALCIIRA CANADA. One is out of a dam with a semi-official yearly record of over 80 lbs. butter the other one out of a good R.O.M. dam.

MICHAEL A. ARBOGAST
Finesview Stock Farm, R. R. No. 3 Stratford, Ontario.

For MILK, BUTTER, CHEESE, YEAL

holders cows stand supreme. If you try just one annual you will very soon want more. Write the HOLSTEIN FRIESIAN ASSOCIATION, St. George, Ontario.

WANTED

All kinds of RAW FURS, Highest Prices Paid.

E. SWICK
R. R. 2
Canfield, Ontario
Three No. 1 Skunk

MARCH 12 AND 13 AT AYLMER, ONT.

There are two sales in Western Ontario on March 12th and 13th, which lovers of good Holsteins, and those wishing to purchase stock, should not fail to attend. Both these herds are the result of careful breeding and selection by practical men, who have never failed to keep well to the front the utility side of their herds. Their females have been selected for their ability to produce, an "only" best sire have been used.

In the Van Patter sale on March 12th, 60 head will be included, 50 of which are females, practically all with R.O.M. and R.O.P. records or backing. The sire behind this herd are such ones as Dutchland Colantha Sir Abbeckerk, Woodland Sarcastic Lad, and Earcastic Mercedes Lad. The sire animals will be sired by Maple-Crest DeKol Champion, the only son of the only cow known to have two daughters with butter records of over 1,322 lbs. in one year, and by Count Midnight Mercedes, who has 20 of his nearest dams averaging over 25 lbs.

The Laidlaw sale offers equal opportunities for the choicest of breeding. This latter herd is acknowledged as one of the finest in Western Ontario, and scores of herds over the Dominion can trace their foundation to animals secured from Laidlaw Hope. The females in the herd will be bred to Finnerne King May Payne and to Maplecrest DeKol Champion. Don't miss the opportunity of attending these sales if you are in the market to buy some of the best Holstein breeding that will come before the public this year. Catalogues and full information can be secured by looking up their advertisements elsewhere in Farm and Dairy.

FINE VFW FARM NOTES.

MICHAEL A. ARROGAST of Stratford, Ont., is offering two particularly good young bulls. Note advertiser elsewhere in this issue. The first is out of a dam that produced 2,027 lbs. milk and 996 lbs. butter in one year. She has a three-year-old daughter, with 4,000 lbs. milk to her credit in her first 60 days. The dam of the other young fellow is also entered in R.O.P. as a milk to her credit in her first 60 days. Her dam has a junior three-year-old R.O.P. record of 12,000 lbs. milk and 625 lbs. butter, testing 3.38 per cent. fat.

OURVILLA HOLSTEINS

Owing to Labour Shortage We must sell our Entire Milking Herd

30 MATURE FEMALES 30

None Over 6 Years and Absolutely Sound ALL MILKING OR HEAVY IN CALF Also Four Young Bulls



AYLMER, ONT., March 13, 1918, at 1 p.m.

This sale is on the day following Van Patter's Sale at Aylmer, and is an excellent opportunity for breeders to attend both sales.

All but 6 animals in this sale are either daughters or grand-daughters of that noted sire, DUTCHLAND COLANTHA SIR ABBEKERK, with 31 R.O.M. daughters and 16 R.O.M. sons. Twenty daughters average 21.36 lbs. butter in 7 days, nearly all with 1st and 2nd calves. These will nearly all be bred to FINNERNE KING MAY PAYNE, (whose dam and 5 of his sisters at an average age of under 3 years, averaged 36.02 lbs. butter in 7 days; 3 of these hold world's records), and MAPLECREST DEKOL CHAMPION, whose dam is the only cow in the world with two daughters with over 1,300 lbs. butter each in 1 year, viz. BANOSTINE BELLE DE KOL, a full sister with 1,322 lbs. (World's Record when made), and Maplecrest Application, 1,344 lbs. All but one animal in the sale bred on the farm.

Rigs will leave the Brown House, Aylmer, on the day of sale.

TERMS: Cash or 6 months' credit at 7 per cent. on good security. Write for Catalogues. T. MERRITT MOORE, Auctioneer, Elgin County. LAIDLAW BROS. Aylmer, Ont.

60 Head

Great Dispersion Sale of HOLSTEINS

60 Head

at WOODLAND FARMS AYLMER, ONT. ON

Tuesday, March 12 at 1 P.M.

R. R. connections, G. T. R. and M. C. R., Aylmer. Arrangements have been made for the transportation of those arriving by train from the Brown House, Aylmer, to the farm.

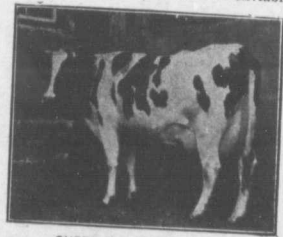
Our herd at Woodland Farm has been built up through 17 years of careful selection and breeding, and regular testing. Every animal has been forced to stand on its merit in producing ability. The mature cows are all big framed, typey, strong constitutioned animals. The young animals are growthy and thrifty. Practically everything over two years has been tested, and their creditable records can be looked up in the catalogue. It is these records, with their splendid blood lines that has made this herd its enviable reputation for choice foundation females.

NETHERLAND AAGGIE DEKOL (5439). R. O. P. milk 21,668 lbs. butter 881 lbs. Three R. O. C. daughters of foundation cow, NETHERLAND AAGGIE.

In our sale are about 50 females practically all with fine R.O.M. and R.O.P. records. They are sired by such great bulls as Dutchland Colantha Sir Abbeckerk (9140), Woodland Sarcastic Lad (4890), and Sarcastic Mercedes Lad (8411). The younger stuff is two daughters with butter records greater than 1322 lbs., and Count Midnight Mercedes Woodland Sarcastic Lad. A large number of the herd have been tuberculin tested and are non-reactors. All the stock advertised will be sold without reserve. If look Aylmer is on the M. C. R. and G. T. R. lines.

For Catalogues Write

J. M. VANPATTER & SON DUNBOYNE, P.O. - - - - - ONTARIO



QUEEN MERCEDES MELBA. Butter 7 days at 3 years... 22.51 Milk 7 days at 3 years... 493.1 Butter 30 days at 3 years... 33.18 Milk 30 days at 3 years... 2,053.8 A grand-daughter of AAGGIE MERCEDES, 29.19 lbs. butter 7 days.

"AVONDALE FARM" BULLS

Young bulls bred by WOODCREST SIR CLYDE, whose dam has 33.06 lbs. butter, and over 24,000 lbs. milk in a year. He is by the same sire as our bull, Prince Hengerveld Pictie, with seven daughters having over 30 lbs.

1. One 10-month-old from a 23-lb. cow, the dam of our well-known Lady Waldorf Pictie.
2. From a 24 1/2-lb. two-year-old, daughter of a twice 33-lb. cow.
3. From a 18 1/2-lb. junior two-year-old.

These are fine to be sold at a bargain. We have several young sons by our sire son of MAY ECHO SYLVIA, one of these is 19 months old.

We are offering by private sale a few rood yearlings, and two-year-old females by Woodcrest Sir Clyde.

H. LYNN, Avondale Farm, Brockville, Ont.

BRINGING IN THE CASH

One way to do this is to increase your output by better methods of production—another is to conserve the feeding stuffs you now produce, making them go farther by carefully balancing the feeds. Study out this problem this winter. The one best book of which we know on this subject is "DAIRY FARMING," by Eckles & Warren. You can secure it from our Book Department. The price is but \$1.50, neatly bound in linen.

Book Dept. FARM and DAIRY Peterboro

Our Consignment

The Oxford District Breeder's Sale to be held in WOODSTOCK on MARCH 20th

includes FRONTIER DUCHESSE HARTON, 1972B. On her dam's side she is sister to Duchess Wynne Colony 2nd, Canadian Champion 2-year-old in R.O.P. with 16,714 lbs. milk, 846 lbs. butter in 965 days, and as junior 4-year-old 29.28 lbs. butter in 7 days. This handsome heifer will freshen before the sale, and will be tested as a 2-year-old.

We are also consigning a good 3-year-old, due to calve about the date of sale. Also a good young bull, bred by CANARY HEAVEN, see notes on this consignment elsewhere in this issue.

WALBURN RIVERS, R.R. No. 5 INGERSOL, ONT.

PERTH BREEDERS' CONSIGNMENT SALE

OF

50 HOLSTEINS 50

in the City of Stratford, Ont.,

Wednesday, 13th March, 1918

42 FEMALES

8 BULLS

Record of Merit and Record of Performance Cows. Many of them are due to freshen about the time of sale.

They are bred to some of the best bulls in Canada.

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President,
Srebringville, Ont.

MARKET REVIEW AND FORECAST

Toronto, March 4.—The reports of the grain market from week to week have continued in the same vein for many months past, showing a gradual increase in the price of all grains on which the grain has not been fixed. On Monday the grain exchange report an advance in oats, the rest in barley, then flax and so on, until the dealer who has to buy his commodities is at a loss to know where to turn for the grain he has to improve in the transportation of grain to the markets, and Ontario millers are sure that they will have to pay less for the supplies they can obtain. The producer naturally has a feeling of more interest with the milder weather and the advancing season. Supplies of eggs are likely to increase, and that poultrymen who would take advantage of the high prices, should be careful to keep their stocks cleared out regularly. Reports are coming in of a couple of butter factories in Eastern Canada that have started up in a small way, and a little fresh butter will be coming on the market from now on.

Wheat.

It is officially announced that the United States Government has guaranteed certain prices for the 1918 season, varying with the different points at which wheat may be sold. The prices for No. 1 Northern hard are \$1.12, No. 2 Northern hard being paid for wheat in New York. The Chicago price has been set at \$2.35. These prices are on the basis of No. 1 Northern spring wheat, or its equivalent, and hold good until June 1, 1919.

There is little movement of wheat in Canada at present, on account of the tie-up of transportation facilities, brought about by the recent ice season. Trade throughout Ontario are particularly bad, and very little grain is moving to the cars. Quotations—Manitoba wheat—in store, Port William, nominal (wholesale) 1/4c; No. 1 northern, \$2.23; No. 2 northern, \$2.20; No. 3 northern, \$2.17; No. 4 wheat, \$2.04; Ontario Wheat, New crop, No. 2, \$2.22, basis in store, Montreal.

Coarse Grains.

The price of oats has gone steadily upward, and No. 1 feed is being quoted on the Montreal market as high as \$1.12. Barley has advanced a couple of cents, and buckwheat five cents during the week. The advance in the price of these grains in which the coarse grain market refuses to move, and that is shown. Quotations—Ontario Oats No. 1, 90c; No. 2, 85c; No. 3, 80c; No. 4, 75c; No. 5, 70c; No. 6, 65c; No. 7, 60c; No. 8, 55c; No. 9, 50c; No. 10, 45c; No. 11, 40c; No. 12, 35c; No. 13, 30c; No. 14, 25c; No. 15, 20c; No. 16, 15c; No. 17, 10c; No. 18, 5c; No. 19, 0c; No. 20, 0c; No. 21, 0c; No. 22, 0c; No. 23, 0c; No. 24, 0c; No. 25, 0c; No. 26, 0c; No. 27, 0c; No. 28, 0c; No. 29, 0c; No. 30, 0c; No. 31, 0c; No. 32, 0c; No. 33, 0c; No. 34, 0c; No. 35, 0c; No. 36, 0c; No. 37, 0c; No. 38, 0c; No. 39, 0c; No. 40, 0c; No. 41, 0c; No. 42, 0c; No. 43, 0c; No. 44, 0c; No. 45, 0c; No. 46, 0c; No. 47, 0c; No. 48, 0c; No. 49, 0c; No. 50, 0c.

Milk Feeds.

The scarcity of wheat for milling reflects itself in the difficulty of securing mill feeds. During the week the prices of pure grain molasses on the Montreal market moved an advance of \$2 to \$3 a ton, due to the increased demand for this feed, and to the higher prices of raw sugar. Toronto quote car lots delivered Montreal freight, Java included, beans, \$35; shorts, \$40; white middlings, \$45 to \$48; good feed flour per bush, \$1.20. Montreal quotations: bran, \$3; shorts, \$4; middlings, \$4.50 to \$5.00; molasses, \$50 to \$75.

Hay and Straw.

The hay market has advanced about \$1 on both the Toronto and Montreal markets. Baled hay is quoted on track, Toronto, No. 1, \$17.50; No. 2, \$16.50; No. 3, \$15.50; No. 4, \$14.50; No. 5, \$13.50; No. 6, \$12.50; No. 7, \$11.50; No. 8, \$10.50; No. 9, \$9.50; No. 10, \$8.50; No. 11, \$7.50; No. 12, \$6.50; No. 13, \$5.50; No. 14, \$4.50; No. 15, \$3.50; No. 16, \$2.50; No. 17, \$1.50; No. 18, \$0.50; No. 19, \$0.50; No. 20, \$0.50; No. 21, \$0.50; No. 22, \$0.50; No. 23, \$0.50; No. 24, \$0.50; No. 25, \$0.50; No. 26, \$0.50; No. 27, \$0.50; No. 28, \$0.50; No. 29, \$0.50; No. 30, \$0.50; No. 31, \$0.50; No. 32, \$0.50; No. 33, \$0.50; No. 34, \$0.50; No. 35, \$0.50; No. 36, \$0.50; No. 37, \$0.50; No. 38, \$0.50; No. 39, \$0.50; No. 40, \$0.50; No. 41, \$0.50; No. 42, \$0.50; No. 43, \$0.50; No. 44, \$0.50; No. 45, \$0.50; No. 46, \$0.50; No. 47, \$0.50; No. 48, \$0.50; No. 49, \$0.50; No. 50, \$0.50.

Potatoes and Beans.

With the milder weather, more liberal shipments of potatoes are arriving at cities, and prices are consequently easier. Toronto has not received any New Brunswick potatoes for sale this week, but Ontario are quoted at \$2.25 a bush. Beans—Canadian prime, bushel, \$7.50 to \$8; foreign baled, \$6.75 to \$7.

Seeds

Dealers are quoting the following prices for seeds, f.o.b. country prices: Alsike, No. 1, f.o.b. 100 lbs. \$15.00 to \$16.00; do No. 1 ordinary, 11.75 to 12.25; do No. 2, per bushel, 12.50 to 13.00; do No. 3, per bushel, 4.80 to 5.00; Red clover, No. 2, bush, 15.00 to 20.00; do No. 3, per bushel, 14.00 to 17.00; Timothy, No. 1, per cwt. 18.00 to 18.50; do No. 2, per cwt. 17.00 to 18.00; do No. 4, per cwt. 3.75 to 4.00; Flax, bushel, 0.60 to 0.65.

Eggs and Poultry.

The egg market is slightly weaker, on account of more favorable weather conditions. While the market will likely be nervous for some time, with a downward tendency, it is not likely that any decided slump will occur even with the increased supplies. The effect of easier prices would be a greater demand.

The high prices which have been prevailing have caused an opening up in buying having been the result of the assumption. This increased demand would, therefore, straighten out the market. Fair prices may be expected for some time. Shippers would do well, however, to keep their supplies pretty well covered. Toronto is quieting, at country points, cases returnably, 45c to 50c; two cases, less than last week. Eggs are selling uniformly in Toronto, selected new laid, 52c to 55c; No. 1, 50c; No. 2, 48c; No. 3, 46c; No. 4, 44c; No. 5, 42c.

The poultry market continues to gain strength, and very light receipts are reported of both fresh killed and live birds. The greater are the receipts, the more they hold at this season other years.

Toronto quotations—Live weight, Dressed. Chickens, spring, 25c to 30c; 25c to 30c; Hens, under 4 lbs., 25c to 30c; 25c to 30c; Hens, over 4 lbs., 25c to 30c; 25c to 30c; Roosters, 25c to 30c; 25c to 30c; Turkeys, 25c to 30c; 25c to 30c; Ducks, 25c to 30c; 25c to 30c; Geese, 25c to 30c; 25c to 30c.

Dairy Prices.

The butter market is firm with an upward tendency. It is reported that a couple of creameries are to be started in the 1918 season, but supplies of fresh butter will be scarce for quite a while. The Chicago price for creamery butter, 42c to 47c; No. 1, 40c to 45c; No. 2, 38c to 43c; No. 3, 36c to 41c; No. 4, 34c to 39c. The wholesale prices of butter are, from made creamery plants, 52c to 55c; old points, 50c to 53c; No. 1, 48c to 51c, with choice dairy prints, 48c to 49c.

LIVE STOCK.

The live stock trade during the past week was only so characterized by a fall in the percentage of choice well-finished, graded stock sold. There were a number of lots of choice heavy steers that beat that have been on the market for some time. One choice lot of twenty steers, 2000 lbs. each, realized an average of \$12.00 per cwt. Milkers and springers were a fair trade, choice cows selling at \$100 to \$125, a few at \$140 and \$150 each, common to medium cows sold at \$60 to \$90 each. Sheep and lamb receipts were not heavy, and trade was good.

Hogs were a strong trade and prices closed \$10.00 to \$12.00. Choice hogs sold at \$20, and f.o.b. at \$17.75.

Feeder pigs, 11.00 to 11.50
Heavy steers, choice, \$12.25 to \$12.50
do good 11.00 to 11.50
do medium 10.50 to 11.00
do common 9.75 to 10.25
do heavy fat 9.25 to 9.75
do medium 8.50 to 9.00
do common 7.75 to 8.25
do carcasses 6.00 to 6.40
Butcher's bulks, choice, 10.25 to 10.75
do good 9.25 to 9.75
do medium 8.50 to 9.00
do common 7.75 to 8.25
Feeders, best 9.50 to 10.00
Stocking 8.00 to 8.50
Gross cows 7.00 to 7.75
Milkers and springers, choice 10.00 to 12.00
do none to medium 6.50 to 8.00
Cows, choice 12.00 to 15.00
do medium 10.00 to 12.00
do common 8.00 to 10.00
Heavy fat 11.00 to 12.00
Lewish, choice 12.25 to 12.75
do heavy fat and bulks 12.00 to 14.00
Hens, fed and watered 17.75 to 20.00
do or fed 15.00 to 17.50
do f.o.b. 18.75 to 20.00
Hens 1 1/2 to 2 on half of their time; less \$2 to \$3 on eggs \$4 on stage; less 50c to \$1 on henries.

WINTER FAIR ANNUAL MEETING.

The directors of the Ontario Provincial Winter Fair, held their annual meeting in the Parliament Building, Toronto, Friday, February 22nd, at 11:00 a.m.

The financial statement showed the association to be in a flourishing condition, having had in December, 1917, one of the most successful shows in its history. The price received for the year's business showed a turn over of nearly \$44,000 with a credit balance in some of the accounts. The President, Mr. W. W. Ballantyne, in his address complimented the association not only on its good financial standing, but the important educational work that has been done in connection with each year in the spirit of the Fair.

The following officers were elected:—Pres., J. J. Platt, Hamilton; Hon. Pres., W. W. Ballantyne, Stratford; Vice-Pres., John Carochewy, Peterborough; W. W. Wade, Toronto; Executive: John A. Blaney, Queen's; Fred Christie, Mt. Vernon; R. S. Stevenson, Mt. Vernon; Whitehall, Gushy, J. D. Brown, Kirkcaldy; Wm. Moore, Leamington; M. J. Amherst, Amherst.

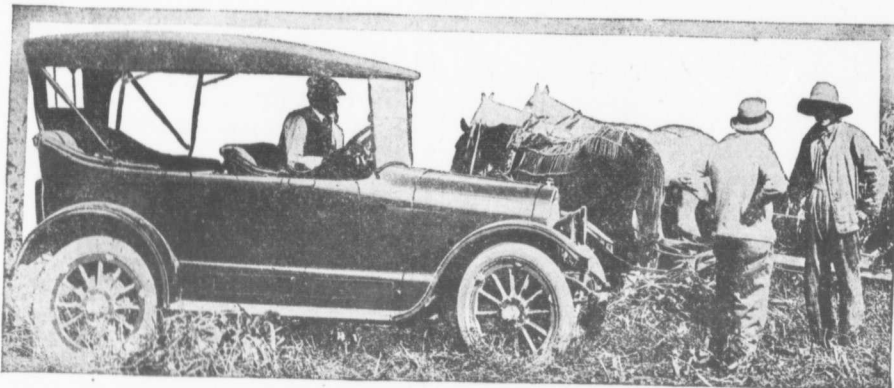
The 1918 Ontario Provincial Winter Fair to be held December 6th to 13th, inclusive to close November 29th.

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