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AND HOME MAGAZINE

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Vol. LI.

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LONDON, ONTARIO, JUNE 15, 1916.

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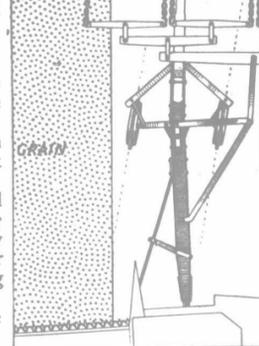
Auto Tongue Truck on Deering and McCormick Binders
SELF-STEERING FEATURE

The binder is purposely thrown out of square in this illustration in order to show clearly the steering action of the tongue truck wheels.

When the outer end of a binder platform starts to hang back, it pulls the tongue truck toward the grain.

Any movement of this tongue truck toward the grain turns the truck wheels in the opposite direction and at so great an angle that they automatically steer the binder back to its proper square cutting position, with the horses moving steadily straight ahead.

The truck wheels turn faster than the tongue as shown by the dotted lines.



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WITH the new auto tongue truck, Deering and McCormick 8-foot binders cut a full 8-foot swath. That means a quicker, easier harvest—a saving of time when time is worth money. The driver's work is easier, too; on the straight-away because the horses are not crowded into the standing grain; and at the corners because the binder turns a natural square corner.

The wheels of this new auto tongue truck are fitted with removable dust proof bushings equipped with hard oil cups. This construction does away with the expense of buying a new wheel every time a bearing wears out.

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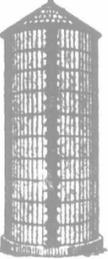
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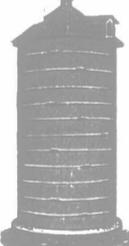
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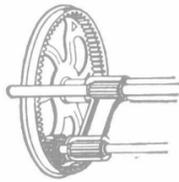
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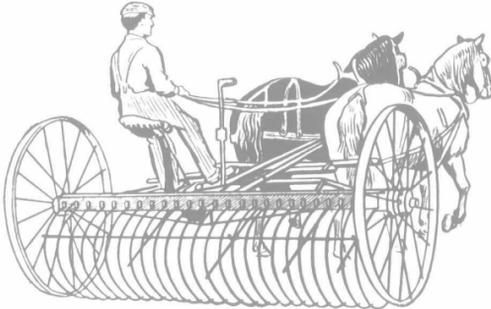
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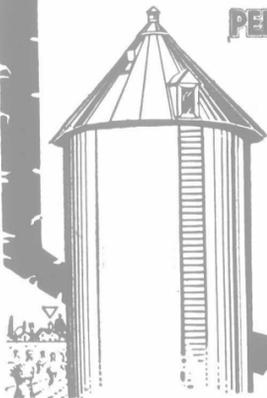
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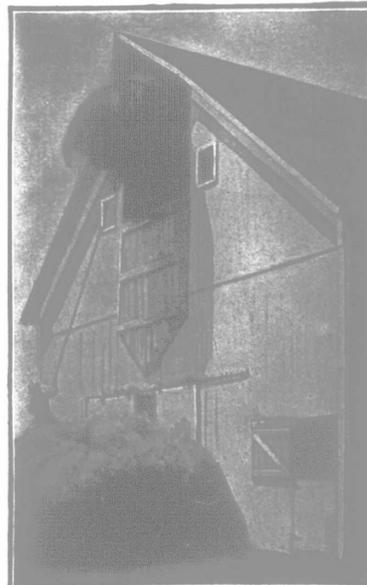
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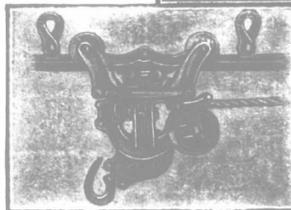
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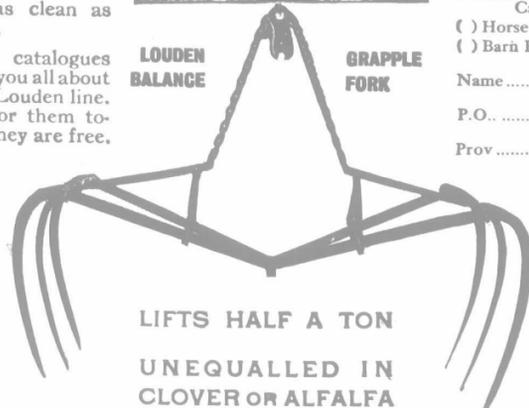
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The great naval
hopes for "Der Tag"
for June 1.

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LONDON, ONTARIO, JUNE 15, 1916.

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EDITORIAL.

Cattle require salt.

Every farm has need of a workshop.

Now is a good time to breed the mare.

Harrow the corn once or twice as it comes up.

Our year of rain will be up the first week in July.

A good crop of buckwheat may be better than no crop at all.

It is better to have cultivated wet than never to have cultivated at all.

Boys, watch this paper! You will be the farmers in a few years, start right.

Chickens and lice or mites will not do well in the same coop. Either must die.

A clean stable is even more essential to clean milk in summer than in winter.

Fewer fences well kept up are cheaper and more valuable than many of the tumble-down variety.

Hay promises a big crop and it is not too late for corn, but it will require more work than usual.

If there is any daylight the average farmer doesn't use this year he would like to know how to save it.

If you have an automobile watch our automobile column, and let us help you with your car troubles.

Every farm workshop should be equipped with necessary tools and appliances, and these kept in place.

The great naval battle put an end to German hopes for "Der Tag" which it is said they had planned for June 1.

The only summer-fallow that is worth while is the clean summer-fallow. It will require cultivating weekly to keep it clean.

It will soon be time to make hay. If you have had any experience not outlined in an article in this issue tell us about it.

If you intend to build a silo read and save this issue. An article in it on the various types of silos will solve your problems.

It keeps the Kaiser busy setting new dates for the capture of such important places as Verdun, Paris, Calais and England.

A certain young farmer thought he had a fairly good herd of cows. When he applied the test of scales and Babcock he found that not a single individual was paying her way. He was a wise young farmer, and he replaced his cows.

He Has Done His "Bit."

Following upon the news, adverse at first but more favorable later, that a big naval battle had been fought in the North Sea, came the sad and shocking reports that Lord Kitchener, Minister of War, and idol of the British nation had perished when the cruiser Hampshire was torpedoed off the Orkneys and while on the way to Russia. These are strenuous times. Truly war is Hell. The nation's big men go down just as bravely and heroically as do the men in the ranks. And through it all the nation stands firm. Right must eventually prevail and militarism must be vanquished by democracy. There is one thing about Britons, losses, defeats and catastrophes cannot discourage a people with such ideals. The allies' cause must prevail, but it is time that all realized that this fight is a world war—a fight to a finish and all the resources of the Empire and of all the allies are necessary if an early victory and peace are to be procured. Kitchener, in life, gave his best to his country. Then he gave his life for his country. Every Britisher may well ask himself whether or not he is giving his best for his country and whether he is willing and ready, if need be, to give his life for the cause. This is war. Canada is in this war. We sometimes wonder whether all realize it. While the nation mourns the loss of men it must and will set about boldly to accomplish its task. Kitchener, the man with the iron will, the man who in a few months raised over five million men for the fight, perhaps the greatest army organizer Britain ever knew is gone but his work well begun will go on until success crowns the effort. What a pity the great soldier could not have lived to see the day.

More Silos for More Corn.

It has been a late, wet and backward spring. Seeding has been delayed to an almost unprecedentedly late date. The cereals sown so late are not in a favorable position to go on and produce heavy yields. Farmers, from experience, know that late sowing generally means short crops. Consequently much of the wet land was left for summer-fallow, for buckwheat or for hoed crop, mainly corn. Ontario farmers must have feed for their stock next winter. Hay promises a big crop, but hay alone will not suffice. Good clover or alfalfa hay and corn silage make an ideal combination, only improved by the addition of a few roots. It is not too late to sow roots. It is not too late to plant corn, if the fall season is at all favorable. A subscriber stated in this office a few days ago that he had seen dent corn mature in Middlesex County, Ontario, when planted June 22. Last year we cut our corn at Weldwood Sept. 28. If corn is planted June 20 and frosts allow it to grow until Sept. 28 it has 100 days to mature, and some of the earlier varieties will mature in less time, and most varieties will make good silage when allowed to grow ninety days or more. Plant more corn.

All this leads up to what we wish to emphasize—more silos. If you increase the corn acreage some place will be necessary in which to store the feed. The silo is the cheapest, the handiest and the best place. There is a type of silo to suit any conditions. Big silos, little silos, wood silos, cement silos, steel silos, brick silos, special stave silos, and special block silos are illustrated and described in this issue. If you contemplate building a silo you will surely find something to help you in this week's special article. If you have any questions to ask about silos, ask us. This is the farmer's paper, and his questions are always welcome. You need a silo if you haven't one. If you have one you might require another.

Canada's Future Leaders.

Boys and girls are the most valuable crop the farm produces. Would that the farm could hold more of those who drift from country to city! The boy who takes an interest in farming and farm practice is soon a young farmer, and all such boys have ideas which other boys would like to get, seeing that they have so much in common. The boys are sometimes called young farmers, junior farmers, etc., and are the most valuable asset of Canadian agriculture. The young farmer sees life in a different light from that of the teaching of older men. He is more progressive, and while he respects father's knowledge, gained by long and wide experience, he likes to experiment, to try things on a different basis, to find out for himself. The hope of agriculture lies in the achievements of these young men. It is only fair, then, in view of the importance of their work that they should have a national medium in which to express their views and to explain their experimental work. Sometimes they feel backward about writing for the press when they know that their articles are likely to be sandwiched in between matter prepared by older and more experienced men, and so often do not give the public generally, and other boys in particular the benefit of their ideas based on the results of their work. To make it easy for the boys and young men we are arranging to give them a special department in the regular farm reading columns. All other departments will be continued as usual, but for the young farmers we will have a column of special interest each week. We want the farm boys and young men to get interested in this department. This is your department. Tell us about your experiences. We are going out after much of this class of information. Send in what you can. What one boy can do another can try, and by persevering effort can accomplish. Boys and young men, you are the future farmers and leaders. Canada needs your ideas and your help. Canada will need you in the future. Prepare yourselves. Look for your special department in this and every future issue.

Honk! Honk! Read the Automobile Department!

The advance of time makes changes necessary in every line of business. Fifty years ago "The Farmer's Advocate" was the leading agricultural paper in the Dominion. It still holds the premier position. Why? Because it has kept abreast of the times. Farming is carried on differently now from what was called good practice fifty years ago. While the basic principles of good agriculture are practically the same the methods and machinery for carrying out the work are vastly different. Conditions change. "The Farmer's Advocate" changes, and while these changes are made gradually, as with agricultural practice, they are always for the better, for it is our aim to help our readers to advance their own interests and the agricultural industry of the great Dominion. When the first issue of "The Farmer's Advocate" left the press most farmers walked, rode on horseback or in buckboard wherever they desired to go. To-day all have covered carriages, many of which require no horses for locomotion. It is for the owners of this latter luxury and necessity that we are pleased to announce that we purpose publishing, commencing this week, a special department of our paper devoted to automobiles and farm motors. An expert will give each week seasonable advice re car difficulties and how to avoid them. He will tell how a car should be used and handled. Will explain the use of parts, and will help you keep your car 100 per cent. efficient.

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

Published weekly by THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Journal," Winnipeg, Man.

- THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers of any publication in Canada.
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- ADVERTISING RATES.—Single insertion, 25 cents per line, agate. Contract rates furnished on application.
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- ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.
- ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or THE WILLIAM WELD COMPANY (Limited), London, Canada.

Questions will be answered through these columns or by mail according to our usual custom. We plan to have the manufacturer of each type of car answer all questions on his car, so do not neglect to state the name and model of your car when writing. We invite correspondence on the use of the car in your business, on its value as a pleasure car for farmers, and let us know how it works out as a means of keeping the boys on the farm. Our automobile department will be interesting and valuable. If you help us we can help you. Read this week's article.

As time goes on we hope to add to this, more special work on farm machinery and farm motors. The day of the small tractor dawns. The gasoline engine and electric motor now does much farm work hitherto done by horses or by hand. If you have an engine or a motor tell our readers how it saves time and money for you.

The Important Factor.

After all, just about the most important consideration in the farmer's business is the weather. Plans may be made for a greater production. Patriotism may be appealed to. Better cultivation may be exhorted for. A larger acreage may be sown, but unless the weather is at least partially favorable crops cannot be put in the bumper class. The man in town thinks the farmer has the best of the job deal. Maybe he has. He certainly hasn't the worst job on earth but it should always be remembered that frosts, rains, hail, wind and all the elements combine to make farming not all smooth and plain sailing. Is it any wonder then that the weather is always the first topic of conversation? It has rained in Ontario for days and weeks. It is in times like these that we notice the effects of the weather. We are not always thankful enough to a Divine Providence for good weather and good crops so we need adverse conditions as an awakener once in a while. Yes the weather is the important factor and remember that the farmer has no control over it so do not blame him, always, for crop shortage.

Nature's Diary.

A. B. KLUGH, M. A.

As we walk along the margins of ponds and slow-flowing streams at this time of year we find forests of little plants with pipe-like stems projecting from the water. These are the stems of the Water Horsetail. The Horsetails are allies of the Ferns, and are the descendants of the Calamites, which in the Carboniferous period attained the size of trees. Their stems are jointed, hollow except at the joints, and may be compared to a line of drain-pipe, each section of which fits into the slightly flaring top of the one below it. At the top of each joint there is a papery sheath which is toothed on its upper border and which represents a circle of confluent but reduced and functionally useless leaves. (See Fig. 3.) The stems contain silica which gives them their firmness and brittleness. As is the case with the Ferns the Horsetails reproduce by means of spores. These are borne at the tips of the stems in cone-like spikes or catkins. The catkins consist of numerous six-angled plates attached to the stem by a central stalk and bear from five to nine little sacs, or spore-cases, on their margins. (See Fig. 4.) The sacs extend horizontally toward the centre of the cones

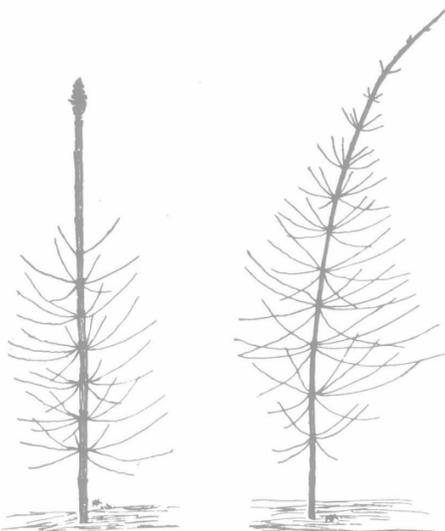


Fig. 1—Water Horsetail. Old fertile frond.

Fig. 2—Water Horsetail. Sterile frond.

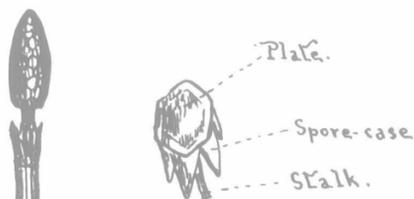


Fig. 4—Plate of catkin with spore-cases.

Fig. 3—Water Horsetail. Tip of young fertile frond.

Fig. 5—Spore with elater coiled.

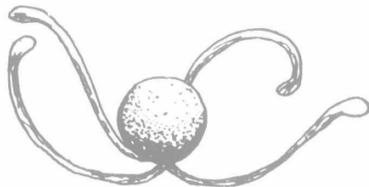


Fig. 6—Spore with elater uncoiled.

and only the angular plates to which they are attached are to be seen before maturity. When ripe the cone lengthens slightly drawing the plates apart, the spore-cases open on the side next the stalk that bears them and the spores escape. The spores are tiny, globular, single-celled bodies, bright green in color and so small that single individuals cannot be distinguished by the naked eye. Each possesses two filiform appendages with enlarged ends, called elaters, which are attached to the equator of the spore by their middle. When moist the elaters coil spirally round the spore and when dry they uncoil and spread out. (See Figs. 5 and 6.) As the spore-case dries at maturity the elaters uncoil and assist in the liberation of the spores and in floating them in the air.

Just as in the case of the Ferns the spores do not give rise directly to a plant like the one which bore them. Instead they produce, on germination a little

flattish, green body called a prothallium which bears the sexual organs. In most of the Ferns one prothallium has both male and female organs, but in the case of the Horsetails a prothallium bears only the organs of one sex. Since in the Horsetails each spore gives rise to a prothallium of one sex only we can see a further use for the elaters in the fact that they become entangled and thus several spores float off together and germinate side by side, obviating the danger of non-fertilization which would exist if the prothallia were too far separated. From the fertilized egg of the female prothallium a Horsetail develops.

In the Water Horsetail the fronds are of two kinds, fertile fronds which have the cones at their tips and which are unbranched when young, and sterile fronds which are branched. After the maturity of the spores the fertile fronds also send out branches, when they appear as shown in Fig. 1, but the branches are not as long as those of the sterile fronds. These branches are sometimes referred to as leaves, which is incorrect as the leaves are, as we have seen, mere scales, and in the Horsetails the function of leaves is taken over by the stem and branches. The young stems of the Water Horsetail are a favorite item of diet with the Muskrats.

A bird which is extending its range gradually farther and farther north in Ontario is the Green Heron. This species is about seventeen inches in length. The crest, long feathers of the back and wing-coverts are lustrous dark green, the neck is purplish-chestnut behind and on the sides and white in front, and the underparts are brownish gray.

Writing in 1894 Mr. McIlwraith says of this species, "This handsome little Heron finds its northern limit along the southern border of Ontario. According to Dr. Macallum it breeds regularly on the banks of the Grand River near Dunnville and has also been observed, occasionally near Hamilton and at St. Clair flats." Later Mr. W. E. Saunders mentions it as a rather rare breeder near London. In 1902 I found it breeding at Puslinch Lake near Guelph, and more recently I have found it in the marshes about Kingston. I should be glad to hear of any records of its occurrence north of the points I have mentioned.

THE HORSE.

Lameness in Horses—XXVI.

Chorea—String Halt.

Chorea may be defined as an irregular convulsive choreic action of some of the voluntary muscles. In the horse it is generally confined to the muscles of the posterior extremity, constituting what is known as "string halt." Many views have been held regarding the pathology and nature of this disease. By some it is regarded as entirely functional, and independent of organic change. By others it is held that it is due at least in some cases to some disease of the blood, the nature of which has not been determined, and that it may be associated with some diseases, as rheumatism or diseases of the heart. The late Professor Dick held that it was due to tumors in the brain, and supported his views by a post-mortem proof, but it has been proven that tumors in the brain may be present without chorea, and that chorea is often present without such tumors. Others have claimed to have traced its origin to an enlarged condition of certain nerves, or to the pressure of a bony growth on a nerve, or to paralysis of the muscles antagonistic to those affected by the spasm. Other theories have also been advanced, but no person has yet been able to prove his theory correct, hence it must be admitted that the nature of the disease is not well understood.

String halt may be defined to be an involuntary convulsive motion of the muscles, generally those of one or both hind legs, but it has been noticed in the fore legs. The limb or limbs affected are convulsively elevated, to a greater or less height from the ground and brought down again with more than normal force. This is not always noticed at every step the horse takes. He may progress for a variable distance without exhibiting any symptoms of the disease, then, all at once, the limb or limbs will be suddenly elevated from the ground with a peculiarly sharp, sudden jerk. In most cases the disease is progressive, and in many cases progression is very slow, several months, or even years elapsing after the first symptoms are noticed before the symptoms become serious or even well-marked, while in other cases development is rapid. In most cases the symptoms are more severe in cold than in warm weather. It is sometimes necessary to turn the animal round from right to left, or from left to right, in order to make him show any symptoms of the disease, the symptoms being exhibited as he turns one way only. In other cases the horse will show symptoms only upon being backed slowly for a few steps and then walked slowly forward and this should be repeated a few times, as a diseased horse may not show symptoms each time. As the disease progresses, the symptoms become more marked and constant. In advanced cases the sudden elevation will be noticed at almost or quite every step, the height of elevation varying greatly in different patients and even in the same animal at different steps. In severe cases it is sometimes so great as to fetch the foot or fetlock joint in contact with the abdomen. In all cases even slight symptoms should be considered an unsoundness, and as a cause of depreciation of the animal's value.

Treatment.—No reliable treatment has been dis-

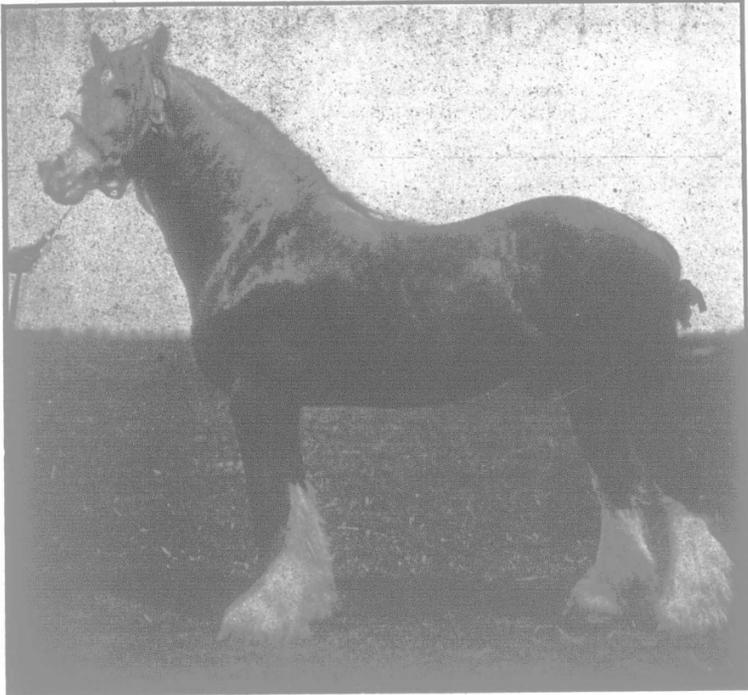
covered. Various system have be results. Various certain nerves al In recent ye severing or remo peroneus muscle of the hock and wards and joints has been claimed effective, while i be explained how cases and not i treatment yet dis the symptoms b quires a veterina

LIV

Those who m a suggestion in hog pen used on Where swine are must be out of house them un Breeding sows t to the ground, a and when suckl who has had e out-door exercise ing in the soil Young pigs, sh profit by an ou types of portable fields. Economy may be moved cardinal points one illustrated n adopted and th tioned.

This portabl the ground; 3 f feet high in fr has a door an work is 2 by drop siding, an A pine ship-lap



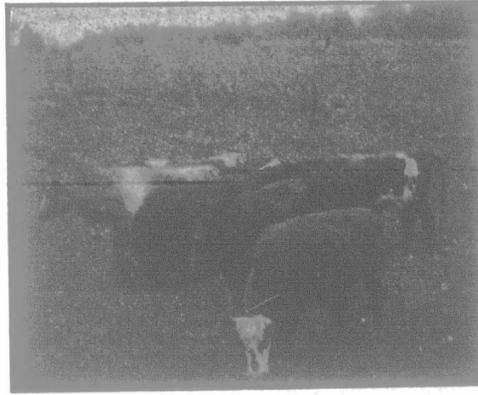


A Clydesdale Sire Being Used in Western Ontario.

is built on runners 4 inches by 4 inches. A man can build a house of this kind in about a day and a half at a cost of \$20, time and material included.

The Superintendent of the farm explained the use of such buildings somewhat as follows: They will be equipped as farrowing pens for the brood sows, and used thus during the farrowing season. Feeding hogs will occupy them during the fattening period when the occasion arises, and each house, it is thought, will accommodate 10 hogs. Furthermore, they will be used as sleeping pens throughout the winter, and the occupants will be obliged to walk the length of a narrow pen to a large building where all the feeding will be done. The portable pen will be placed several rods from the large feeding building, and this will force the pigs to take exercise. During the summer the shoats running in the fields will be provided with shelters of modest construction.

Sixty acres devoted to the swine department is divided into 5-acre fields which will permit of a rotation of crops in each lot, and a frequent change of the stock to fresh pasturage. An 8-strand wire fence, 32 inches high, is the type of fencing used.



Six Good Doers.

From this period on the grain ration was gradually increased until it reached ten pounds per day, which was the greatest amount fed during the six months. Towards the last the steers received three feeds of hay daily, and all winter they were given a tablespoonful of salt each in their morning feed of grain and silage.

A noticeable feature about the buildings was the absence of any large heap of manure. A team was driven through the stable every day except Sunday, the droppings and litter loaded on the wagon and hauled directly to the fields. Mr. Beattie's plan with regard to the manure is worthy of consideration by all farmers.

covered. Various drugs which act upon the nervous system have been tried with practically negative results. Various operations which consisted in severing certain nerves also proved worthless.

In recent years an operation which consists in severing or removing a portion of the tendon of the peroneus muscle, which passes down the outside of the hock and then deviates inwards and downwards and joins a tendon in front of the cannon, has been claimed to be effective. In some cases it is effective, while in others it has no effect. It cannot be explained how it is effective, or why it is in some cases and not in others. It is the most effective treatment yet discovered, and is worth a trial. Where the symptoms become well-marked, of course, it requires a veterinarian to operate.

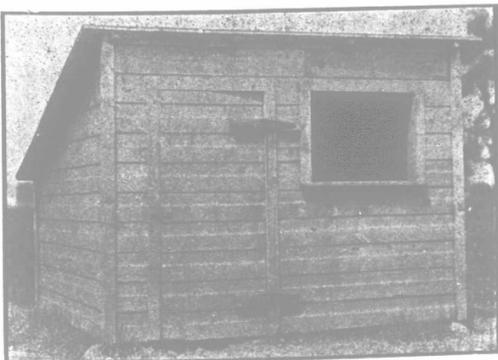
WHIP.

LIVE STOCK.

A Colony Hog Pen.

Those who make a study of hog raising may find a suggestion in the following description of a colony hog pen used on the Essex County Seed Farms, Ltd. Where swine are raised in any way extensively they must be out of doors as much as possible, and to house them under such conditions is a problem. Breeding sows thrive better where they have access to the ground, and a suitable run, both while pregnant and when suckling the pigs is a necessity. Anyone who has had experience in this line will say that out-door exercise and the liberty of rooting or working in the soil are potent preventives of disease. Young pigs, shoats, feeding hogs and brood sows profit by an out-door life on clean soil, and many types of portable pens are used to house them on the fields. Economy in construction, ease with which they may be moved and the service they render are three cardinal points in connection with such a pen. The one illustrated may not be the best, but it is the type adopted and the one being used on the farm mentioned.

This portable colony pen is 8 feet by 10 feet on the ground; 3 feet 6 inches high at the back and 7 feet high in front. As shown in the illustration it has a door and window in the front. The framework is 2 by 4-inch studding, and is walled with drop siding, and covered with a commercial roofing. A pine ship-lap floor is laid, and the whole structure



A Portable Hog Pen.

Some Good Steers on a Good Market

It was our privilege, during the winter just past, to observe the feeding and fattening of two loads of steers on the farm of J. P. Beattie in Middlesex County, Ont. They were sold at Toronto on Monday, June 5, at a very satisfactory price, and the gains, shrinkage, price obtained and their treatment during the feeding period make valuable information for those in any way interested in live stock.

As feeders one load was purchased through a commission firm at the Union Stock Yards, Toronto, and they went into the stable about the latter part of November. These with another bunch of steers that were "picked up" locally made 33 in all, and their average weight was 1,080 pounds. A few days prior to the date of shipment they averaged 1,380 pounds, showing an average gain of exactly 300 pounds for a feeding period of 6 months and a few days. When moving they were driven about 5 miles to the shipping point, which is 120 miles from Toronto. They left the farm in the afternoon, were driven leisurely to the station and loaded early in the evening. The next morning they were unloaded at their destination. From the stable to the Union Stock Yards they lost 66 pounds each, showing a shrinkage of 4.7-10 per cent. The market was not so strong on June 5 as it was the week previous, but they were cashed for \$9.75 per cwt. The silage, which was a part of their ration all winter was discontinued one week before moving them, but their hay and chop was provided as usual. For two days prior to shipping they were allowed out in the yard for a short time each day in order to get them accustomed to being loose, for they stood chained throughout the feeding period, getting their water from a trough above their mangers. Their frolicsome spirit was in this way gratified before they left for their last long journey. The shrinkage, it will be observed, was very moderate, the average weight dropping from 1,380 pounds to 1,314.

These cattle were fed approximately one bushel of silage each per day, and one quart of chop during the first month. The dry roughage consisted of one feed of clover hay and all the straw they wished to pick over at the other two feeds. The chop was made up of wheat, oats and barley, equal parts, and it was given on top of the silage. No mixing of silage and straw was done. Throughout the two following months the quantity of chop was doubled, and two feeds of hay instead of one were given each day. The hay was fed night and morning.



A Few of the Steers Fed by J. P. Beattie.

The Loophole in Fighting Abortion.

A writer in The Live Stock Journal describing how losses from abortion occur, cites the case of a herd of pure-bred Shorthorns in Scotland. It was in the boom of the 'seventies and the owner had planned a sale, but one of the cows aborted. The owner enquired about the precautions taken, and found that disinfection of everything except of the attendants themselves had been complete.

"Asking questions as to what had been done after the cow aborted, he found that the men had liberally used the disinfectants upon everything—except themselves, but that, with boots and hands reeking with the litter, they had returned to milk the other cows. They could not be made to believe that they could be the media of conveying the infection. A veterinary surgeon was called in, and all means of restraining the spread of the disease then known were put in force. The veterinary's opinion was that the outbreak was the result of someone having brought an aborting cow for service to the stock bull. For three years the fight was waged, and then, when victory seemed in sight, there was a recrudescence of the abortions. Inquiry elicited that a neighboring farmer had called to ask how the abatement of the disease had been brought about; he went through the shippings, and on leaving said his stock had never been free from it for years, and he had just come from an aborting cow. In all ignorance, he had repeated the cause of the first attack. Another three years' fight and once again victory loomed in sight. The in-calf heifers had been sent to a distant farm to be out of danger. When they returned for calving, they began to abort, and the cows followed suit. It then transpired that abortion was prevalent in the cows on the farm adjacent to that to which the heifers had been sent, and only a hedge had divided them when at pasture. The result was a third three years' fight, which ruined the owner. Missing sales during the palmy 'seventies, the loss could not be less than £2,000, in addition to the trouble."

All Kinds of Silos for All Kinds of Farms.

Time has demonstrated the value of a silo for preserving the corn crop, with practically no waste, in a palatable form to be used as a stock feed at any time of the year. While corn cured in the shock makes excellent feed for fall and early winter use, it is difficult to keep it through the entire winter, and impossible to hold it over for summer feeding. Considerable work is entailed in shocking the corn, drawing it to the barn and cutting it at intervals during the winter. With the silo the corn crop is stored in a short time in the fall, and is ready for feeding at any time. When silos were first introduced, many stockmen were prejudiced against them, claiming that silage would cause digestive troubles, taint milk, make poor quality beef and cause animals' teeth to decay. After years of use these predictions have failed to come true. Good silage has proven to be an economical feed, and all bovines do well on it. Dairymen especially are silo enthusiasts. More feed can be produced from an acre of corn, when it is ensiled, than from an acre of any other crop, and silage furnishes succulency to the winter ration. Many dairymen are erecting the second silo so as to have sufficient feed to supplement the pasture during the summer. Young stock and fattening animals also do well on silage, and, as a rule, the stock that a hundred-acre farm will carry through the year is greater since the silo was built. Horses, sheep and hogs have been fed silage with a degree of success, but, as a rule, it is mainly considered a feed for bovines. Corn is the principal crop ensiled, although clover, alfalfa and green oats have been stored in the silo and came out in fairly good condition. The chief difficulty is that they haven't sufficient weight in themselves to settle firmly together, which may result in poor feed. Putting these crops in the bottom and corn on top tends to remedy this. Corn and alfalfa have been put in layer about and made good feed. While the number of silos has greatly increased during the past few years, the majority of farms in some sections are still without them. Where corn can be grown and stock is wintered, a silo filled with corn in the fall will materially reduce the cost of feeding. Prominent feeders claim that they do not know how they would get along without the silo.

In reality, a silo is a large tank in which the fodder is "canned," and the principal requirement is that air be excluded to prevent the silage spoiling. The air confined with the green fodder when ensiled is necessary to start a ferment, which preserves it but additional air causes mould and decay. There is always a little waste on top and around the doors, if they do not fit tightly. It is not advisable to allow stock to eat this. A smooth finish on the inside is also necessary in order to permit silage to settle evenly and prevent air spaces.

It is claimed by many stockmen that the value of the corn crop is increased 25 per cent. by the silo. Economy of storage room and having the feed always ready are things to be considered. Silage has proven to be a milk-producing and a fat-forming feed, and

stock fed on it are usually healthy. It is succulent fodder for winter feeding, and if used in the summer will reduce the number of acres required for pasture. Corn is generally claimed to be the cheapest feed produced, and is capable of withstanding drouth better than any cereal, but to get the greatest value from corn fodder it should be ensiled.

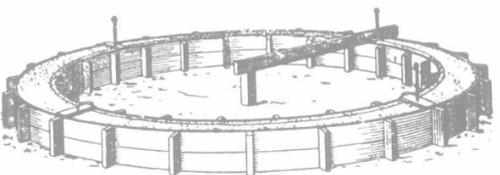
Size of Silo.

The proper size to build to meet the requirements is the first problem that confronts the stockman thinking of erecting a silo. This will depend a good deal on the size of the herd, the number of days silage is to be fed, and the amount to be fed daily. One should plan to feed off about two inches every day. As a rule young stock may safely be fed about 20



Laying Out the Foundation.

pounds per day, and beef and dairy cattle from twenty-five to as high as forty pounds. Sheep will not take over two or three pounds, and horses must be fed carefully. Poor silage is blamed for causing the loss of a number of horses. Feeding out two inches of silage per day would give about 500 pounds in a silo 10 feet in diameter; 750 pounds in a 12-foot silo, and 1,000 pounds in a 14-foot silo. A silo 10 feet in diameter and 25 feet high will hold sufficient feed to permit of feeding 10 cows 40 pounds of silage per day for about 180 days, and by adding seven feet to the height will feed them 240 days. Three-and-a-half acres of a ten-ton-to-the-acre crop would fill the silo. A silo 12 by 35 feet can be filled from 7



Construction of Silo Foundation.

acres of corn, and will feed 20 cows for 180 days. By adding 5 feet to the height it will hold sufficient feed for 240 days, and will be filled with between nine and ten acres of corn. A silo 14 by 35 feet can be filled from 11 acres of corn, and will furnish feed for a herd of 30 cows for 180 days. A silo should be at least twice as high as it is in diameter, in order to give sufficient pressure. It is possible to get a silo too wide, but it is doubtful if it could be built too high, except for the difficulty in filling.

A silo 10 by 30 feet will hold approximately 47 tons; one 12 by 30 feet, 67 tons; 14 by 30, 90 tons; 10 by 35, 58 tons; 12 by 35, 84 tons; 14 by 35, 114 tons; 10 by 40, 70 tons; 12 by 40, 100 tons; 14 by 40, 138 tons. These figures will give some idea of the capacity of silos of different sizes.

Foundation for a Silo.

As in all buildings, the foundation is an important part. An effort should be made to have the silo, no matter what kind, rest on a firm footing, and built in a convenient place for filling and feeding. In order to secure this, it is usually necessary to excavate to the depth of two or three feet. It is essential that the foundation be built to suit the size of silo to be erected. To get the correct circle, drive a stake in the centre of the proposed site and fasten to that a cross arm, the length of the radius, to the outside of the silo. Nail to this a strip to mark the outside circumference. This can be swung around and will mark the outside line of the foundation. All the earth within this ring can be excavated, which will put the silo bottom below the level of the ground and will save on the height. If the silo bottom is to be on the ground level, another strip must be nailed to the marker to indicate the inner side of the wall, and a trench can be dug the required depth. The foundation is better of being from 18 to 20 inches thick, or even thicker on soft ground. A tile drain should be placed around the outside of the wall. Three or four-inch tile are used.

Metal forms are the most convenient to use in putting in the foundation. If they cannot be secured, wooden rings can be made to serve the purpose. Green lumber one-half inch thick and six inches wide can be bent to the desired shape and firmly held with stakes. Care must be taken to have the forms level on top so that the silo will set properly. For a stave silo bolts may be imbedded in the cement to fasten some of the staves to. One foot of the thick wall should be sufficient to hold any silo, but many put the whole bottom ring or three feet in that wide.

One part cement to seven or eight parts of sand and gravel should make a firm wall. For a silo 12

feet across, with an 18-inch foundation one foot high, about two cubic yards of gravel and two barrels of cement will be required, or twice that amount for a wall two feet high. By using field stone the amount of gravel can be reduced. For a concrete silo the main wall starts right from the foundation. Where a wooden silo is built the concrete should extend above the ground, but a ten or twelve-inch wall would be sufficient. For every three feet of this about four cubic yards of gravel and three-and-one-half barrels of cement will be required. The amount of material will depend on the thickness of the wall. No matter what kind of a silo is built, it should rest on a solid base.

Kind to Build.

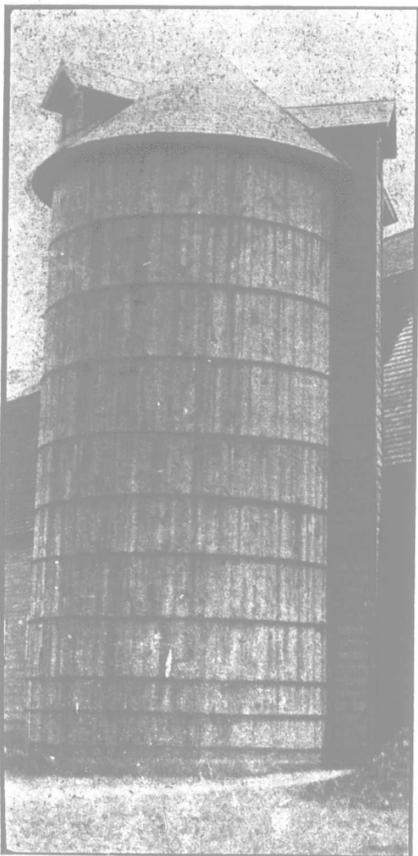
There are many different makes of silos on the market, and each kind has its good points. Durability, economy of building and how silage keeps, are points to consider when deciding on the kind of silo to build. Some prefer one kind and some another. A tank that will keep silage can be made quite cheaply if a man has the logs and gets them cut at a near-by mill and puts it up himself, but such silos frequently are short-lived.

Square, wooden silos, built of inch tongued and grooved pine nailed to studding have been built and served the purpose for a time, but there is always considerable waste of fodder in the corners. The building spreads with pressure of silage settling, and air gets in its destructive work. Round structures are preferable to square, no matter of what material they are built.

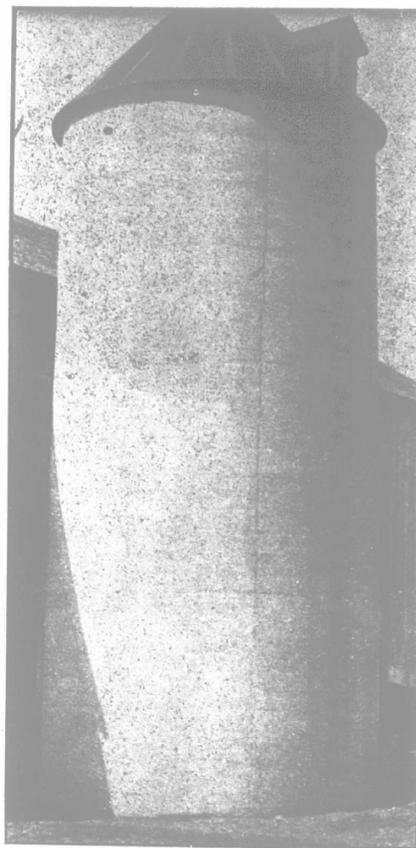
Stave Silos.

Ordinary stave silos were in the majority through the country a few years ago. Some were built of one-inch lumber, held together by iron or wooden hoops. About 1,400 feet of lumber is required for a silo 12 by 30 feet. If two-inch plank is used, the amount is doubled. Hoops are placed every three feet, and when iron is used it is put on so it can be tightened when the wood dries out in the summer, and loosened at filling time. Many prefer the elm hoop, which is tacked right to the staves and aids in holding each to its place. As much as 400 feet of elm have been used as hoops on a silo of the dimensions mentioned. These silos must be firmly braced or there is danger of a wind storm during the summer wrecking them. While silage keeps satisfactorily in them, they are not permanent structures, although they may last for a number of years.

Double-inch stave silos are common in some localities. Two ply of inch hemlock lumber is used and bound together by hoops. About 2,800 feet of lumber is used in a 12 by 30 foot silo, and it is claimed that the silage does not freeze as much as when a single ply of lumber is used. Like the former, this structure is not permanent. However, they will last for a number of years if they are braced properly to hold them erect. The cost will depend principally on the prevailing price of lumber.



Stave Silo.



Solid-wall Cement Silo.



Silos have been built if properly constructed. Hauling of material, a stone wall made of stone, the wall will be two feet thick in order to be imbedded every foot of the wall spread is exerted upon labor cheap, it will

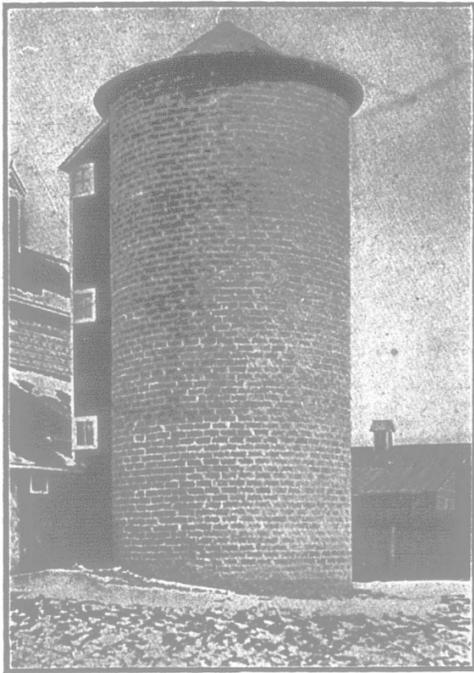
A few silos are satisfactory. Cement reinforcing material spreading. When more or less of which has a tendency to silage. Vitrified, in building silos, for them.

The solid-wall silo is done during the building. The local price is so much that no exact cost as it depends on the teaming, what the of material used.

Some build a silo the top, while the a six-inch wall from standing several stand indefinitely less material than eight-inch wall a parts sand and and 30 feet high and 21 barrels of 30 cubic yards of one 12 by 35 feet barrels cement; 34 barrels cement; 30 barrels cement and 34 barrels cement and 40 barrels cement.

A contractor will employ to erect all the men, or and depend on a Contracts are let foot. Where two of the silo can be foot silo it will extra day to plan fine the concrete can be raised in

If a contractor mixer can somewhat put up the silo in factory wooden Six-inch boards to two iron bars circles, divided in handling. Has so two forms can be raised as the metal for the mixing can be



Silo Built of Brick.

Silos have been built of ordinary field stone, and if properly constructed they are permanent, but the hauling of material and expense of a mason to build a stone wall makes it rather expensive. When using stone, the wall would have to be about one-and-a-half feet thick in order to bind it. Cement mortar is used in preference to lime, and iron rods or wire must be imbedded every two or three feet to avoid danger of the wall spreading when the heavy outward pressure is exerted upon it. Unless stone were plentiful and labor cheap, it would hardly pay to use stone entirely.

Brick Silos.

A few silos are built of ordinary brick which proves satisfactory. Cement mortar is used, and plenty of reinforcing material is put in to keep the wall from spreading. When three layers of brick are used, more or less of an air space can be left in the wall, which has a tendency to prevent freezing of the silage. Vitrified, hollow brick have also been used in building silos, and many advantages are claimed for them.

Cement Silos.

The solid-wall, concrete silo is preferred by many. Where sand and gravel are handy, the teaming can be done during the winter, which reduces the cost of building. The entire cost of the silo will depend on the local price of material and labor. This varies so much that no attempt will be made to give the exact cost as it varies from \$100 to as high as \$300, depending on the value a man puts on his time for teaming, what the contractors charge, and the amount of material used.

Some build an eight-inch wall, others a ten-inch. Some start with 12 inches and taper to 6 inches at the top, while there are silos 14 by 40 feet with only a six-inch wall from bottom to top. These have been standing several years, and appear as if they would stand indefinitely. A six-inch wall requires much less material than a ten-inch wall. Building an eight-inch wall and using one part cement to eight parts sand and gravel, a silo 10 feet in diameter and 30 feet high will require about 25 yards of gravel and 21 barrels of cement; a silo 12 by 30 feet requires 30 cubic yards of gravel and 25½ barrels of cement; one 12 by 35 feet requires 35 yards gravel and 30 barrels cement; 12 by 40 feet, 40 yards gravel and 34 barrels cement; 14 by 30 feet, 35 yards gravel and 30 barrels cement; 14 by 35 feet, 40 yards gravel and 34 barrels cement; 14 by 40 feet, 45 yards gravel and 40 barrels of cement.

A contractor who has forms, mixer, scaffold, and all necessary equipment for building, is usually employed to erect the silo. Sometimes he furnishes all the men, or he may only superintend the work and depend on all labor being supplied at the farm. Contracts are let by the job, by the day, or by the foot. Where two three-foot forms are used, six feet of the silo can be put up each day, so that for a 40-foot silo it will take about 7 days to build, and an extra day to plaster the inside. If the weather is fine the concrete will set over night, so that the forms can be raised in the morning.

If a contractor cannot be secured, forms and mixer can sometimes be rented, and the farmer can put up the silo himself. If this cannot be done, satisfactory wooden forms can be made quite easily. Six-inch boards about 3 feet in length can be bolted to two iron bands or old wagon tires. Make two circles, divided into four sections, for convenience in handling. Have the ends of the bands bent out so two forms can be bolted together. These forms can be raised and fastened in place almost as easily as the metal forms. If a mixer cannot be secured, the mixing can be done by hand. A scaffold can be

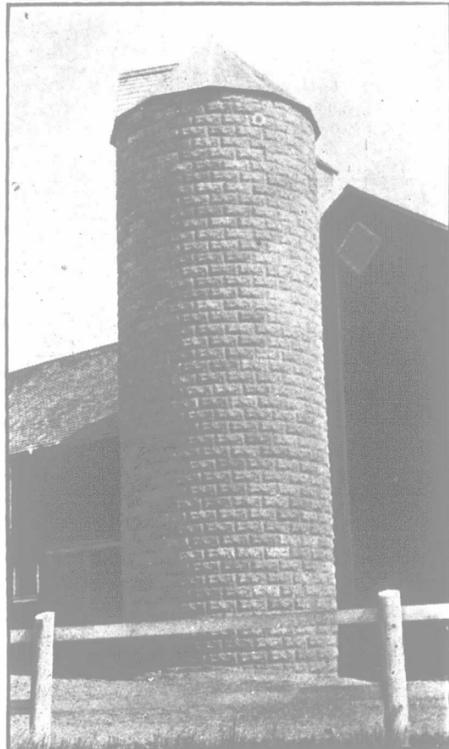
erected on the outside or inside of the silo for the workmen to stand on, and a strong gin pole must be used for drawing up the concrete. If a pole is erected on each side of the silo and thoroughly braced and cross pieces fastened at the top, the forms can be raised by block and tackle much easier than by a direct lift by hand.

Some form of reinforcement is essential. Wire or three-eighths-inch iron rods may be used for this purpose. They must make a complete band and be imbedded in the wall every two or two-and-a-half feet. Over the doors old wagon tires may be used for reinforcing. Where a continuous door is left, the rods must connect across the doors else the wall will spread. Bolts should be set in the wall every six feet on each side of the door, for fastening the chute to. Bolts should also be set in the top for fastening down the rafters.

This type of silo is claimed to be a permanent structure if properly built. They are air tight and silage keeps well in them. The chief complaint is that silage has a tendency to freeze around the walls, especially on a northerly exposure.

A double-wall silo may be built of concrete by use of special forms. Each wall is three or four inches thick and bound together in places. An air space of three inches is left which lessens the trouble from freezing. About the same amount of material, of the same strength as for a solid wall, is required, but the work of building is a little more complicated.

Cement plaster or stucco silos are said to be giving good satisfaction. Two by four studding is erected



Hollow Cement-Block Silo.

and metal lath nailed to it on both sides and covered with cement plaster. The work must be carefully done in order to insure permanency.

Cement-Block Silos.

Cement-block silos have a good appearance and make a wall supplied with an air space which lessens danger of freezing. If properly built they stand the strain, but if the blocks are not carefully made and not sufficient mortar and reinforcing material used in construction they have a tendency to crack. Block silos have been standing for a number of years, and are apparently as good or better than the day they were built. Blocks may be secured from a regular manufacturer, or the sand, gravel and cement may be drawn to the farm and a hand machine used to make the blocks, close to where they are to be used. Forms are made to give the proper circle to each block. The regular size is 8 by 8 by 16 inches. This gives an eight-inch wall with a hollow space of two or three inches. One part cement to five parts of sand and gravel is frequently used, although some make them weaker. A large number of blocks can be made in a day, and a brick or stone mason will soon build a wall with them. For a 12 by 30 foot silo, about 1,150 blocks will be required; for a 12 by 35, 1,350 and for a 12 by 40, 1,550 blocks. A 14 by 30 will use about 1,400, and 14 by 40, 1,850 blocks. About 2½ barrels of cement and 3 cubic yards of gravel are required for 100 blocks. A groove is made in the blocks for imbedding wire or iron reinforcement. As in the solid wall, this material must be joined to make a continuous circle, and should be laid at least every three rows of blocks. When they come to the doors the ends should be fastened to iron bars that extend across the doorway. In a 14 by 40-foot silo about 900 feet of three-eighths-inch iron or heavy wire should be used. Sand and

cement will be required for making mortar for laying the blocks. Some builders use a little lime with the cement. This gives an idea of the amount of material required for a block silo. The cost can easily be figured out according to local prices.

Specially Prepared Silos.

There are a number of firms manufacturing wooden silos. Material that is tough, strong and will withstand pressure is selected and carefully treated to make it rot-proof. The staves are tongued and grooved and slotted at the ends to receive a piece of steel which makes the joint, where the ends of two staves come together, air-tight. Some firms double-tongue and groove the staves, which should make them even more air-tight than the single groove. Heavy metal hoops bent the proper shape to fit tight to the staves are used. These are fastened with a lug which permits of tightening the hoops when necessary. After the foundation is built it does not take long to erect these silos. Staves, hoops, doors and roof are made to go together quite easily. The price depends on the size and make of silo. Each manufacturer claims special points for his particular make. The silage keeps well in all of them, and as wood is a poor conductor of heat or cold there is claimed to be less freezing of the silage than where concrete is used. Unlike ordinary homemade stave silos these appear to stand the strain of storms and hurricanes. In comparing the cost with concrete or other kinds, the fact that there is very little teaming and only a couple of days are required in erecting once the material is on the ground must be considered. On some makes of silos self-adjusting hoops are used. Between the lug and nut on the hoop is a coil spring which adjusts itself according to the expansion and contraction of the wood.

Hollow Block Silos.

A silo made of vitrified, hollow tile is on the market, and many advantages over other kinds are claimed for it by those who have them. The dead air space in the wall resists frost, and it is claimed that the walls are impervious to air and moisture. Continuous reinforcing bands laid in the mortar between the blocks bind the wall. The silo is claimed to be resistant against all kinds of weather or temperature. The blocks can be laid by any bricklayer.

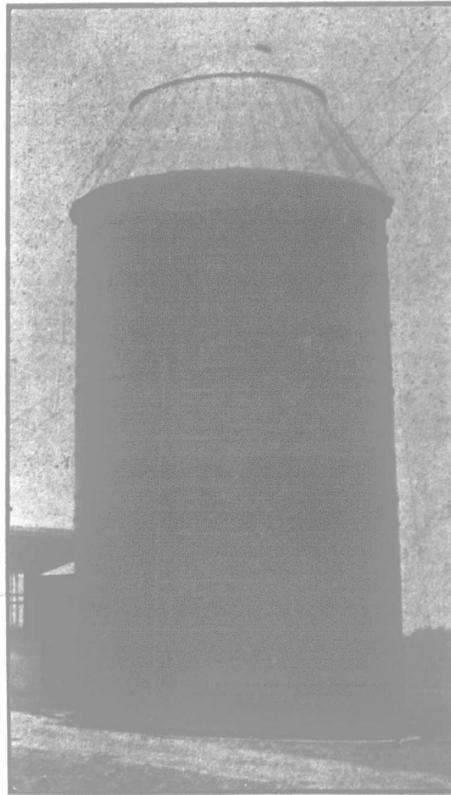
Steel Silos.

The steel silo is in use in certain sections and gives good satisfaction. It is made of heavy sheets of steel riveted together in a similar manner as a steel tank. The cost of material for a silo 12 by 30 feet will be around \$100. The cost of construction must be added to this, which with roof and chute will come to nearly \$200. The inside must be gone over frequently with a protective coating, as the silage tends to rust the metal.

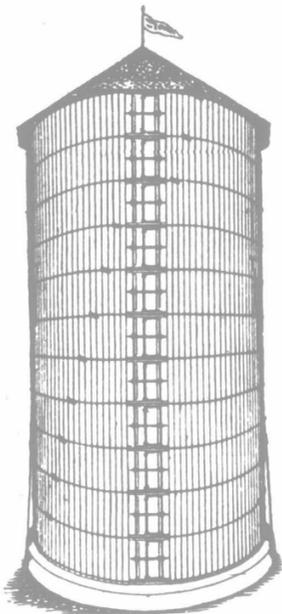
The prospective purchaser of a silo has a choice of a number of kinds all of which are proving satisfactory. He must decide for himself as to the kind he will build. Local conditions may be an influencing factor.

Silo Floors.

It is generally conceded that a floor should be put in. Four inches of concrete will serve the purpose. Some run a drain from the centre of the silo to remove



Silo Built of California Red Wood.



A Prepared Wood Silo.

any liquid from the corn, but this is not absolutely necessary. Other than wooden or steel silos should be carefully plastered on the inside to give a smooth surface so that the corn will settle evenly. A chute must also be put up. This may be built of concrete or lumber. The amount of material required will depend on size of chute. If built of rough lumber the sides could be shingled or covered with prepared roofing material. Every silo should have a ladder at the outside for use in putting up blower pipes, etc. This should be directly beneath the window in the roof. A wooden ladder bolted to the wall is very satisfactory, but a wire ladder is more permanent. A ladder is also necessary in the chute or beside the door. If the door is a continuous one the reinforcing rods may serve the purpose.

Silo Roof.

A silo is not complete without a roof. Rain and snow make the silage soggy on top, and it is disagreeable work throwing silage out of an open silo on a wet or stormy morning. Manufacturers usually sell roofs with their silos which give a finished appearance to the structure. When a concrete silo is built the local contractor may construct a roof, although it is possible for anyone who is handy with carpenter's tools to put on a roof. A hip-roof, although more difficult to build than an ordinary pitch roof, permits of storing several tons more corn. A pitch of 45 degrees or more should be given an ordinary roof. The plate made by 2 by 8-inch pieces is held in place by the bolts imbedded in the wall. Rafters are fastened to the plate at the bottom and to a block or ventilator at the top. For a 12-foot silo 10 rafters of 2 by 6-inch material each 10 feet long should be sufficient to support the roof. These should be braced about four feet from the bottom. For a 14-foot silo rafters should be at least 12 feet long. Sheathing is nailed to the rafters and then covered with shingles, metal or prepared roofing. A window should be built in the roof.

The accompanying illustration shows the roof of a silo 14 feet in diameter, and represents the section of elevation looking from the top, in which A is the 1/2 by 9-inch bolts to fasten the 2 by 8-inch plates. B is cut to form a circle around the silo. C is the top plate 2 by 4 inches, which was cut at the sawmill from a circle 3 feet in diameter. The rafters D are 14 feet long, and set at 2 feet centres on the plate. Braces are put in about 5 feet from the plate to receive the sheathing, which is cut at the sawmill to run lengthwise of the roof. The roof covering is composed of rubber felt, which is cut the width of the rafter space, allowing for a lap. After everything is completed the roof cap is built and set on top, which completes the whole roof. If desired, a weathervane can be put on top. A bill of material for the roof, as described, is 450 feet of hemlock sheathing, 200 feet of hemlock scantling, 5 rolls of rubber roofing, 1 sash and glass. Four men built it in one day.

Silo roofs have been made by putting the sheathing lengthwise. Inch lumber is ripped from one corner to the other, and the small end fastened to ventilator or post at the top. Having the lumber cut the right shape at the mill facilitates putting up the roof.

A well-built silo, whether it is of wood or concrete, is an asset to a farm. It shows that provision is made to supply a succulent feed to the ration at least possible cost through the winter, and that a considerable acreage of the heaviest yielding fodder that can be produced on the farm is being grown. It indicates that the stock will be wintered cheaper, but equally as well as the stock on the farm without the silo. The greater the acreage of corn the more stock the farm will carry. Two silos are an indication that the milk flow is not allowed to decrease below normal when grass becomes short and dry in July and August. Users of silos claim that no stockman

can afford to be without a silo, if corn will grow on his farm. A silo is an investment in which the principal with interest may be returned the first year.

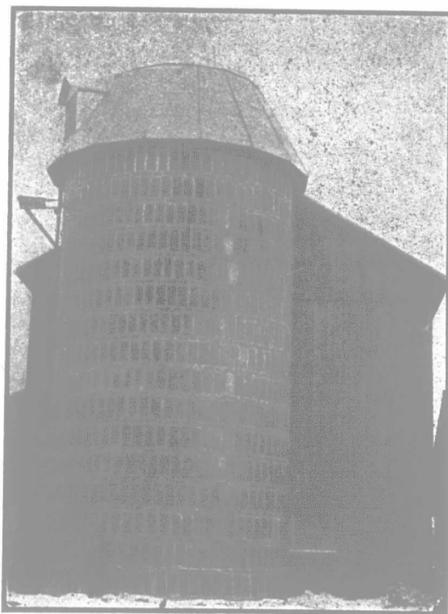
THE FARM.

A Reply on Economy.

EDITOR "THE FARMER'S ADVOCATE":

Some weeks ago there appeared in your columns a letter signed "J. L.", criticising co-operation among the farmers. This letter was of such an extraordinary character, and in my judgment so misleading, that I thought it called for some protest. I therefore replied to it in a letter appearing in your issue of May 11th. In your issue of June 1st appears a very heated communication from one "James Love," which quotes a phrase used by me in my letter of May 11th, and has many kind things to say about myself and my "Studies," lately published in your paper. I take it, therefore, that "J. L." and "James Love" are one and the same person.

It is evident from the tone of Mr. Love's last letter that my protest against his criticism of co-operation has offended him. I am sorry for this. Had I sufficiently realised that the character of Mr. Love's first letter was probably entirely due to that profound ignorance of the essential principles and practice of co-operation so prevalent in America I might have used milder language. But I beg to point out to Mr. Love that he was quite unjustified in taking my description of his first letter as applying to himself. We have all heard the most benevolent gentlemen give expression to the most abominable doctrine. Why? Because they do not think; because they do not realize what they are saying. Mr. Love may be the most amiable of gentlemen, nevertheless his first letter did express a "shallow and



Constructed of Hollow, Vitrified Clay Tile.

callous materialism"—a point of view so common in our day that one scarcely wonders that Mr. Love has almost unconsciously given expression to it.

Mr. Love's second letter deals not with my criticism of his first letter (to which it makes but a veiled reference), but with quite a different matter. Of course Mr. Love is at liberty to indicate his annoyance at my protest by filing another protest against something else that I have written. Such procedure, however, is scarcely logical. One would naturally expect that anything impertinent or irrelevant in my protest would have been pointed out; and indeed I would be only too pleased to have it so pointed out. But if, on the other hand, the protest was merited, Mr. Love does unwisely in venting his displeasure upon the unoffending "Studies." There may, indeed, be mistakes in them, but there is surely nothing in them to arouse Mr. Love's wrath, and prompt such a letter as he has written. In fact Mr. Love's second letter consists largely of invective, and, in so far as this is so, it supplies its own answer. But in so far as it purports to expose the fallacies of the "Studies," it calls for some reply from me, which I shall make as brief as possible.

Mr. Love's argument is ill-advised. He seems not to have read carefully what I did say, for his criticism is evidently based upon a misunderstanding.

(1) Mr. Love says: "In study VIII he figured out the agricultural deficit for one year at \$110,000,000. But as there is a wage bill of \$760,000,000, paid largely to the employer he can, by appropriating a part of it, easily overcome the deficit, and avoid the clutches of the sheriff." Exactly, the farmer can meet his deficit by accepting smaller wages. That is what he does in practice. Nevertheless any comparison between the earnings of agriculture and those of "manufacturing" remains as before.

(2) Mr. Love says further: "In study IX, however, the writer, in his blind eagerness to arrive at a certain conclusion and yet appear logical, presents figures that upset his former calculations, subvert his previous theories and cast ridicule on all his labored efforts at economic reform. Canadian farmers, he tells us, buy two-thirds of all imports as well as of all goods made in Canada which, according to his figures would be two-thirds of (\$1,350,000,000 plus \$575,000,000) or \$1,283,000,000. According to his figures agricultural products amount to \$1,000,000,000. We find that with an expenditure of \$1,350,000,000, and an income of \$1,000,000,000 agriculture must face an annual deficit of \$350,000,000. This is the logical outcome of Mr. Good's juggling with figures."

If Mr. Love will be good enough to read again what I did say he will find that I did not say what he has attributed to me. I submitted that Canadian agriculture paid two-thirds of the total tariff tax. My estimate may be high. Three-fifths may be nearer the correct figure. I am quite willing to be shown just how much Canadian farmers do pay. But at all events I did not say that Canadian farmers bought "two-thirds of all imports as well as of all goods made in Canada." Mr. Love should make surer of his ground before engaging in controversy, and not lay himself open to the charge of erecting a straw man. However, let us review Mr. Love's argument. We shall accept his figure of \$575,000,000 total imports (which I did not give, but which is substantially correct). It must be noted in the first place that a considerable proportion of these imports consists of free goods, mainly raw materials for "Canadian manufacturers". I find that the average amount of dutiable imports for the years 1910-14 runs about \$340,000,000 per annum. It must be noted in the second place that a considerable proportion of the \$1,350,000,000 worth of "made in Canada" goods consumed at home is also unprotected. This I have tried to make allowance for in reducing the price enhancement due to the tariff to 20 per cent. When these two points are taken into consideration it will be seen that two-thirds of the dutiable imports plus protected Canadian manufactures consumed in Canada falls well within the income from Canadian agriculture. Note further that it is quite possible that some expenditures made by Canadian farmers during the last five years may have been made either out of previous savings or from borrowed money (the latter being very probable in the West) and it will be seen that my estimate that Canadian farmers pay two-thirds of the total tariff tax is indeed quite credible. Estimates do not pretend to be mathematically exact, and when there are no figures available one must do the best he can.

I take it, therefore, that the "glaring discrepancy" of my figures still remains to be pointed out.

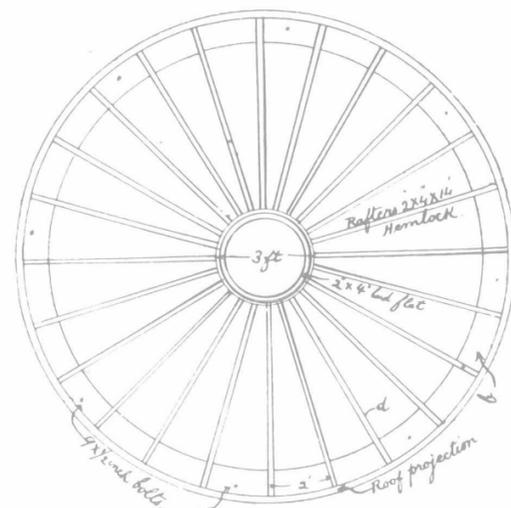
May I ask Mr. Love what he means by the following sentences which I quote from his second letter. "The principles of a sound political economy rest not upon morality but upon justice." Are morality and justice mutually exclusive? And second: "that improvement [in agriculture] must be founded upon solid and enduring principles . . . not upon the laws of man or the principles of economics but upon the laws of human nature." Surely if we had a "sound political economy" based upon justice but not upon morality Mr. Love would concede that it might assist us in placing agriculture upon a better basis! If not, will he be good enough to inform us what are those "laws of human nature" which are, in his judgment, alone capable of stimulating agriculture? Such knowledge were certainly valuable.

Brant Co., Ont. W. C. GOOD.

Agrees with Mr. Good.

EDITOR "THE FARMER'S ADVOCATE":

I notice in your issue of June 1 an article under the heading "A Reply to Mr. Good's Articles on Economy," by James Love. As one of your readers I should like to say to Mr. Love that to my understanding Mr. Good's articles were very logical. He starts at one point and leads his argument through



Construction of Silo Roof.

the various phases hand, Mr. Love nowhere and finishes in his last paragraph away "the laws of and trust to the la

When we view with the laws of going at the present would like to reveal day life. Mr. Good's articles in advance article as there

Haliburton Dist

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EDITOR "THE FA

I hae juist go direction, an' I'm my impressions o' pairt o' the Prov muckle o' it in twae gie an opinion. One thing I can be suffering tae Frae ma ain coun it looks as tho man as well as b meadows are unc fields, the less but the quack something I wa a' over the Pro fraw bunches o' tae the rule. Gi thing tae get rid till we'll hae tae them an' gae far

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the various phases to a logical conclusion. On the other hand, Mr. Love in reply, to use an Irishism, starts nowhere and finishes at the same place. Mr. Love in his last paragraph professes that he would throw away "the laws of man and principles of economics" and trust to the laws of human nature.

When we view the sad experience of the world with the laws of human nature, which we are undergoing at the present time, one wonders if Mr. Love would like to revert to these same principles in everyday life. Mr. Good's ideas are about as many centuries in advance of those expressed in Mr. Love's article as there are years in their ages.

Haliburton District, Ont. ALFRED G. TATE.

Sandy Concludes that Ontario is All Right.

EDITOR "THE FARMER'S ADVOCATE":

I hae juist got back frae a little trip up in your direction, an' I'm minded tae tell ye something about my impressions of what I hae seen o' the western pairt o' the Province. I couldna' expect tae see vera muckle o' it in twa or three days, but I'm in a poseition tae gie an opinion formed by a passing glance onyway. One thing I can say, the country didna' seem tae be suffering tae ony great extent frae lack o' rain. Frae ma ain county o' Glengarry tae west o' Hamilton it looks as though Providence must be intendin' man as weel as beast tae live on hay this year. The meadows are unco' fine lookin', but as tae the grain fields, the less said the better. Aboot everything but the quack grass was under water. An' that's something I want tae speak aboot in particular, this quack grass. It seems tae be pretty nearly a' over the Province. Ilka field we passed had a few bunches o' the grass in it, or it was an exception tae the rule. Gin we dinna' wake up an' dae something tae get rid o' this weed it winna be mony years till we'll hae tae turn oor farms intae pasture, or leave them an' gae farther west. Quack grass is na joke.

But it's a great province a' the same, is Ontario, an' when ye get west past the stanes an' intae the land o' alfalfa an' clover, ye begin tae ken it. Mony's the field did I see wi' a bunch o' Holsteins or ither cattle grazin' in them, an' the grass a foot high a' aboot them. Guid live stock an' guid grass lan, mak' a combination that's hard tae beat as a money-maker. Ye can mak' a guess at this frae the hooses an' barns ye see on ilka side. Gin the farmer in this country hasna' everything he wants he must be hard tae please. He can get power tae rin his machinery frae Niagara Falls, an' he can get gas tae light an' heat his hoose frae the wells that they bore thereaboot. He has his motor car tae rin him in tae toon, an' a' the ither inventions o' the twentieth century are his gin he wants tae pay for them.

The land between Hamilton an' Niagara Falls is maistly taken up wi' orchards an' gardens an' such like, an' it's an unco' bonnie sight tae see the trees a' loaded wi' blossoms as they are the noo. I hae na doot that there's guid money in the business, but it's something I ken but little aboot. It's no job for a lazy man though, I can see that. Gin ye keep the ground cultivated an' the trees sprayed an' pruned as they ought tae be, ye willna' be idle, I'm thinkin'. There's some attend tae this matter better nor ither, too, as ye can easily see as ye pass by on the train. It's no' hard tae tell what like a mon the owner o' a farm is, gin ye can get a look at the farm. Sometimes ye get a glimpse o' baith farmer an' farm together, as I did in one case. We were gaein' along through a pretty fine lookin' country when we passed by a last-year corn field wi' the corn still on it. The corn wis in stooks, but wis lyin' this way an' that way just as the wind had left it last fall. But what pit the feenish tae the picture wis the owner o' the ranch himsel'. He wis sittin' on the fence wi' a fishin'-rod on his shoulder waitin' for the train tae pass sae he could get doon tae a wee river that rins alongside the track. "Weel," says I tae masel, "they say ye can't always judge by appearances; but I'm gaein' tae guess that I've seen a mon that willna' hae muckle trouble dividin' his property when he comes tae makin' his will a few years frae noo." The whole combination was the

maist consistent thing o' the kind I've ever seen. On ma way hame I thocht I'd maybe better gang by way o' the Falls an' see gin they're the wunnerfu' thing I'd heard they were. I'd heard o' one mon who was unco' disappointed wi' them. "Why," says he, "what else could ye expect the water to dae but fa' doon when it cam' tae the edge o' the precipice. I canna' see onything remarkable aboot them." But for mysel' I didna' feel yon way aboot it. I'm no' going tae try and describe them. Gae an' see them yersel' an' gin ye happen tae be in the richt mood tae appreciate Nature an' her handiwork ye'll no blame me for not tryin' tae tell ye what like they are. There's maybe words in the dictionary tae dae it, but the trouble wad be tae use them in the proper order. What impressed me mair than onything though, wis a statement I heard tae the effect that it has taken 75,000 years for the water tae wear oot the channel frae Queenston tae the present Falls, a distance o' seven miles or mair. This auld earth was a lang time in the makin, sure eneuch. An' the people wha are livin' on it seem tae be juist in what ye micht ca' the primary stages o' development as yet. They dinna' even ken how tae get along wi' ane anither wi'oot fightin' an' wastin' mair property in a year than they can get back in ten. But onyway Niagara is a bonnie place an' weel worth a visit. But dinna' gang wi'oot plenty siller in yer pooch, or ye may find yersel' a stranger in a strange land. As sure as I'm tellin' ye I thocht I must hae a hole in ma pocket, the way ma small change disappeared. But since I've got back hame ma pockets seem tae be a'richt, sae I've come tae the conclusion that I must hae juist given ma money awa' tae some poor body in a fit o' absentmindedness. I ken there's lots o' ways tae spend yer money around the Falls but I dinna' remember buyin' oot the plant an'makin' a part payment on it, or onything like that. It's lucky I had ma return ticket or I micht hae been compelled tae settle doon in that part o' the country. Hooever, I'm at hame once mair, no' muckle the worse for wear an' able tae tak' ma place on the auld job again. There's no place like hame, even gin there's lots o' places ye micht like better.

SANDY FRASER.

Automobiles, Farm Machinery and Farm Motors.

How to Buy an Automobile.

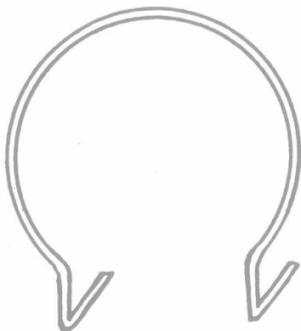
When automobiles were first introduced the average farmer described them in language more profane than polite, because the noisy motor of the old days and the road hoggishness of the drivers caused agriculturists almost daily annoyance. Horses were frightened, live stock killed or injured, children sent crying to their mothers' arms, and even the soundest sleepers awakened at all hours of the night with the rhythmic banging of the muffler cut-out. The farmer was not jealous of the loudly-dressed city chap who affected strange attitudes as he wound his weird way through the country, for sooner or later the car contracted some form of strange mechanical indigestion—and the occupant walked wearily homeward.

But the times have changed. Inventive genius has softened the sound of the internal combustion engine to a purr, made its operation a safe, sure system, and motorists have given up their former haughtiness for more becoming manners. The ruralite sees, in the present-day motor car, a machine that not only goes but comes back, and, as such, his keen business acumen knows that it can be made a sound paying investment along with the binder, the seeder and all the other implements of intensive farming. It is because of this epoch in the automobile trade that agriculturists should make themselves conversant with the modern gasoline engine and its application to everyday and everywhere locomotion.

The city man purchases a car for social reasons. He likes to be seen driving to the club. He wants his wife and children to appear at social functions to advantage, but he doesn't know anything about the mechanism of his machine, and, furthermore, he does not care to. He bought it because of beauty, or advertising, or a friend's say-so. If it stops, he phones a garage, and in many instances even refrains from this, a paid chauffeur acting in his behalf. Not so the farmer. He has always been independent. Stern necessity rules his life. When a mower broke down he usually found a way to repair it, and when he couldn't, many long hours were wasted waiting for an expert. So the agriculturist does not look at the fancy stream-lines, gaudy coloring and doubtful accessories in an automobile. He must have dependability. It is his desire to learn just how staunch and true the machinery is, and whether it will constantly take him miles from his own barnyard and back again without being stalled at some lonely spot on the road. Strange as it may seem, the average farmer knows more about his motor than does the average gasoline fiend upon the swaggering avenues of Nob Hill. The former must count upon his personal knowledge, the latter has only to call up a trouble man.

I have said all this by way of introduction. It is my purpose to acquaint the readers with the inner secrets of the motor trade, to put them in possession of facts that will remove the purchase of a car from every shade of uncertainty, and to so drill in the essentials of gasoline engine construction and operation that ownership will become a pleasure rather than a haunting fear. Some people love to shroud the

description of a motor in mystery, but the useless covering can be conveniently thrown away. Now let us take it for granted that you intend to purchase an automobile. Your first step will be the selection of five or six car companies whose financial standing is above reproach, and whose future can be relied upon, for you do not wish to buy a machine that will soon become an orphan through the bankruptcy of its makers. There will be parts to secure in a hurry and this factor cannot be disregarded. Talk the matter over with your family. Determine the lines along which your machine can give you the highest efficiency. Consider the work it will be called upon to do, the roads over which it must travel, the necessary speed and hill climbing ability—in a word give yourself a mental picture of the size and type of motor best suited to your requirements. Then you are ready for the initial move—the checking over of the manufacturers turning out the car of your choice. Eliminate those that are not represented in your locality. Delete the names of others new in



A Device to Hold a Wash Basin or Pail in the Stable.

the trade. If possible, give preference to the ones with a factory or factory branch close at hand. Always remember that these essentials spell better knowledge for owners and consequent better care. Having resolved the lengthy list into a smaller and better array for comparison, write to the firms in question for catalogs and supply of literature. Pending the arrival of the printed matter, you can hardly be better engaged during your spare time than in interviewing your friends regarding the merits of the automobiles now grouped in your mind. Every owner will have interesting experiences to relate, and these cannot fail to afford many angles for observation.

In the next article a general description of the motor car will be given, and the way paved to discuss details. Thus stage by stage you will be carried along in easy comfortable fashion to a point where without hesitation and with intimate information you can decide upon the machine best adapted to afford the most for the money in your family and farm life.

AUTO.

Inexpensive Homemade Time Savers

The twentieth-century farmer must be somewhat of a mechanical genius as well as a man who has knowledge of land and crops, in order that he may keep abreast of the work which daily devolves upon him, owing to the scarcity of help and the high wages demanded. Any handy device which he may conceive and put in use on his place and which will save time and labor aids him to show a balance on the right side of the ledger at the end of each season. A short time ago we called on H. M. Rolph, a York County farmer, who, being somewhat of a mechanic, has in use on his farm many simple devices which might be adopted by other farmers without great expense.

First, we wish to mention a neat little workshop, well built and painted, in which are to be found all kinds of tools necessary in blacksmith and carpenter work. A complete blacksmithing outfit, with forge, anvil, vice, drill, dies, etc., was installed at a cost of about \$100 and through these the annual blacksmith bill of the farm has been cut from in the neighborhood of \$45 to \$12, which means a saving of \$33 per year and this outside of the horseshoeing work which is still done at the nearest village. Thirty-three dollars per annum is six per cent. on an investment of \$550, and we feel sure that a complete shop with outfit could be put on most farms for much less money than this, and in these figures no account is taken of time saved in repair work, a great deal of which can be done in the winter, or on wet days. If a bolt should break or a nut be lost it is soon replaced from the supply in stock in the shop. It should not cost more than \$125 to completely equip a farm workshop with blacksmithing and carpentering tools necessary for farm repair work. We would not advise the average farmer to attempt horseshoeing. In Mr. Rolph's shop are a number of drawers in which are kept the different sizes of bolts, nuts and washers required on the farm. They are not all mixed up in one promiscuous heap and every tool is kept in its proper place.

Every good dairy should have in it a place for the milkers to wash when beginning milking and after milking each cow. A simple arrangement to hold the wash-dish is here illustrated. Mr. Rolph uses this in his stable and finds it very handy. To get the exact size of the wash basin take a piece of soft wire and bend it around the basin under the projection at the top. Take this to the shop and bend a piece of round iron (three-eighths inches is a good size) the exact shape of the wire. From the shoulder of the iron bent to fasten to the wall, allow about the width or a little more of the projection at the top of the basin and then bend down at right angles, three or four inches, fastening to the stable wall or to a post by means of staples. This arrangement permits of the holder being turned back against the wall out of the way when not in use and is very simple indeed and if stoutly stapled the same arrangement could be used for holding pails for feeding calves.

Many farm windmills are situated several rods from the buildings and it is necessary very often for someone to make a trip or two each day to the windmill to pull it into the wind and throw it out again. Mr. Rolph has a mill 80 rods or more from the barn and

to get over the work of going back and forth each day, he ran a wire from the mill to the stable using small pulleys fastened on fence posts. It is simple and saves many steps. The wire enters the stable and from it the windmill is pulled in or thrown out, as desired.

Another thing we noticed at the farm was a home-made latch on the sliding door of the harness room. The door of this room slides into the partition and is weighted. When it is pulled shut, a small catch holds it there and which catch, to which is attached a wire running down on the outside of the room to a small foot pedal, is easily opened by simply putting the foot on the pedal when the door slides back into the partition, allowing the man whose hands may be loaded with harness to enter the harness room without putting down his load. The idea is a simple one and is adaptable to many kinds of latches which a man of any mechanical ability might provide. The nice thing about it is that the sliding door opens itself as soon as the latch is loosened which is done by the foot.

Most doors, in the ends of buildings where the loft is used for hay unloaded with a horse fork, are hinged at the bottom and flop back against the building when opened. They are generally put up and down by use of the hay fork rope, over the pulleys, in order to get purchase enough to handle the doors. Mr. Rolph uses a different device, his door not being hinged at all. It is simply a sliding door which is hung on weights and which is much more easily handled than a hinge door. It slides down the outside of the building to the bottom of the opening and the weights which balance it make it very easy to close it up when desired.

These are only a few of the many handy arrangements noticed on the farm. Another was a boxstall door fastening which consisted of two iron bars across the door and which were fastened together by another iron and both of which dropped into strong catches, one at the bottom of the door and one about midway up. This makes it easy to open a door which is securely fastened. The trouble with many boxstall doors is that they are broken out at the bottom. This double catch which opens by one latch fastens the door at the bottom and in the center and prevents this trouble. Some of these ideas may be of use to readers of "The Farmer's Advocate".

A Few Timely Machinery Hints.

Wet days may be profitably filled in getting mowers, tedders, hay rakes and binders ready for the field.

Go over the mower and binder knives and tighten all loose sections. New sections may be needed. A supply of rivets should always be on hand, and above all keep the knives sharp. Get them ready now, for it will be fine weather after a time and you will want to use the machinery.

Oil is the cheapest and most effective life preserver for farm machinery of all kinds. We have known men who would only oil their binders once a day. A binder requires a thorough oiling twice per day, and the parts which run fastest should get at least two extra applications. A mower requires oil more frequently, because it is geared higher.

Every farm should have a workshop. Too much valuable time is lost in running back and forth from the village blacksmith shop for minor repairs which with forge and anvil, vice, dies, etc., could be made at home.

All outdoors is a big shed, but not the best place for the wagon or the cultivator when finished with it for a few days. If a regular implement shed is not provided the barn is always available, all the extra work entailed is to open and shut the doors.

The guards on the mower and binder would do better work if the "dubbed over" points were filed off sharp. New plates may be required also, and some guards may be loose. Make the machinery 100 per cent. efficient, ready for the field.

New slats may be required on some of the binder canvas. Now is the time to put them on. Of course, the binder was not put away with the canvas still

in place on the rollers. All canvas should be removed, carefully rolled and tied, and then hung up. Take it down and examine it. A few patches may be necessary, and broken slats should be replaced. Straps and buckles should be examined for the canvas must be adjusted so as to run free and true. For patching, sound, old bag material is good.

See that none of the "kick" is out of the hay tedder through the loss of a prong from one or more of the forks. Tedding is worth doing well.

Keep the shafts on the horse rake tight. A wide rake seems to put a great deal of side shake on the shafts, and if they are allowed to work loose the ends are liable to split out.

For killing weeds in the summer-fallow there is nothing to equal the broad-share cultivator. Put on the "wide feet" and cut off all the weeds in their infancy.

For cleaning a rusty plow moldboard a piece of brick is good. Oil should be used on the moldboard when the plow is put away for a few days or longer.

This department has been opened for the benefit of our readers. If you have a gasoline engine or any other class of power, other readers would like to know of your success and of your difficulties and how they were overcome. We ask our readers to help us make this new departure of greatest help to Canadian agriculture. We have employed a competent man to give us special articles on automobiles. We will from time to time have special articles on other farm motors and farm powers, as well as on the general farm machinery. We feel that, with the help of readers, we can make this one of the best departments of "The Farmer's Advocate." Questions will be answered free to subscribers.

Canada's Young Farmers and Future Leaders.

Boys, You Can Be Leaders!

Time passes very rapidly. The men who yesterday were the tillers of the soil and leaders in agricultural improvement, educational advancement, religious thought and political circles are to-day watching a younger generation guiding the affairs of state, community and church. With the experience of their fathers and present-day facilities for acquiring information they should be in a position to advance in every way, more rapidly than their fathers. Some advance, but too many allow the golden opportunities of youth to pass unnoticed. What of the future? The young man who would be a leader instead of a follower must commence now to prepare himself for that leadership.

Many young men have realized that the farm offers splendid opportunities for advancement. There are new problems coming up each day that must be solved, and solved on his own particular farm. Soils are not all the same, where one crop will do well another proves a failure. The young men are beginning to see the advantage to be gained by knowing their farms. By conducting experiments they are finding out what the soil will produce the most profitably. Some are endeavoring to introduce the cost system in their work, and several have discovered that some crops are produced on certain fields at a loss. This is something anyone could figure out by keeping a record of the time spent in preparing the soil, sowing the seed and harvesting the crop. When the yield is figured at market price it will give an idea of the profit obtained. Keeping accounts could go still farther in order to determine if the crop was being marketed through the most profitable channels. Some stock give better returns for the feed consumed than do others, and it is only by making a study of live stock that the most efficient can be picked out. On one farm where ordinary grade cattle had been kept for years the son discovered that they did not pay as high a price for the feed consumed as did the neighbor's cattle which were well bred. The father was willing that the young man should have an interest in the business, and together they purchased a couple of pure-bred cows as a foundation for a herd. To-day they have a valuable herd of cows, and it is a pleasure to look after them because they are paying their way. Many fathers would do the same as the one mentioned if the young man showed a desire for better stock and a knowledge of how to look after it. Showing on your own farm that there is profit in keeping good live stock is one form of leadership, that cannot be despised.

On a dairy farm there were two boys who were still in the public school, but who were obliged to assist with the milking night and morning. They soon discovered that some cows gave more milk than others, and persuaded the father to purchase a set of scales. In two months time the father became more interested in his herd, and at the suggestion of the boys he secured a number of pure-bred females. The poor cows were disposed of, and the average returns for the herd rapidly increased under better feed and care. These boys were leaders, and it was

not long before other dairymen in the neighborhood commenced improving their herds. By reading and studying these boys attained a good knowledge of types and breeds of dairy cattle. They figured out balanced rations and studied how to produce milk most economically. It was not long before they were being consulted by many in the neighborhood for information on dairying. They applied themselves, and although they have not yet reached their majority they are leaders along their particular line.

How a Boy Made a Dollar Grow into a Flock of Sheep.

EDITOR "THE FARMER'S ADVOCATE":

Some years ago I knew a boy, an Ontario boy too, who, at the age of seven took a dollar of savings made up of "coppers" and "nickels" and with it he purchased from a neighbor woman a goose which had laid seven eggs. They were not golden eggs but just ordinary goose eggs. After the goose was brought home she laid an eighth egg and after spending four weeks on them she brought out seven goslings. The boy's father fed the geese free and in the fall the lad had seven dollars for his trouble. Geese were cheaper in those days than now. All were sold, and to keep up the boy's interest he was encouraged to bank the money and the father gave him a grade Shropshire ewe, the wool and progeny of which was to be his but all the progeny was to be sold, for the father was afraid if the boy was allowed to keep the lambs from his ewe he would soon own the whole flock. The first year the dogs got at the flock and the boy's ewe was killed. But the father, anxious to develop the lad's interest in farming, gave him another good ewe with which he had better success. The bank account grew each year as the money from wool and lambs was added thereto. After a few years the owner decided to sell the grade flock and purchase pure-breds. The boy's ewe went too, but the boy had saved enough money to buy a fine pure-bred Shorthorn heifer from his father. The nucleus of the pure-bred flock was six ewes purchased at a good price and which, for two years proved very unsuccessful. The father tired of them and the boy traded his heifer, by that time a cow, for the ewes and two ewe lambs which had been raised. The trade was profitable for the boy, for, by buying good sires and attending closely to the sheep he soon had a flock turning him in between \$200 and \$300 yearly. The father fed the sheep free and the boy made money and developed a knowledge of sheep and a love for farming not common where boys do not get encouragement. The flock never grew large but it was choice. Fifteen ewes dropped thirty-one lambs in one year and raised twenty-six. Care made for success.

I simply relate this to induce, first of all, fathers to encourage the boys and to start while the boy is young. The boy should, as early in life as possible, have something his own. He should be encouraged to save his money and invest it in some kind of farm live stock. And the boy should study and when he gets a good opportunity should put his best effort into the work. The boy of whom I write used to work sidelines. One year, I remember, he raised forty-four

choice ducks which, in the fall, netted him enough money to buy a good fur coat. The boy is never too young to be given something to interest him in farming. It may be better to save the first gift money and buy some poultry or a sheep or something with it. This is a great lesson in the value of money. The boy of whom I write developed into an all round good farmer before he was eighteen years of age and he was consulted by his father about all the farm operations. Why? Because he had been given a chance and had improved his opportunities and his advice was worth while.

Boys, take an interest in your work. Get something yours on the farm and show father you can develop it. Fathers give the boys all the help you can. If they show a preference in boyhood for poultry, let them have it. If they want a calf, a pig, or a lamb arrange for them to have such. Help them to appreciate farm life and the country will be the better of your efforts.

A FRIEND OF THE BOYS.

A District Known for Its Radish.

In Essex County, on its western side, is a small district which for many years has been known for the quality of radishes produced there. The farms are small, in many cases only about six rods wide, and the homes are close together. A vegetable gardener cannot depend upon one kind of crop alone. When he goes to market he must load his wagon with a variety to suit the tastes and desires which his customers bring to the trading place with them. Consequently, while this community is famous for the radish, all kinds of garden truck are produced in abundance and long is the line of market wagons that may be seen wending their way up to Windsor on a market day. Some of this produce finds its way across the boundary line and the radish is known on the New York market where it commands a high price as the "Petit Cote radish." The specimen seen growing by the writer was a long variety and very crisp and full of flavor. A person would be obliged to eat 100 pounds of radishes to derive approximately 6 pounds of food constituents so it is evident that the elite of New York are paying for Petit Cote quality, flavor and crispness rather than for actual food value.

The radish are grown in what appear like long beds. A block of the farm is set apart and these beds made about two feet wide for the length of the small field. Potatoes are first planted in the centre after which the radish seed is sown. The later crop comes quickly and is harvested by the time the potatoes are up far enough to require hoeing, then the remaining radish are cut out and the land is given up entirely to the potato crop. In one plot seen the radish seed had been sown by hand in drills crosswise of the long bed. The cross drills varied from 4 to 6 inches apart and must have entailed no small amount of work in seeding. On another plot they had been planted with a garden seed drill lengthwise of the beds. This was manifestly much more economical of labor but in a good season the yield would probably be smaller.

It has been a very unfavorable season for the Petit Cote growers. The excessive rains have soaked their land with moisture to such an extent that the crops are inferior and considerable loss has already resulted.

Finch Da

Formerly the proximity to the Ontario. One of cheese but factory. To p was preferable place where e under the clo the two factori block building The patrons a Treasurer and The Departme and make chee Any milk used the regular making cheese butter are als paying more fo product is ma in for sweet cr sold. Someti pasteurized wh in preference patrons have profitable mar near a shipping in a position t highest marke more equipme it is believed t

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THE DAIRY.

Finch Dairy Experimental Station.

Formerly there were two cheese factories in close proximity to the town of Finch, in Stormont County, Ontario. Each was manufacturing a fair quantity of cheese but the output was not too great for one factory. To prove that one good factory well equipped, was preferable to two small ones and also to have some place where experimental work could be carried on under the close supervision of the dairy authorities, the two factories were purchased and one large cement block building erected and equipped at a central point. The patrons appoint their own Salesman, Secretary, Treasurer and Board of Directors to manage the business. The Department own the building, supply everything and make cheese at 1½ cents per pound for the patrons. Any milk used for experimental work is paid for at the regular price. Besides having equipment for making cheese, appliances for the manufacture of butter are also on hand. If the market permits of paying more for milk when in the form of butter, that product is made. If a particularly good order is sent in for sweet cream, the milk is separated and the cream sold. Sometimes a special order is received for pasteurized whole milk. If the price is right it is sold in preference to making cheese. In this way the patrons have their milk always placed on the most profitable market. Where cheese factories are located near a shipping point it would probably pay them to be in a position to turn each day's milk supply into the highest market. It would necessitate having a little more equipment than for cheese making alone, but it is believed that it would pay well in many localities.

This factory started operations by paying for milk according to quantity but in order to be up-to-date and to give every man a fair price for his milk the paying by fat test plus 2 was adopted three years ago. At the end of the first year some patrons petitioned for the return of the "pooling system." Those in charge of the factory were very obliging. As they could receive milk at two doors in the factory with little inconvenience they offered to take the milk according to weight in at one door, keep it separate during the manufacture and pay them according to amount and quality of cheese made. Those who preferred the quality basis could deliver their milk at the other door. This arrangement proved satisfactory to all concerned, but when the time came there wasn't one patron who cared to have his milk "pooled." They all delivered the milk at the door where samples were taken and tested. This is a very strong argument in favor of paying according to the quality of the milk for cheese making purposes.

The process of making cheese and butter is similar to that followed in any up-to-date factory or creamery. Whey and skim-milk are pasteurized before being returned to the patrons and tanks are cleaned every day so that the by-products are always sweet when they leave the factory. An ice chamber is built in conjunction with the curing room so that a uniform temperature can be maintained the year round. A temperature of 60 degrees and a humidity of 75 degrees are aimed at.

In order that the latest may be known regarding manufacturing and curing of dairy products, experiments are continually under way. When a new method proves beyond a doubt that it is preferable to the old the dairymen and manufacturers throughout the country get the benefit of the results. It is by experimental work that advancement is made. It will be to the advantage of all interested in dairying to closely follow the work being done at the Finch Dairy Station.

Summer Dairying on a Perth County Farm.

In order to make the greatest success in this world a man must be engaged in the work for which he is adapted and in which he takes real enjoyment. In business there are many lines to choose from. The same is true of agricultural work. In stock raising there are the different classes of stock and in these classes several distinct breeds. The stockman who makes a success of feeding beef cattle might make a failure of looking after milk cows. One man knows how to feed and handle horses another secures best results with sheep or swine. One dairyman manages his herd so they will produce their greatest flow of milk during the spring and summer season. Another one has his arguments in favor of winter dairying. In starting farming it is necessary to decide on the brand of the business that appeals to one most, then purchase a farm in a locality that offers greatest advantages to that particular line. Too many specialize in a crop or breed of stock in a district where soil, climate or local conditions are unsatisfactory. In some sections noted for their dairy herds, beef cattle would be out of place and it would be up-hill work for a number of years to make much progress. The dairyman who desires to sell whole milk locates in a district that offers good markets for this product. The net profit from any business is influenced by the cost of marketing.

S. Coneybere, a successful Perth County farmer, is an advocate of summer dairying and at present has a herd of 16 cows, mostly grades that averaged 10,006 pounds of milk in 1915. This will give an idea of the quality of cows kept. It was only fourteen years ago that business was started up on the present 100-acre farm which is located within a short distance of a good cheese factory and also near a shipping point.

Silage forms the basis of the winter ration and is fed during the season of short pastures. The cereal crop is composed mostly of mixed grain to supply concentrates for feeding the stock. Mangels are considered to be an important crop on a dairy farm. They yield heavily, are good milk producers and tend to keep the animal system in working order. The aim is to have the cows freshen during March as they are then at their best by the time the cheese factory starts operations in April. It is believed that it costs more to produce milk during winter than it does when the cows are on grass. There are other dairymen, probably in the same district, who consider winter dairying is the more profitable. Whether or not Mr. Coneybere is correct in his contentions he has a herd that pays big dividends on the money invested.

As the cows are usually dry during January and February they are not fed heavily on expensive concentrates. About 25 pounds of silage is fed daily in two feeds. Roots are fed once a day. Hay is fed at noon. The grain ration consists of about 4 pounds of mixed grain chop. Occasionally shorts are fed as they are considered to be an excellent feed for cows. The cows are turned out daily for water and are housed in very comfortable quarters. Although the cows had spent the winter in the stable they were as clean as if they had been several months on pasture. Not only are the floors and stalls kept clean by use of plenty of bedding but the walls and ceiling are swept clean of dust and cobwebs. Under these conditions it is not a difficult task to produce high quality milk. The cows were not neglected even though they were not milking. On the ration mentioned they gained in flesh during the resting period and were in the pink of condition to start work in the spring. It is realized that the cow is a manufacturing plant and providing the machinery is of the right caliber the output of the finished product will be in a large measure governed by the raw material supplied. The cows in this herd are given milk-producing feeds. After they freshen the concentrates are increased to about 7 pounds chop and 2 pounds oilcake daily besides the roughage already mentioned. All cows are not fed alike, some pay for more than others. When the milk flow is known in pounds it is possible to regulate the amount of expensive feeds accordingly.

The cows are not turned to pasture until the grass gets some body to it, then the change from winter to summer conditions is made gradually. For a short time while grass is at its best very little grain is fed but so

soon as there is a slight falling off a milk concentrate are fed. Three pounds equal parts oat chop and bran are fed morning and night to supplement the pasture. Sometimes a commercial feed rich in protein is added to the grain during the dry season. From the fore part of July until green corn is ready, silage is fed. A close tab is kept of the feed consumed and at market price the herd of 16 averaged about \$60 apiece for the year. This is considerably higher than the usual estimate. Many herds would go in debt if their feed cost that much. But 10,006 pounds of milk at \$1.25 per hundred weight is worth a trifle over \$125 thus leaving \$65 to pay for labor, interest on investment etc. From February 22 to December 21 one cow in the herd gave 13,253 pounds of milk testing 3.1. Another gave 11,410 pounds testing 3.9, which, if figured at present price of butter fat, would leave a net profit of considerably over \$65.

The present herd has reached its high state of proficiency by careful breeding. Special care has always been taken in selecting a sire to head the herd. A good individual with high-producing, high-testing ancestors was always secured. The results are in evidence. Grade cows to start with and grade cows yet but there is a vast difference in the yearly production. The heifers have always proven to be heavier producers than their dams. This points to the value of a sire.

Only a few calves are raised from the best cows which serve to keep the herd up to strength. Mature cows are disposed of to the number of heifers entering the herd each year. The oldest or inefficient cows are the ones sold. There is a ready market for young calves and they are sold when a few days old. The heifers raised are fed new milk for a couple of months.

Apart from the revenue from the milk, forty or fifty hogs are raised and fattened each year on the by-product from the factory and grain grown on the farm. Dairying and hog raising work well together. A little mill feed is purchased each year but if it were not for the silage the farm would not maintain the number of cows it now does. The results of this herd are another proof of the value of weeding out the poor cows and feeding well those that are kept.

A subscriber asks for readers who have had experience with milking machines to give an account of their findings through these columns.

A Substitute for Rennet in Cheesemaking.

The manufacture of cheese depends on the use of an enzyme or ferment which has the power of coagulating the solids of milk. This product has always been secured from the third stomach or rennet of calves which had never tasted solid food. In the first days of cheese making in this country the cheese makers secured the stomachs and made their own supply of rennet. Sufficient extract was secured from one stomach to coagulate about 800 pounds of milk. In large factories this necessitated the slaughter of a great number of young calves. In some sections the patrons were supposed to furnish one stomach for each cow in the herd or the milk would not be taken at the factory. It was difficult to manufacture a uniform enzyme locally, consequently the cheese made varied in quality from day to day. A good deal of work was also entailed. When the extract was made on a commercial basis of uniform standard strength most cheese makers found it more profitable to buy rather than make their supply of this substance essential to the manufacture of cheese. It was considered that the supply would always be sufficient and the art of home making the extract has become a lost one. In case of emergency it could be revived but not without seriously affecting the uniformity of quality in the output from the factories.

Canadians depended on importing the entire quantity of commercial extract used. The supply appeared unlimited and the price was right until the war commenced and the main source of supply was cut off. As the amount in store began to decrease the price advanced until at the beginning of the present factory season it had reached three times its ordinary price. Things looked serious from a cheese maker's viewpoint. To prevent some factories over stocking at the expense of small factories, dealers in this commodity limited the quantity they would sell to one maker and thus planned to assist in keeping all plants running as long as possible. As the supply dwindled down day by day and the price continued to soar alarmists proclaimed that cheese factories would be forced to close and dairymen would have to seek another market for their milk. The cloud hung heavy but the darkest hour is just before the dawn.

While many were worrying over the situation, J. A. Ruddick, Dairy Commissioner for Canada, and his staff were diligently working to find a satisfactory substitute for rennet and thus avoid further trouble. It had been known for years that pepsin which, is an enzyme or ferment obtained from drying the mucous lining of the fresh and healthy stomach of a pig, sheep or calf would coagulate milk in the same manner as rennet extract. This substance is put on the market in the form of a light yellowish brown or white powder or pale yellow translucent scales. Before advising the use of pepsin in cheese making the dairy authorities had first to determine the quantity to use and the effect it would have on the texture and flavor of the cheese compared with rennet.

Under the supervision of Geo. Barr, Chief of Dairy

Division, a number of cheese were made early in the season at the government dairy experimental station at Finch. The same weight of the same quality milk was set in separate vats using pepsin in one, rennet in another and part pepsin and part rennet in another. Exactly the same process of manufacture was employed with all the vats and the cheese were all stored in a curing room where the temperature was constant at 60 degrees F. One day's make was not considered sufficient to make a test, as conditions might vary, so the experimental work was continued throughout the month of May. The time it took for the milk to set each day and the quality of curd were closely observed. As many factories ship their cheese every ten days or two weeks it was fair to test the experimental cheese after it had been in the curing room from four weeks down to only a few days. In this way the effect of maturity could be noted. The judgment of one or two experts was not enough to satisfy the authorities, but, makers, instructors and dealers were present at Finch on June 7 to pass their opinion on the effect of using pepsin instead of rennet. J. A. Ruddick, Dairy Commissioner for the Dominion; Prof. H. H. Dean, Ontario Agricultural College; F. Hens, Chief Dairy instructor for Western Ontario; Geo. Barr, Chief of Dairy Division, Ottawa; E. Bourbeau, Chief Dairy Instructor, Quebec; G. G. Purlow, Chief Dairy Instructor, Eastern Ontario; L. A. Zufelt, Supt. of Kingston Dairy School; T. J. Ellis, Cheese Factory Instructor; H. Coleman, in charge of record center work; F. Singleton, Chief Inspector for Adulteration of Dairy Products, and Geo. Hodge a Montreal cheese merchant, were present and carefully examined the cheese. Two cheese of each day's make were examined and scored before it was made known which enzyme, or combination of enzymes had been used in each cheese. Flavor, texture and body were closely scored. In most days' make it turned out that the cheese made with rennet was considered to be the best all round. However, in some where pepsin was used the score was equally high. This showed that with care pepsin cheese could be made with as high quality as those with rennet. It is known how rennet cheese will hold up under hot weather and how it will appear on the export market. These points have yet to be found out with the other kind. From present indications pepsin could safely be used as a temporary substitute for rennet. Under normal conditions rennet is the cheaper of the two, but to-day pepsin is the most economical. The price is not the main point but the idea is to get something that will give satisfaction so that cheese making can be continued. A pound of pepsin goes a long way, as only 2 drams of a strength 1 to 3,000 are required to set 1,000 pounds of milk. Weighing out the material used in a vat will necessitate the use of a fine set of scales. The powder or scale can be dissolved in water at a temperature of 105 degrees F. As there are different strengths on the market care should be observed in purchasing. In many factories there is still a quantity

of rennet and it can be made to last longer by reducing the quantity used in a vat and adding some pepsin. Cheese made using 1½ ounces of rennet and one dram of pepsin to 1,000 pounds of milk proved to be slightly better than pepsin alone. The pepsin solution can not be made up in quantity and held for a time. It must be dissolved fresh every morning as it will not keep even over night.

The large abattoirs in the country make a considerable quantity of pepsin. At present the market is fairly well supplied and it is believed that the demand can easily be met, so that cheese makers and milk producers may allay their fears regarding the necessity of closing factories for want of extracts to set the milk. While rennet is to be preferred if it can be secured pepsin will make a satisfactory substitute. The Dairy Department are doing all in their power to see that factories are supplied with information regarding the use of pepsin, and they are also in a position to aid in securing it. Full information may be obtained from J. A. Ruddick, Dairy Commissioner at Ottawa.

A number of butchers are beginning to save rennets and it is believed that sufficient of the extract could be manufactured in Canada if the rennets of all calves slaughtered were saved for this purpose. In a short time cheese makers may be able to secure a Canadian product in sufficient quantities to meet all requirements. When this time comes the industry will be independent of foreign countries, but until then pepsin may be used to take its place.

The Department is experimenting with other materials which, in case of emergency, might be used to help out the other substances. While preliminary tests have proven favorable no recommendations can be made until further work has been done and the effect on the cheese observed throughout the season. Anything that would injure the quality would have a serious effect on the cheese industry.

HORTICULTURE.

Growing Onions by the Carload.

On the map of Ontario where the counties of Kent and Essex join there is a finger of land pointing southwards into Lake Erie. The extreme end of the finger is known as Point Pelee, and farther north where the land broadens there is an area which has been reclaimed from the lake and called the Pelee Marsh. A high dyke stands on duty between land and sea, while two huge pumps lift the water from the enclosed area and cough it over to the lake on the other side of the embankment. At first 4,000 acres were reclaimed, but it was later found necessary to cede 800 acres of this land back to Lake Erie. A part of the 3,200 acres is now producing crops. The muck soil on top varies in depth, but ranges, according to those who cultivate and drain it, from 1½ to 5 feet. Beneath this black cloak of decayed and decomposing vegetable matter is to be found the good, old-fashioned clay. The reclaimed area is, naturally, lower than the water level of the lake. The water which falls as rain and that which gravity causes to run down from the land above is pumped out over the dyke. There are two pumping plants which serve the eastern and western drainage systems respectively. Both were purchased to have a capacity of 30,000 gallons each per minute. Upon these and the dyke the dwellers on the marsh depend to keep them high and dry. Farther to the south and at the finger's end is a natural haven for bird life. Many of the feathered tribe winter there, and naturalists come long distances to study them in their winter quarters. As seen from the map it is an insignificant, little point of land that should have been smoothed off, but when one sees what is being produced thereon he must appreciate the existence of a small but productive territory where between 400 and 500 carloads of onions are grown each year in addition to other vegetables. There are enough onions produced on Pelee Marsh each season to supply one-third of the families of Canada with about one-half bushel of onions each year.

How the Onions are Grown.

Onions are looked upon as a staple rather than a luxury, and this renders their culture all the more interesting. We shall describe methods we found in vogue on the farm of J. A. Campbell on the marsh, who this year has 26 acres under onions, and if they differ in detail from the practice of his neighbors it will be in minor matters only.

Soil of the kind found on Pelee Marsh requires some late-fall treatment in order that it may come through the winter and be workable early in the spring. Clay soil is usually left ribbed or with a roughened surface, but in this instance we find the reverse to be the practice. In the fall the land is plowed, harrowed and rolled. The packing and levelling are done to prevent the penetration of frost to any great depth, and when this is accomplished planting can usually begin early in the spring. Before seeding, the soil is harrowed; then it is levelled and once more it is rolled. Five pounds of onion seed per acre are sown in drills 15 inches apart. This season seeding started on April 8, and finished soon afterwards. The wheel-hoes are started the same day seeding commences, and they follow close on the seeders. The fact that weeds grow more quickly in packed soil than in loose encourages the growers to keep the hoes going and the ground thoroughly loose and open. No thinning is done, but frequently the fields are weeded five times. Last year this amounted to \$10 per acre, and that was considered exceedingly low.

The wheel-hoe work and the weeding are important factors in the culture of onions. As may be seen by the accompanying illustration the weeding is done by boys. They average around twelve and thirteen years of age. Being small of structure and lithe of limb they can work between the narrow rows without injury to the crop. With a number of men and boys in his employ Mr. Campbell finds it necessary to keep a check on each one's work. This applies particularly to the weeding, for it is possible to make good time by covering instead of pulling the weeds, and although the poorly-weeded row may appear all right when first done a few days later the neglect becomes apparent. In a short time the covered weeds are through again, and the work must be repeated. The rows are numbered, and as each weeder finishes a row he is credited with it, and a record is made in a small book. Later this information is transferred to a card which can be taken to the field when an inspection is made. Then at any later date if a row is discerned upon which poor work has been done, it is easy to ascertain the careless worker and call his attention to it.



Cultivating Onions.

When the harvest season comes around four rows are pulled and thrown into one. The correct way to make these windrows is so the tops will cover the bulbs and prevent sun-scald, but in the haste of pulling this point is often neglected. The crop is then left in the field in this condition for from 5 to 10 days.

Topping is done both by hand and by machine. The capacity of a mechanical topper varies from 500 to 2,000 bushels per day, and they are now quite common. After topping the bulbs are stored in crates, preferably in a common storage house, and they are mostly marketed in the fall. They should be allowed to remain for 30 days in the crates to cure if they are to be stored later. Six hundred bushels per acre is considered a good crop, but 400 to 500 bushels is about the average. Speaking broadly, one carload per acre is a fair estimate of the yield on Pelee Marsh. One field adjoining Mr. Campbell's farm produced 900 bushels per acre, which was considered an exceptional yield. Last year the acreage of onions on Pelee Marsh was 550; this year it is nearer 400 acres.

The question is frequently asked: "Does frost injure onions?" In reply to this query Mr. Campbell said, "Frost will injure the keeping quality of onions, and they should be used as soon after thawing as possible. When they become frosted they should be maintained in that condition until used."

A Sub-Irrigation System.

Vegetable gardeners are finding it profitable to pump water from its many sources and sprinkle it on their crops through long over-head pipes of many types and descriptions. Mr. Campbell has a rather unique system almost ready to put into operation. It is unique in that the water will come from below upwards rather than from above. Fifty acres are tiled with four-inch tile laid 8 rods apart and about 3 feet deep. These subterranean water courses are connected up with Lake Erie, the water level of which is about 12 inches higher than the surface of the land shut off from it by the dyke. A 10-inch lead pipe conveys the water from the lake to the far end of the field where it connects with a 6-inch main running the entire width of the 50 acres. The field tile join this supply line, and all can be plugged and only



A Group of Boys Weeding Onions.

those opened which serve that part or those parts of the field which require water. The lower end of the field tile must, of course, be plugged when they are supplying water, but in the spring or fall or after heavy rains they may be opened in order to drain the field of excessive moisture. It is at the same time a drainage system and an irrigation system. As previously stated the water in the lake stands 12 inches above the surface of the land inside of the dyke, and the tile are placed, on the average, 3 feet below the surface. A valve in the lead pipe can be opened and closed, and with this head of water there should be no scarcity of supply. The two commendable features of the scheme are: first, the system is all under ground, out of the way of teams or workers; and second, gravity will force the water throughout the field, doing away with the necessity of motor power for pumping. The success of this scheme will offer suggestions to many who have a water supply on a level higher than their drained fields.

POULTRY.

Canada Increasing Egg Output.

To anyone who has not carefully followed the direction of poultry development in Canada, an understanding of the status which the poultry industry has now reached must constitute a distinct surprise. Whether viewed from the standpoint of the farmer or of the produce trade, it is now one of the best organized and most progressive of any of our live-stock industries. Co-operation amongst farmers in marketing is improving the product and realizing for them a higher price than they have hitherto been able to obtain. The reorganization of methods by the trade is providing against loss in handling, is assuring to the consumer a better article and establishing our export business upon a firm basis.

It is estimated that Canada and Cuba, during the last twenty years, received from the United States about three-fourths of all the eggs exported by that country during that period. This situation, however, has now changed. As against an importation in 1913 of 13,240,111 dozen, we imported in 1915 not more than 3,783,952 dozen. On the other hand, while in 1913 we exported only 147,149 dozen, in 1915, we exported 7,898,322 dozen. This constitutes a net increase in production, in two years, of at least 17,100,000 dozen. Practically all of these exports went to the United Kingdom.

Notwithstanding the surplus in Canada which these figures indicate, prices during March, April and May have remained at an extraordinary high level. For the first quarter of the year 1916, the price to producers, selling co-operatively, has been at least 4c. in advance of the price received, for the same period, in 1915. For the month of March, it was at least 5c. in advance and for the month of April at least 3c. in advance of last year's price for these respective months. The demand for eggs for local consumption, for storage purposes and for immediate export, has rarely been so keen as at the present moment. This situation is clearly reflected in the prices just quoted. Heavy domestic consumption in the face of the high price for meats, partly explains this condition. Confidence in the export demand, on the part of the produce trade, confirms it from another direction. Notwithstanding increased production, the egg and poultry business in Canada is in a very strong position at the present time.

Under these circumstances, we believe that it will be a very wise practice to raise as many chickens as it is possible or practicable to handle. Early hatched chicks make good winter layers. Rough grains will probably be produced in abundance in Canada this year and the feeding of poultry at a profit should be materially assisted from this source. Eggs, at winter prices, are a paying proposition in any event. Poultry, alive or dressed, under present and prospective market conditions, can unquestionably be reared and finished at a decided profit. A good flock of poultry, if carefully handled, will serve to prevent waste on the farm and promote economy in living expenses, such as is particularly necessary when all farm products are becoming so marketable and so dear.

JOHN BRIGHT,
Live Stock Commissioner.

FAR

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FARM BULLETIN.

Wine and Weather.

BY PETER MCARTHUR.

Have you noticed how plentiful the dandelion blossoms have been this year? Well, there is something else to notice. I do not know whether it is because the profusion of blossoms offered too strong a temptation, or because prohibition is coming in force in the fall or because "The Farmer's Advocate" published a recipe for making dandelion wine but there are indications that much of this brew is being put away this season. I notice that in strict families they call it dandelion cordial but I imagine that Omar would regard it under any name as a fair sample of "The old familiar juice." Of course dandelion wine sounds harmless—sounds something like a "yarb tea"—but I dunno. There are traditions of other blossoms that have been made to bite like a serpent and sting like an adder. you know what Stevenson tells us about "Heather Ale" whose name sounds less potent than dandelion wine:

From the bonnie bells of heather
They brewed a drink long syne,
Was sweeter far than honey,
Was stronger far than wine.
They brewed it and they drank it,
And they lay in a blessed swound
For days and days together
In their dwellings under ground.

Did you get that "Blessed swound." Heather also must have been some potion. If they bring dandelion wine up to that degree of efficiency I am afraid the prohibitionists will have to do some more "strafing."

A couple of weeks ago many farmers in this district gave up all hope of getting in the amount of oats they had intended sowing and began to make plans for an extra lot of corn, so that they would have grain and feed of some kind. But the wet weather has kept on so persistently that now they are giving up hope of getting in even the usual amount of corn. It is really impossible to do anything on the land with conditions as they are. There is water everywhere and even fields that are thoroughly tile drained are unfit to work. Well-informed farmers tell me that not more than one third of the seeding and planting that was planned for this spring has been possible. There will be no greater production as far as this part of the country is concerned and considerable thrift will be needed to make ends meet. But this discouraging situation is one that no amount of foresight could have avoided. We are helpless in the face of the weather.

The amount of rain we have been having has brought forth a great deal of discussion about the probable cause. There are many who believe that wet weather may be due to the terrific and continuous discharges of heavy artillery on the battle-fields of Europe. Although the theory has points of interest I do not think there is any scientific evidence in its favor. Some years ago, during a protracted drouth, elaborate experiments were made with high explosives in Texas and a number of other states. Heavy charges of dynamite were exploded in the upper air but no results were obtained. The work of the rainmakers merely contributed to the gayety of nations and besides a lot of newspaper fun there were even comic operas written on the subject. Anyway, the experiments convinced everyone concerned that rainfalls could not be brought on by the discharge of artillery or explosives. And I remember that some scholarly person took the trouble to make a review of history to find if rainfalls during battles had been mentioned. To his surprise he found that the falling of rain during battles had been noticed long before the invention of artillery. Even Herodotus had mentioned the curious fact that battles were accompanied by storms and rains. This study gave the discussion a curious twist as it seemed to make the belief a part of the oldest forms of superstition, but a military critic made a suggestion that may possibly offer the true explanation. He suggested that warring generals would probably think it good strategy to make an attack during a storm as they would be likely to take the enemy unprepared. They would regard a storm as good cover for an attack and this practice would gradually give rise to the belief that battles were always accompanied by storms. And when artillery began to be used the explosions bore so much resemblance to thunder that the belief would be strengthened. While the subject is a timely one to pass the time with on rainy days I am afraid there is no real ground for the belief that our unusual wet weather is in any way due to the war.

The Horse Ambulance.

The Horse Ambulance subscribed for by the various Horse-breeding Societies of Canada and costing upwards of \$5,000 has been turned over to the military authorities. The outfit consists of 16 saddle horses, 4 Clydesdales, military harness, saddles, extra braces, blankets, utensils, medicine chests, surgical instruments, the latest form of ambulance with slings, a transportation wagon, and all necessary accessories. The work of the 16 light horses will be to send and remove wounded horses from the scene of fighting while the ambulance, drawn by the four Clydesdales, is designed to supply

first aid to those seriously hurt and that may be saved by prompt attention. H. M. Robinson, Toronto, is secretary of the Committee and John A. Boag of Queensville is chairman. The Blue Cross is doing for horses what the Red Cross is doing for men at the front.

The Watt-Miller-Gardhouse Shorthorn Sale.

One of the best Shorthorn sales in the history of many years was held at Elora on May 10, when 73 high-class individuals of the breed changed hands in less than four hours' time for a total of \$29,045. These valuable animals were selections from the herds of J. A. Watt, Elora; J. M. Gardhouse, Weston, and Robert Miller, Stouffville. These live-stock breeders are well-known in Shorthorn circles, and the quality of the stock offered on June 10 will still further advertise the three family names which have long been associated with the Shorthorn breed in America. The sale prices appended will amply describe the character of the different lots led before a gathering of buyers from all over Ontario, from Saskatchewan, from Alberta and from many states of the Republic to the south. However, in passing, we may record here that over 70 Shorthorns of equal quality have not been assembled at one auction sale in Canada for many years. Some of the females were a good useful kind for a commercial herd, and others were capable of producing young that could win in strong competition as they themselves had done in recent years. Still other younger ones were of show-ring calibre, and several Ontario breeders made purchases to strengthen their exhibition herds for the coming season. Cows or heifers in calf to Gainford Marquis were in demand and sold at very substantial prices. The morning was fine, but, as usual this spring, a storm arose before noon which cast a cloud over the event as well as the landscape. However a large crowd had gathered by noon and filled a huge tent erected for the purpose. When the sale got well under way the accommodations proved entirely inadequate to house the people assembled, but by this time the sun was again shining, and breeders were buying cattle regardless of sun, wind and weather. Representatives from the United States left \$6,280 and took sixteen lots; Alberta got two lots for \$520, and in addition the bull purchased by J. C. Elliott for \$500 will go to a ranch in that country; three lots went to Saskatchewan for \$925. It will thus be seen that the majority of the animals sold remained in Ontario, and this is particularly true regarding those of greatest value. Only four, selling for more than \$500, left the province. The grand average was \$397.87 for the 73 sold. Sixty females averaged \$401.41, and 13 bulls averaged \$336.16.

Several lots caused considerable excitement when led into the ring. One was Miss Clipper 3rd with a splendid roan heifer calf, sired by Gloster Champion, at her side. John Miller, of Brougham, paid \$1,125 for the pair, and, judging by the prices paid by everyone, he got a cheap cow. Another sensation was Countess Selma 2nd, a Kiblean Beauty-bred cow in calf to Trout Creek Wonder. As a two-year-old she was first and champion in several States of the Union, and her heifer calf was first at the leading Canadian shows in 1915. She cost Mitchell Bros., of Burlington, an even \$1,000. These same breeders bought Red Missie and her heifer calf for another \$1,000. Red Missie has produced winners, and she was carrying a calf by Gainford Marquis. One of the most promising things sold was the junior yearling heifer, Evelyn. She was large, smooth and attractive, and we shall be surprised if she does not give a good account of herself in the show herd of A. F. & G. Auld, Guelph, who purchased her for \$825. Still another attractive offering was Missie May, with a young bull calf at her side, bearing such a resemblance to Gainford Marquis that it was named Marquis Again. The pair were bought by C. J. McMaster, Altona, Ill., for \$1,010.

Bulls were not so much in demand as females, but some good prices were paid. Browndale winner, a typey, promising, young fellow by Browndale, went to R. & S. Nicholson, Parkhill, for \$520. J. C. Elliott, M. P. P., Glencoe, bought Monkland Jim H. for \$500. Cecilia Sultan, first in the junior yearling class at Toronto last year and junior champion, went to the herd of P. M. Chapelle, Rochester, N. Y. at an even \$600.

At the beginning of the event short and appropriate addresses were delivered by Robert Miller, Manager of the sale; Hon. Duncan Marshall, Minister of Agriculture for Alberta; F. W. Harding, Secretary of the American Shorthorn Breeders' Association, and John Bright, Dominion Live Stock Commissioner. Carey M. Jones, of Chicago, assisted by Capt. T. E. Robson and three other auctioneers sold the 73 head of cattle in less than four hours.

Following is a list of the animals sold and the names of the purchasers:

Cows and Heifers.

Princess Royal 2nd, Pettit Bros., Freeman, Ont.	500
Cry's Star 8th, Theo. Martin, Bellevue, Iowa	265
White Princess, W. G. Wilkinson, Tuck-stord, Sask.	375
Wimple Marchioness, A. D. Flinton, Kansas City	520
Mina Girl, Theo. Martin	305
Beauty 36th, Frank Edwards, Clinton, Ohio	360
Matchless E., Robt. Phalen, Neponset, Ill.	610

Countess Selma 2nd, Mitchell Bros., Burlington.	1,000
Roan Princess, C. J. McMaster, Altona, Ill.	400
Evelyn, A. F. & G. Auld, Guelph	825
Maxwalton Clara, W. A. Dryden, Brooklin	775
Lavender Anoka, W. A. Dryden	375
Meadow Queen, Geo. R. Mooney, Inverness, Que.	175
Burnbrae Lavender, John Miller, Jr., Ashburn	400
Duchess Gwynne 8th, P. M. Chapelle, Rochester, N. Y.	200
Red Missie, Mitchell Bros.	1,000
Bridal Bud, Geo. E. Martin, Aurora, Ill.	415
Red Queen, R. S. Robson & Son, Denfield	170
Jealousy 4th, Harry McGee, Toronto	900
Princess Royal 13th, G. W. Anderson, Bogner	350
Lovely Belle, Hon. Duncan Marshall, Edmonton, Alta.	230
Oak Bluff Matchless, John Miller Jr.	450
Nonpareil 109th, Geo. Amos & Sons, Moffat	650
Countess of Gloster, H. Bursell, Branchton	170
Irvinedale Matchless, A. G. Farrow, Oakville	280
Kilwinning Lady, Geo. Ferguson, Elora	500
Flora C. 12th, E. A. Hales, Guelph	410
Gold Dust, W. E. Gibb, Embro	325
Lady Rosemary, Jas Douglas, Caledonia	350
Mina Princess 2nd, Theo. Martin	205
Primrose 11th, Theo. Martin	235
Miss Clipper 3rd, John Miller, Brougham	1,125
Daydream, Harry McGee	395
Lady of the Boyne 13th, John Watt & Son, Elora	560
Miss Clipper 4th, Theo. Martin	280
Marabelle, Harry McGee	390
Scottish Maid 57th, J. A. Slighthome, Mountain	335
Nonpareil Lady 14th, W. B. McGowan, Orton	175
Village Belle, P. H. Switzer, St. Mary's	200
Lancaster Maid, A. G. Farrow	200
Merry Tulip, W. E. Gibb	390
Beauty 39th, J. C. Andrews, Indiana	200
Red Blossom, Harry McGee	390
Lady Lind 6th, Percy Sutherland, Longwood	260
Barmpton Lady, John Watt & Son	325
Glen Crescent Crimson Flower 8th, E. A. Hales	290
Missie of Walnut Grove 2nd, Geary Bros., Elora	435
Mysie of Ivanhoe, A. F. & G. Auld	425
Walnut Missie 4th, Harry McGee	410
Irvine Side Merry Lass, A. F. & G. Auld	600
Bridal Ruby, Geo. Mooney	280
Mayflower 31st, G. A. Switzer, St. Mary's	175
Martha 10th, John Miller	225
Cecilia 15th, Arthur Sutherland, Longwood	400
Miss Primrose 14th, G. A. Switzer	245
Mollie Stamford, Oliver Bros., Galt	310
Duchess of Gloster 17th, W. G. Wilkinson	275
Elmira Beauty 4th, W. G. Wilkinson	275
Canadian Roan Lady 8th, Donald Campbell, Mitchell	380
Missie May, C. J. McMaster	1,010

Bulls.

Clan Alpine 2nd, Mr. Robinson, St. Mary's	\$ 250
Oak Bluff Monarch, Geo. R. Mooney	430
Cecilia Sultan, P. M. Chapelle	600
Jilt Refiner, Jas. Thompson, Fergus	145
Prince Mayflower, Chas. McCrae Hamilton, Montana	325
Monkland Jim H., J. C. Elliott, M. P. P., Glencoe	500
Minstrel, Thos. Ingram, Manitowaning	325
Browndale Winner, R. & S. Nicholson, Parkhill	520
Spicy Sultan, Hon. Dun. Marshall	290
Lavender Burnbrae, Geo. E. Martin	350
Bull Calf, by Oakland Star, T. Baker, Hampton, Challenge Plate 4th, Jas. McGillawee, Shakespear	225
Bull Calf by Roan Winner, David Martin, Wallenstein	170

Seeding is Delayed in Eastern Ontario.

Farming operations have been seriously delayed, in the Eastern counties of the province, by the frequent heavy rains. It has been one soaking rain after another all spring and much of the soil has scarcely dried sufficiently to permit of cultivation. Where the soil has natural underdrainage or is slightly rolling some seeding was done in fairly good time, but when a representative of this paper was in Dundas and Stormont counties on June 8, there were scores of farms on which not a kernel of grain had been planted, and under ideal conditions it would be several days before any work could be done on the land. On farms that were thoroughly underdrained seeding operations had progressed favorably. A considerable acreage of oats will still be sown once the land dries and the acreage of corn for silage purposes will be materially increased over previous years. Some are preparing for planting corn before sowing oats now that it is so late in the season. As dairying is the chief industry, corn is relied upon to supply succulent feed during the winter. Practically every farm has a large silo and on some there are two. Pasture is good and prospects for hay were never better. Clover wintered well, but alfalfa suffered severely. With a good supply of hay, silage and roots the farmers feel that their stock will not suffer. The prospects for fruit are excellent and a good deal of spraying has been done between showers. With good growing weather and a favorable fall season the effects of the backward spring will be largely overcome.

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

Receipts at the Union Stock Yards, West Toronto from Saturday, June 10, to Monday, June 12, numbered 111 cars, 2,206 cattle, 823 hogs, 281 sheep, 221 calves. Cattle trade strong, best market this season, some cattle extra choice sold higher. Choice butchers' \$9.75 to \$10.10; cows \$4 to \$8.50; bulls, \$7 to \$8.75; feeders, \$7.75 to \$8.25; milkers, \$7 to \$12.00. Calves, \$8 to \$12.25; sheep, \$7.50 to \$9. Lambs, choice, 17c. per lb. Hogs \$10.50 weighed off cars.

The total live stock receipts at the City and Union Stock Yards for the week were:

Table with 3 columns: City, Union, Total. Rows include Cattle, Hogs, Sheep, Calves, Horses.

The total receipts for the corresponding week of 1915 were:

Table with 3 columns: City, Union, Total. Rows include Cattle, Hogs, Sheep, Calves, Horses.

The combined receipts of live stock at the two markets for the week show an increase of 360 calves and a decrease of 287 cars, 85 cattle, 6,323 hogs, 712 sheep, and 4,200 horses compared with the corresponding week of 1915.

There was a heavy run of live stock on Toronto market early last week, but at the end of the week only a few loads were offered, and prices regained the previous week's high level. On Monday one load of extra choice, 1,400-lb. cattle made \$9.90, but several loads of very fine cattle went at \$9.75, and the general prices were considerably lower than this. At the end of the week all kinds of stock were wanted and demand was keen.

Heavy Cattle.—There were several loads of these on the market early in the week, but prices were a little easier owing to the large run. At the end of the week they regained the previous week's high level.

Butchers' Cattle.—There was a heavy offering on Monday, when prices declined 10 to 25 cents per cwt. They were all cleared up later in the week, and prices again advanced. Dry-fed cattle are likely to continue in keen demand. Grassers will not be so keenly sought.

Stockers and Feeders.—These cattle were very scarce toward the close of the week. There is a keen demand for this type of stock.

Milkers and Springers.—The market for cows is quiet, there was very little call. Springers find a more ready sale than milkers.

Veal Calves.—Good veals met a keen demand at the close of the week.

Sheep and Lambs.—This market showed a decided improvement at an advance from the previous week, and prices held steady at the rise.

Hogs.—There seems to be a scarcity of hogs, and the market closed strong at a 25-cent rise in price over the drop earlier in the week. Quotations: Heavy Steers.—Choice, \$9.25 to \$9.85, and a few at \$9.90; good, \$8.75 to \$9.25.

Butchers' Cattle.—A few handy, choice at \$9.15 to \$9.50; good, \$8.75 to \$9.15; medium, \$8.40 to \$8.75; common, \$7.90 to \$8.40.

Cows and Heifers.—Choice, \$7.50 to \$8.50; good, \$7 to \$7.75; common, \$6.50 to \$7.

Bulls.—Best heavy, \$8 to \$8.75; medium, \$7.15 to \$8; light, \$6.15 to \$6.75.

Milkers and Springers.—Cows in milk, choice, \$7 to \$10; extra choice, \$8 to \$11; \$50 to \$75; primers, \$9 to \$11.

Stockers and Feeders.—Choice feeders, \$9 to \$10; good, \$8 to \$9; choice stockers, \$9 to \$10; good, \$7.75 to \$8.50; good, \$7.50 to \$8; medium, \$6.75 to \$7.50; light, \$5.50 to \$6.50.

Cutters.—Best \$8 to \$11.50; Veal Calves.—Choice, \$10 to \$12.50; medium, \$7.50 to \$9.50; common,

\$6.50 to \$7; grass, \$4.75 to \$6.25; bobs, \$3 to \$7.50 each.

Sheep and Lambs.—Lambs, \$9.50 to \$13; spring lambs, each, \$7 to \$12; light ewes, \$8.50 to \$10; heavy ewes and bucks, \$7.50 to \$8.50; culls, \$5 to \$6.

Hogs.—Weighed off cars, \$10.90 to \$11; selects, fed and watered, \$10.65 to \$10.75; f.o.b., country points, \$10.15 to \$10.25.

Breadstuffs.

Wheat.—Ontario, (according to freights outside) No. 1 commercial, \$1 to \$1.01; No. 2 commercial, 98c. to 99c.; No. 3 commercial, 94c. to 95c., according to freights outside; feed wheat, 88c. to 90c. Manitoba wheat (track, bay ports), No. 1 northern, \$1.61½; No. 2 northern, \$1.15¼; No. 3 northern, \$1.11½.

Oats.—Ontario, No. 3 white, 47c. to 49c.; according to freights outside; commercial oats, nominal.—Manitoba oats (track, bay ports) No. 2 C.W., 53c.; No. 3 C.W., 51½c.; extra No. 1 feed, 51½c.; No. 1 feed, 50½c.

Rye.—No. 1 commercial, 94c. to 95c. Buckwheat.—Nominal, 70c. to 71c., according to freights outside.

Barley.—Ontario, malting, 65c. to 66c., according to freights outside; feed barley, 62c. to 63c., according to freights outside.

American Corn.—No. 2, 75½c., track, Toronto; 78c., track, bay ports.

Peas.—No. 2, \$1.70, sample peas, according to sample, \$1.25 to \$1.50.

Flour.—Ontario, winter, \$4.20 to \$4.30, track, Toronto; \$4.25 to \$4.35, bulk, seaboard; Manitoba flour—Prices at Toronto were: First patents, \$6.70; second patents, \$6.20, in jute; strong bakers', \$6, in jute; in cotton, 10c. more.

Hay and Millfeed.

Hay.—Baled, car lots, track, Toronto: No. 1, best grade, \$19 to \$21; No. 2, per ton, low grade, \$16 to \$18.

Straw.—Baled, car lots, \$7 to \$8, track, Toronto.

Bran.—\$23 per ton, Montreal freights; shorts, \$25, Montreal freights; middlings, \$25 to \$26, Montreal freights; good feed flour, per bag, \$1.70 to \$1.75, Montreal freights.

Country Produce.

Butter.—Prices remained about stationary on the wholesales during the past week. Creamery, fresh-made, pound squares, 30c. to 31c.; creamery solids, 29c.; separator dairy, 27c.; dairy, 25c.

Eggs.—New-laid eggs firmed slightly, selling at 27c. per dozen, crate lots, and 29c. to 30c. per dozen in cartons.

Poultry (live weight).—Spring chickens 35c. to 40c. per lb.; spring ducks, 25c. per lb.; fowl, 16c. to 19c. per lb.; turkeys, 20c. per lb.; squabs, dressed, \$3.60 to \$4 per dozen.

Cheese.—Old, 21c. to 22c. per lb.; new, 18c. to 19c. per lb.

Hokey.—Is off the market.

Beans.—Primes, \$4.

Hides and Skins.

City hides, flat 19c.; country hides, cured, 18c.; country hides, part cured, 17c.; country hides, green, 16c.; calf skins, per lb., 26c.; kip skins, per lb., 24c.; sheep skins, city, \$2 to \$3; sheep skins, country, \$1.50 to \$2; lamb skins and pelts, \$1.20 to \$1.25; horse hair, per lb., 41c. to 44c.; horse hides, No. 1, \$5 to \$5.50; No. 2, \$4.50 to \$5. Wool, washed, 40c. to 44c. per lb.; wool, rejections, 33c. to 35c. per lb.; wool, unwashed, 28c. to 32c. per lb.; tallow, No. 1, 6½c. to 7½c.; solids, 6c. to 7c.

Wholesale Fruits and Vegetables.

Old potatoes have remained about stationary to higher on the wholesales during the week at the high prices of \$2.10 to \$2.15 and \$2.20 per bag for the New Brunswick Delawares; \$2.10 to \$2.15 for British Columbias, and \$1.95 to \$2 for one car lot of really good Ontarios received by one firm last Monday, and it now looks as if still higher prices might prevail, as the brokers are asking more money. The new potatoes, however, are coming in more freely, and if they become a little more reasonably priced, will certainly ease the situation. They are now selling at \$7 per bbl.—(about two bags).

The imported, new vegetables have

advanced, and are quite firm at the following prices: carrots, \$1.50 to \$1.75 per hamper; beets, \$1.50 to \$1.75 per hamper; wax beans, \$2.75 to \$3.25 per hamper; green beans, \$2.75 to \$3 per hamper; new cabbage, \$2.75 to \$3 per case, and large square cases, \$3.50 to \$4.

Asparagus has been quite scarce this past week, and has gradually advanced until now it is selling at \$1.75 to \$2, and a small quantity of extra, choice at \$2.25 per 11-qt. basket.

Hot-house tomatoes are coming in more freely and are slightly easier, the No. 1's selling at 23c. to 25c. per lb., and No. 2's as low as 12½c. per lb., as they are not very good. The imported tomatoes are now coming from Mississippi and are shipped in four and six-basket carriers, selling at \$1.75 to \$2, and \$4 to \$4.50, respectively.

Canadian Boston head lettuce at last equals the best of the imported variety, and excels any of the imported now being received. Titterington Bros., of St. Catharines, have achieved this honor, and are now shipping splendid quality in daily, which is selling at \$2 to \$2.50 per case of 1½ to 2 dozen heads—others selling at \$1.75 per case; the leaf lettuce is becoming quite plentiful again, and is declining, now selling at 25c. and 30c. per dozen.

Texas Bermuda onions have advanced materially, as they and the real Bermudas, which do not sell very well here, chiefly on account of their looks, are all we have to depend on. There are some Egyptians due next week, but they are such an uncertain proposition at the present time, that they will not likely affect the price very much. The Texas are now bringing \$3 per 50-lb. crate.

The strawberries which arrived at the beginning of the week were of very poor quality, selling at 10c. to 14c. and 15c. per box, but towards the end of the week they greatly improved and advanced to 15c. to 19c. per box. The first shipment of Canadian strawberries was received from Ruthven and sold at 18c. per box.

The Cuban pineapple season is just about over, desirable sizes being very scarce. They are now selling at \$3 per case.

Oranges are also very scarce, and are very high priced; the late Valencias selling at \$4.50 to \$5 per case, and they are likely to go still higher.

New California fruits are now coming in; two cars arriving this last week; peaches at \$2.25 to \$2.50 per case; plums and apricots at \$2.25 to \$2.50 per four-basket crate, and cherries at \$2.50 per case.

Watermelons are also with us again; the first two cars for this season coming in during the week and selling at 65c. to 75c. each.

The first new Verdill lemons also arrived, and are selling at the high price of \$4.50 per case.

Montreal.

The cattle market was somewhat more active during the past week, but the range of prices showed very little change as compared with a week ago. There is no doubt that one of the principal drawbacks to trading is the exceedingly high price of meats of all kinds, and the inability or reluctance of consumers to pay these prices or to consume meat in the same volume as heretofore. Sales of choice steers continued to take place at 9½c. to 9½c. per lb., while good to fine stock sold at 8¾c. to 9c., and medium at 8¼c., with lower grades ranging down to 6¾c. per lb. Butchers' cows continued to sell at 6c. to 6¾c. per lb., while butchers' bulls brought about 1½c. above the prices for cows. The market for calves was more than usually interesting, more especially in view of the active demand from the United States and the considerable quantities which were being shipped across the line in response to this demand. Local sales were also fairly large. Choice calves ranged from 8½c. to 9¼c. per lb., while fair to medium stock brought 5c. to 8c. per lb., and poorer calves down to 2½c. Spring lambs have been meeting with a better demand and are

now quoted at \$4.50 to \$6.50 each, while sheep sold at 8c. to 9c. per lb. Hogs were in good demand, and supplies were fairly large. Prices were slightly firmer than the previous week, being 11½c. to 11¾c. per lb. for selects, and 11c. to 11¼c. for rough stock, weighed off cars.

Horses.—Dealers report a very dull demand. Supplies were light, so that no change of prices took place. Quotations were as follows: heavy draft horses, weighing 1,500 to 1,700 lbs., \$200 to \$250 each; light draft, weighing 1,400 to 1,500 lbs., \$150 to \$200 each. Small horses, \$100 to \$125 each. Culls, \$50 to \$75 each, with fine saddle and carriage horses quoted \$200 to \$250 each.

Dressed Hogs.—Dressed hogs continued in moderate demand, and there was no difficulty in disposing of everything offered at around steady prices. Abattoir-dressed, fresh-killed hogs sold at 16c. to 16¼c. per lb.

Poultry.—Nominal prices for cold-storage stock were 24c. to 27c. for turkeys; 22c. to 24c. for chickens; 17c. to 19c. for geese and fowl; 19c. to 20c. for ducks.

Potatoes.—Offerings of American potatoes are by no means taking the place of Canadian potatoes, save for the higher class trade, and as supplies are becoming lighter, the market advanced to \$1.95 and \$2 per bag of 90 lbs. for Green Mountains, and \$1.85 to \$1.90 for Quebec stock, extra-track; 10c. to 15c. was added to these prices for smaller quantities.

Honey and Maple Syrup.—There was little change in the market for either honey or syrup. White clover comb sold around 15¼c., and extracted at 12½c. Brown clover comb was quoted at 12½c., and brown extracted at 10½c., with buckwheat honey at 9½c. Syrup was in moderate demand at 85c. to 90c. for 8-lb. tins, and \$1 to \$1.10 for 10-lb. tins, while 13-lb. tins ranged from \$1.25 to \$1.50, according to quality. Sugar was around 13c.

Eggs.—The market eggs seemed to have struck a dead level from which it neither advanced nor declined. Prices continued at 25c. to 26c. per dozen for straight-gathered eggs; 23c. to 24c. for No. 2, and 26c. to 27c. for selects.

Butter.—Prices for butter fluctuate somewhat from time to time. The quality of the offering was excellent, the grass being plentiful and the weather cool. Finest new-milk creamery was quoted at 30c. to 30½c. per lb., while fine stock is 29½c. to 30c. Held creamery was still in the market at 27c. to 28c., while dairy butter was quoted unchanged at 23c. to 24c.

Cheese.—The market was a little unsettled, having come down very rapidly on country boards to the vicinity of 16½c., so that it was difficult to obtain more than 17c. here, although a considerable quantity of the goods in store cost very much more than this figure.

Grain.—No transactions in wheat were reported locally. The market for oats was slightly firmer, No. 2 Canadian Western being quoted at 54c. per bushel; extra No. 1 feed and No. 3 Canadian Western being 52½c.; No. 1 feed, 51½c., and No. 2 feed, 50½c. Ontario and Quebec No. 2 white oats were quoted at 52c.; No. 3, at 51c., and No. 4, at 50c. per bushel, ex-store. Ontario malting barley was sold at 76c., and No. 2 yellow American corn at 82¾c.

Flour.—The market was unchanged, Manitoba first patents were quoted at \$6.80; seconds at \$6.30, and strong bakers' at \$6.10 per barrel in bags. Ontario patents were quoted at \$6 to \$6.25, with 90% patents at from \$5.40 to \$5.60 per barrel in wood and at \$2.60 per bag, straight rollers being \$5.10 to \$5.30 per barrel.

Hay.—No. 1 hay was \$22 to \$22.50, No. 2 extra good \$21.50, No. 2 \$20.50 to \$21, No. 3 \$19.50, and clover mixed \$18.50, ex-track.

Hides.—Calf skins were 33c. and 31c. per lb. Beef hides 21c., 20c., and 19c., while lamb skins were 45c. each, horse hides being \$2.50 to \$3.50 each, and rough tallow 1½c. to 2½c. per lb., with rendered 7c. to 7½c.

Markets continued on page 1048.



Kitchener, Ontario.

On the morning of stood aghast; the world across the cables where the report Khartoum,"—long greatest soldier, So War during this th the history of the sunk to his death i the coast of the W And not only Lord him his entire s seamen aboard the shire. During the p er had visited Greec a similar mission death. En route Hampshire received from a submarine on Teutons knew tha soldier was aboard. shot may have be accident.—But the throughout German

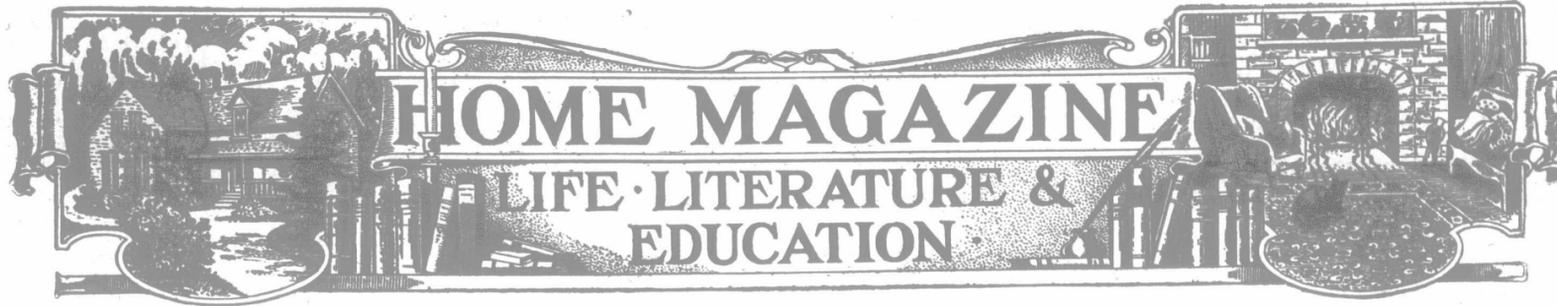
Earl Kitchener y House, Ballylongfo Ireland, on June 24 claiming the Emera place, he was Eng race and by temp was Lt.-Col. H. H. ton, Leicestershire native of Suffolk "Horatio Herbert, lineage, while his life was carried on Academy at Woolw

In 1871 he enter and from that day rapid and honors and fast. In almc British Empire— services were requi of the Egyptian the Nile Expedition of Suakim 1886-8 of the Egyptian A mander of the D Force in 1896—All came the expediti 1898. As a result of the Peerae and vo Henceforth," he Khartoum."

When the South out he was made Forces, and, lat Commander-in-Chi quently, for his so and a further gr From 1903 to 1905 in India, then, aft terranean comman in 1911 to the pos Egypt in successio a position that ma of all movements Mediterranean.

At the beginnin Earl Kitchener wa of State for War, decision to entrust direction of the Later, as the ca wider and ever was thought well and the ministry o with Mr. Lloyd About the same lessened still furth of Gen. Sir Willia of the Imperial S

While these ch he was subjected especially by th yet the fact re with a compa in August 1914, i



Kitchener, of Khartoum.

On the morning of June 6th, all Canada stood aghast; the British Empire stood aghast; the world stood aghast. For across the cables had flashed everywhere the report that "Kitchener of Khartoum,"—long regarded as Britain's greatest soldier, Secretary of State for War during this the greatest crisis in the history of the British Empire—had sunk to his death in the cold waters off the coast of the West Orkney Islands. And not only Lord Kitchener, but with him his entire staff, and the brave seamen aboard the fast cruiser Hampshire. During the past year Earl Kitchener had visited Greece and the Balkans; a similar mission to Russia brought death. En route to Archangel, the Hampshire received the fatal blow either from a submarine or a mine. Perhaps the Teutons knew that the great British soldier was aboard. Perhaps not. The shot may have been for them a lucky accident.—But the joybells have rung throughout Germany.

Earl Kitchener was born at Croter House, Ballylongford, County Kerry, Ireland, on June 24th, 1850, but, while claiming the Emerald Isle as his birthplace, he was English to the core, by race and by temperament. His father was Lt.-Col. H. H. Kitchener of Cossington, Leicestershire, and his mother a native of Suffolk. Even his name, "Horatio Herbert," spoke of English lineage, while his education in early life was carried on at the Royal Military Academy at Woolwich.

In 1871 he entered the Royal Engineers, and from that day his promotion was rapid and honors fell upon him thick and fast. In almost every part of the British Empire—Canada excepted—his services were requisitioned. Commander of the Egyptian cavalry 1882-84; of the Nile Expedition 1884-85; Governor of Suakim 1886-88; Adjutant-General of the Egyptian Army 1888-92; Commander of the Dongola Expeditionary Force in 1896—All this a record. Then came the expedition to Khartoum in 1898. As a result of that he was raised to the Peerage and voted a grant of £30,000. Henceforth he was "Kitchener of Khartoum."

When the South African war broke out he was made Chief of Staff of the Forces, and, later, during 1900-1902, Commander-in-Chief, receiving subsequently, for his services, a viscounty and a further grant of £50,000. From 1903 to 1909 he was in command in India, then, after refusing the Mediterranean command, he was appointed in 1911 to the post of British Agent in Egypt in succession to Sir Eldon Gorst, a position that made him master, as well, of all movements of the fleet in the Mediterranean.

At the beginning of the present war, Earl Kitchener was appointed Secretary of State for War, and the Government's decision to entrust him with the supreme direction of the war was unanimous. Later, as the cataclysm developed into wider and ever wider proportions, it was thought well to divide his duties, and the ministry of munitions was formed with Mr. Lloyd George as Minister. About the same time the burden was lessened still further by the appointment of Gen. Sir William Robertson as Chief of the Imperial Staff.

While these changes were in progress, he was subjected to severe criticism, especially by the Northcliffe papers, yet the fact remains that, beginning with a comparatively small army in August 1914, it has been largely due

to Lord Kitchener's efforts and powers for organization that Great Britain now boasts a trained force of over 5,000,000 men.

Kitchener never married. He has always been a man of silence, little given to social or domestic life, known as a "man of iron," most at home in the saddle or on the field. His steady blue-gray eyes and implacable bearing have always been the terror of his soldiers, and yet, too, he has been the idol of the British army.

Perhaps one of the best character sketches of him is to be found in A. G. Gardiner's book, "Pillars of Society." Such sentences as these tell much: "He came into the room like the Day of Judgment, searching, implacable. . . . At his coming the idle chatter is silenced as the birds are silenced at the oncoming of a storm. . . . His gift of silence is one of the secrets of his power over the crowd. . . . He lives in deeds, not words. . . . There is about him something of the quality of General Kleber, of whom it was said that it made men brave to look at him. If he does not make you feel brave at least he makes you feel strong. But he has not the magic that Napoleon exercised over the minds of men. . . . It is not by his battles that he will take high rank among commanders. Neither Omdurman nor Paardeberg was a military exploit of high quality. It is as the business man of war—cold, calculating, merciless, moving without pity to his goal—that he will have an enduring place in history."

Yet with all his implacability, all his sternness, all his hardness of militarism, there was somewhere the streak of softness that proclaims a man human.



The Late Field Marshal Earl Kitchener.

Napoleon loved violets, Chamberlain loved orchids, and Kitchener had a weakness for the blue and white china that figured everywhere in his luxuriously furnished Canterbury home.—Nor is it utterly unknown that he has done, more than once, a kind deed.

At time of going to press it is not known who will be appointed as Kitchener's successor. A number have been mentioned, among them Sir William Robertson, now chief of the Imperial Staff; David Lloyd George; Col. Seeley and Lord Derby. The post is one of the greatest importance and difficulty. Much will depend upon Britain's choice.

Travel Notes.

From Helen's Diary.

Geneva, April 16, '16.

I never saw such a place as Geneva for "expositions" and "teas." Nearly every week there is a new exposition of some kind, and as for teas—there is no counting them. In connection with the teas there is always a bazaar or special sale of something, and the proceeds go to swell the funds of some of the thousand and one charitable organizations of Geneva. Teas draw the ducats. For making a fat purse lean, I don't know of anything equal to a tea. If any society wants to raise money it forthwith has a tea, and the money rolls in so fast it can hardly be counted. People go to teas prepared to part with their coins and become the owners of knick-knacks they haven't any use for, but the transaction seems to make the buyers feel pleasantly philanthropic, and brings great joy to the hearts of the sellers. During the course of the winter I think every society in Geneva has had a tea, and some of them have had several. The daily papers keep one informed on the subject. Glancing at one of the papers I read:

Hotel Beau-Rivage, tea sale for Armenians in Asia Minor.

Hotel des Berges, tea concert for the help of Israelite-Russian prisoners.

Hotel National, tea concert to raise funds for a gramophone for the sick soldiers at Leysin.

Pension Mathey, tea sale for free dispensaries.

Parish House, Eaux Vives, tea sale for benefit of Serbs.

Blue Cross, tea sale.

duplicates of the articles exhibited, not all of them, but nearly all.

The exhibition is thrilling and also it makes one feel very sad, for one cannot help thinking of the tragic circumstances under which the things were produced. The toys, for instance. The sight of toys does not usually make one lachrymose, but the sight of toys made by wounded and crippled soldiers does.

My companion did nothing but mop her eyes while we were looking at the toys. She was a pick-up acquaintance I made over there—a most agreeable and entertaining and instructive person. We happened to be standing elbow to elbow in front of a glass case full of articles made by the sick soldiers at Leysin. As I had a catalogue and she had not, and as she wanted to know something that was in the catalogue, and as I wanted to know something that was not in the catalogue, we drifted into conversation.

In the case in front of us were several extraordinary chains—neck-chains and watch-guards, made of "crin." That word was not in my French vocabulary, so I asked my amiable-looking neighbor what it meant. I asked her in French, and she answered me in the same language, but, after a few sentences branched off into excellent English. That is what they always do—these foreigners. Try as you will they won't give you a chance to practice their language, they always insist on talking in yours.

"Crin," said my new acquaintance, means horsehair.

"But they don't look a bit like horsehair," I said, "they look more like enamelled metal, or some kind of jet. And they did. It was hard to believe they were made of anything so commonplace as horsehair. The workmanship was marvellous. One would suppose it would take a lifetime to make one of the chains, but evidently not, for orders were taken for duplicates to be finished in June. The prices ranged from three to nine dollars.

In the same case as the horsehair jewelry was a display of aluminum articles which had been so profusely decorated that there was hardly enough plain surface left on any one of them for a contemplative fly to rest on. The soldiers had taken their ordinary aluminum drinking cups, water bottles and soup pails, and so covered them with fantastic designs, that they were transformed into things of beauty. In addition to the engraving and carving, some of the articles were embellished with copper and brass ornaments, such as buttons, medallions, badges, etc., taken from the uniforms of the soldiers. One of the soldiers had etched the portrait of his wife and child on the inside of his soup pail.

Carving is one of the chief diversions of soldiers in the prisons and camps. They carve wood, they carve metal, they carve any old thing that turns up. A bone in the soup, for instance. Lucky the soldier who gets a bone in his soup pail. That bone gives him hours of occupation. It is carved into something fantastic—a leaf, a bunch of grapes, a napkin-ring, a bas-relief, an animal. With imagination, ingenuity, application and limitless time, much can be done with a soup-bone.

Another favorite occupation of the soldier-prisoners is the making of finger rings. There is a great display of these "war-rings" at this exhibition. They sell like hot cakes. People buy them for souvenirs. Most of them are made of iron, and remind one of the prehistoric rings, the "dug-ups" that are displayed in museums. But some of them are really beautiful, both in design and workmanship.

"That one was made by a real



artist," said my new acquaintance. "And that one near it, the one with the little flower carved on it, that is very pretty. That is typically Alsatian. One sees that design often in Alsace."

She was a very charming woman—my new acquaintance. If she had not been so entertaining I would not have stayed so long at the exhibition, and used my eyes up, and gone home with an art-gallery headache. She turned out to be an artist from Paris, and her criticisms of the pictures were tremendously interesting. She was not young, about 45 or 50, tall and slender, with beautiful blue eyes and a sweet smile. She was dressed well but not showily.

She rhapsodized at a great rate over the bead-work. "Wonderful!" she said, "Quite the finest I have ever seen. Look at that necklace—exquisite! Look at the design—beautiful! Look at the combination of colors—ravishing!"

These necklaces were made by the French soldiers in the hospitals in Lyon. They were made of the most infinitesimal beads—so small, one wondered how they could even see to thread them. The most beautiful ones were in bands perhaps an inch wide, with pendants.

"An artist made that one," said my companion, pointing to a necklace in shades of rose and green. "The design is old Venetian—exquisite! But how terrible to think that great strong men who have been fighting in the trenches are reduced to stringing beads! Isn't it pitiable! Oh! this terrible war! When will it ever cease! The horrors of it!"

She mopped her eyes, and we moved on to the next case.

It was filled with metal work done by soldiers who had lost their right arms. There were caskets and trays, and paperweights and crosses, and medallions and things of that sort. The marvel was how one-armed men could ever do such work. It made one "teary round the lashes" to look at the things.

We went into the next room to see the basket-work. There was a big display, and again my new friend discovered traces of the artist in the designs and color combinations of many of the articles.

The most remarkable display of carving at the exhibition is the work of Lieutenant Vouaux, and was made during his captivity in Germany. Every person "oh's" and "ah's" in front of this case, and wonders at his skill. He surely must have been an architect, for, from ordinary cigar boxes he has constructed miniature buildings absolutely perfect in detail and proportion. And all he had for a model was a picture post-card. He has made a model of the church of Torgan complete even to the bells in the tower.

In his cell in the fortress he could hear the church bells ringing, but—never a glimpse did he have of the church itself. He has also made a number of dwelling houses of quite complicated construction. Also, beautiful little chairs and tables, evidently meant for fairies; and an aeroplane, and a lot of wonderful inlaid work—trays and caskets, etc., done in two colors, and the only materials he had had for all this work were cigar boxes and Eau-de-Cologne boxes, the former a mahogany-color, the latter a light cream. He certainly was a genius.

In a case just near this there were some very curious specimens of wood-

were pretty crude. They were valued at six hundred francs each.

The picture part of the exhibition was simply thrilling. Every phase of trench and camp life was illustrated. There were sketches in pencil and chalk and ink; there were paintings in water-color and in oil. There were beautiful scenes, and horrible scenes, and amusing scenes. Nothing seemed to be left out. The entire history of the war seemed to be there.

We lingered a long time over the pictures, and my companion was sometimes ecstatic and sometimes despondent; some of the paintings were so nauseatingly bloody.



A Porch Living Room.

carving. There was a cane with a horrible snake winding around it all the way up to the handle. A bad sort of a cane I should think, for a man who had been tipping and saw six or a dozen things where there was only one.

And there were some extraordinary musical instruments—mandolins. These mandolins were made "at the front," the only tools used in their construction being a file and a knife. From a nondescript collection of odds and ends emerged a mandolin, the case made of bits of metal; the finger-board and top made of wood from a cheese-box; the keys from bits of a gun; the bridge from a bit of bone (probably fished out of a soup pail); the strings from telephone wire; the frets and ornamentation from bullets and bombs. As an oddity and a souvenir of trench-life these mandolins were certainly interesting, but I imagine their musical qualities

Then I discovered it was four o'clock. We had been "looking" at things for two hours. I was tired from head to foot. So was she. So we decided it was time to leave.

On the way out I asked her if she lived in Geneva.

"Yes," she said.

"Then you are Swiss?"

"No, I am not Swiss."

"French?"

"No, not French." She looked at me questioningly. "What would you take me for?" she asked.

"You might be an Englishwoman who has lived a long time in France"—she smiled.

"Or, perhaps a Swede, but I'm not sure."

Then she looked me straight in the eye and said, "I am a German."

"I never would have taken you for a German," I said. "You're too thin."

"No one ever does take me for a German. I am taken for a Swede, or a Dane, or a Hollander, but never for a German. I did not tell you I was a German when we were in the rooms, because I thought perhaps if you knew, you wouldn't speak to me. And I was so enjoying your companionship. You know we are so suspected now, no one wants to have anything to do with us. No one wants to talk to us or be seen with us. I am German by birth, yes, but not in feeling. Almost all my life I have lived in France. My friends are there. My work is there. But now, I am a German, an outlaw, a suspect! Oh! it is hard, hard! Sometimes I think I will go mad with the horror of it all. The sights I have seen since this war began!" She closed her eyes and put her hands over them as if to shut out the terrible scenes.

Then she told me her name, and where she lived, and hoped we would meet again sometime.

"But perhaps you won't want to speak to me again, now that you know I am a German," she said, looking at me wistfully.

Of course, I said, that it didn't make any difference to me, and I would be glad to see her again.

"Perhaps you will drop in and see me some day when you are near my pension," she said.

"Perhaps," said I.

And so we parted.

And when I got home and related my experience, what do you think they said?

"German spy—of course."

But I don't believe it.

Porch Living-rooms.

It is a matter for remark that while city people, who have little scope for a view from their homes, their chance for a long perspective being usually blocked by brick walls, are building porch-parlors to their houses, country people, who are under no such disadvantage, are for the most part contented to do with the old-fashioned, narrow verandah, or even a small entrance porch. True, there are the lawns and the orchard, but dewy evenings and damp days often drive people in from these, and then it is that the full value of the porch-parlor is evident. All the better is it if there is a sleeping-porch above, for it stands without question that living out of doors, night and day, is the ideal for health, especially during the summer and in the quiet country.

The porch should be quite broad enough to permit of the grouping of chairs—a necessary inducement to conversation, and even for placing the dinner or tea-table during warm weather. Ideally it should be surrounded by wire mosquito-netting, reaching from floor to roof, with a door of the same material. Field-stone or other pillars, trellises and railings, may be added to suit the taste and the general character of the house, while vines are an absolute necessity. Climbing roses, clematis, wistaria, trumpet-vine, wild grape, honeysuckles are all good for the more permanent species. Among quick growers may be mentioned coboea, Japanese hops, morning glories, scarlet runner beans, Dutchman's pipe, bittersweet, with the delicate Alleghany and canary vines. The Alleghany vine does not flower, as a rule, until the second year, but, when once established, in rich soil, and, preferably, with a northern or eastern exposure, it is practically perennial.

The most suitable furniture for the porch is wicker, with plenty of cushions, but anything will do that is handy and comfortable. A strong hammock usually finds a place in the most out-of-the-way corner. A floor-covering is not absolutely necessary, but if one is preferred a Japanese matting, crex or arts-and-crafts rag rug may be called upon.

A city girl was taking a course in an agricultural college. After a lecture on how to increase the milk flow she rose for a question.

"How long," she blushing inquired, "must one beat a cow before she will give whipped cream?"



The Glass Case Contains the Wood Carvings of Lieut. Vouaux, which Have Attracted So Much Attention at the "Art During the War" Exhibition, Geneva, Switz.

Hope
H

Take Heed

Take heed for whosoever has and whosoever be taken away even he hath.—S. Lu

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Hope's Quiet Hour.

Take Heed How Ye Hear.

Take heed therefore how ye hear: for whosoever hath, to him shall be given; and whosoever hath not, from him shall be taken away even that which he thinketh he hath.—S. Luke 8:18 (R. V.).

One kind of Hearer—2 Chron. 34, 35. For many years the Kingdom of Judah had been sunk in the depths of wickedness. Heathen idols had been set up even in the Temple of God, and Jerusalem was filled with abominations of all kinds. "Moreover Manasseh shed innocent blood very much"; and it is generally supposed that the aged prophet, Isaiah—who had fearlessly declared God's anger against sin—was sawn assunder by the wicked king.

Then came a change. Josiah was only eight years old when he came to the throne but he soon began the great task of restoring the worship of Jehovah. From one end of his kingdom to the other he went, personally superintending the work of destroying the countless idols and heathen altars. When idolatry was put down with a strong hand, the young king—then twenty-six years old—made a great national collection of money and used it to repair the house of the Lord. During this great house-cleaning a copy of the Law of Moses was found. Perhaps this roll of the law had been hidden for safe keeping when Manasseh was trying to destroy all copies of it. It would seem as if Josiah had never before heard this part of the Word of God, for when it was read before him he rent his clothes in grief and sent to a prophetess to ask her about the book, saying: "Great is the wrath of the LORD that is poured out upon us, because our fathers have not kept the word of the Lord, to do after all that is written in this book."

Josiah was not satisfied to keep the matter to himself, but gathered a great multitude of his people together and read the book aloud to them. The national repentance and cleansing led up to a national renewal of the covenant and a solemn celebration of the passover. "There was no passover like to that kept in Israel from the days of Samuel." You see how a man, whose whole heart was set on righteousness, heard the Word of God. He was filled with grief when he realised how terribly the Law had been broken in Judah and Israel. Though he had been trying to serve God ever since his sixteenth year, he was not self-satisfied. In spite of the strenuous way in which he had worked for ten years at the difficult task of stamping out idolatry, he rent his clothes and wept because his nation stood convicted of defiant rebellion against Jehovah. Josiah's faith in the written message resulted in a great revival of religion among his people, "and all his days they departed not from following the LORD."

Another Kind of Hearer—Jer. 36. Jehoiakim, the son of Josiah, was wicked in heart as well as in act, and his people were carried away by his bad example. The prophet Jeremiah had warned, threatened and pleaded, but the only apparent result was his own imprisonment. Then he engaged a scribe to write in a roll of a book God's stern threatenings against sin; "for it may be," he said, "they will present their supplication before the LORD, and will return every one from his evil way: for great is the anger and the fury that the LORD hath pronounced against this people." This prophecy of Jeremiah was read to the princes, who were filled with alarm and determined to tell the king. Knowing his fierce recklessness, they warned Jeremiah to hide himself so securely that no man should know his whereabouts. Then they told Jehoiakim that the prophet had declared God's anger against the people, and had warned them that the king of Babylon should come and destroy the kingdom of Judah. Jehoiakim was sitting in his palace, with a fire burning in the brasier before him (R. V.). He expressed a wish to hear exactly what Jeremiah had written, so the manuscript was brought, and Jehudi began to read it aloud. The

king grew angry and suddenly interrupted the reader. Snatching the roll from his hand he cut it in pieces and flung it into the brasier, where it was burned to ashes.

Full of pride in his kingly power he dared to defy the King of kings; but not so easily can the Word of God be destroyed. Undismayed by apparent failure, the prophet at once dictated another roll, which contained all the warnings of the first one and "many like words." A stern message, declaring God's wrath against him, was also sent to Jehoiakim. It was easy to burn the written message, but it was impossible to go on in a course of wickedness and escape punishment. The warnings which made the king so angry had been sent in love and mercy. They were intended to rouse the people to a sense of the enormity of their sin, so that they might turn every man from his evil way; that God might be able to "forgive their iniquity and their sin."

It is not often that a man is daring enough to openly defy the threatenings of God's Word; but there are other types of hearers. There was the proud Roman, who listened to St. Paul's preaching, and trembled as he reasoned of righteousness, temperance, and judgment to come. But his fear soon passed, and he waited for "a convenient season" before hearing any more. Then there were the various kinds of hearers described by our Lord in the parable of the Sower. It is particularly of these four classes He is speaking when He says: "Take heed therefore how ye hear." There are the hearers whose hearts are hardened, so the seed can never penetrate the crust of worldliness and selfishness. There are the emotional hearers, who are easily stirred up, but soon forget their good resolves and drift back into easy indifference about spiritual matters. There are the hearers who fully intend to carry out what they have heard, but their time is so occupied with work and care, with business or pleasure, that God is crowded out. Then there are the people who, "in an honest and good heart, having heard the word, keep it, and bring forth fruit with patience."

The Great Sower is doing His part—are we doing ours? If we are not any better for hearing God's Word we must be worse. As the message of Jeremiah was rejected by Jehoiakim it must have made the king harder and more reckless than before. It is a great privilege to know the will of God—to have the Bible published so

cheaply that everyone may possess a copy. But it is also a solemn responsibility. Our Lord has warned us that a servant who knows his master's will, and does not do it, shall be beaten with many stripes.

The Bible is a priceless treasure—and millions of people in this "Christian Empire" seldom or never read a word of it. They have a copy—it would hardly be decent to be without at least one Bible in the house—but a Bible is not a charm to keep away evil. Food will not nourish your body unless you eat it and digest it, and the Bible will not help your soul if it is never opened. I have heard that there is a manuscript copy of the Irish New Testament in the possession of the British and Foreign Bible Society. This is its story. An Irish peasant was so eager to possess a copy—in the days when Irish testaments were rare—that he asked a gentleman who owned one if he might copy it. Month after month he worked at it, after his day's work was done, and at last the earnest Christian had his treasured Testament completed—he had copied every word. Years afterwards he was given a printed copy, and his manuscript was presented to the Bible Society.

The Word of God is still living and powerful. Though it would almost seem as if everyone must by this time be supplied—when many millions of copies are published every year—but it is still pouring out of the presses by thousands, every working hour of every day. The demand for it is enormous: "Certain it is that the Bible is the only book which does not carry consternation when dealers find it stacked high upon the shelves. 'If we happen to get an extra fifty thousand or so on hand, it does not worry us,' said a prominent publisher. 'We are always certain that they will be disposed of sooner or later.'"

The Bible is here to stay. No king can destroy it. Let us heed its message, as our Lord has told us. Let us search the scriptures, that we may find Him there (S. John 5:39) that we may have Him as our daily Companion and Friend. The Bible does not only come to us as a message from God. If we read it prayerfully we may hear—as Elijah heard—the "still small voice", speaking with love and authority directly to our own souls.

"For when I draw myself apart
From things which make my vision dim
Deep in the silence of my heart
He meets me, and I speak with Him."
DORA FARNCOMB.

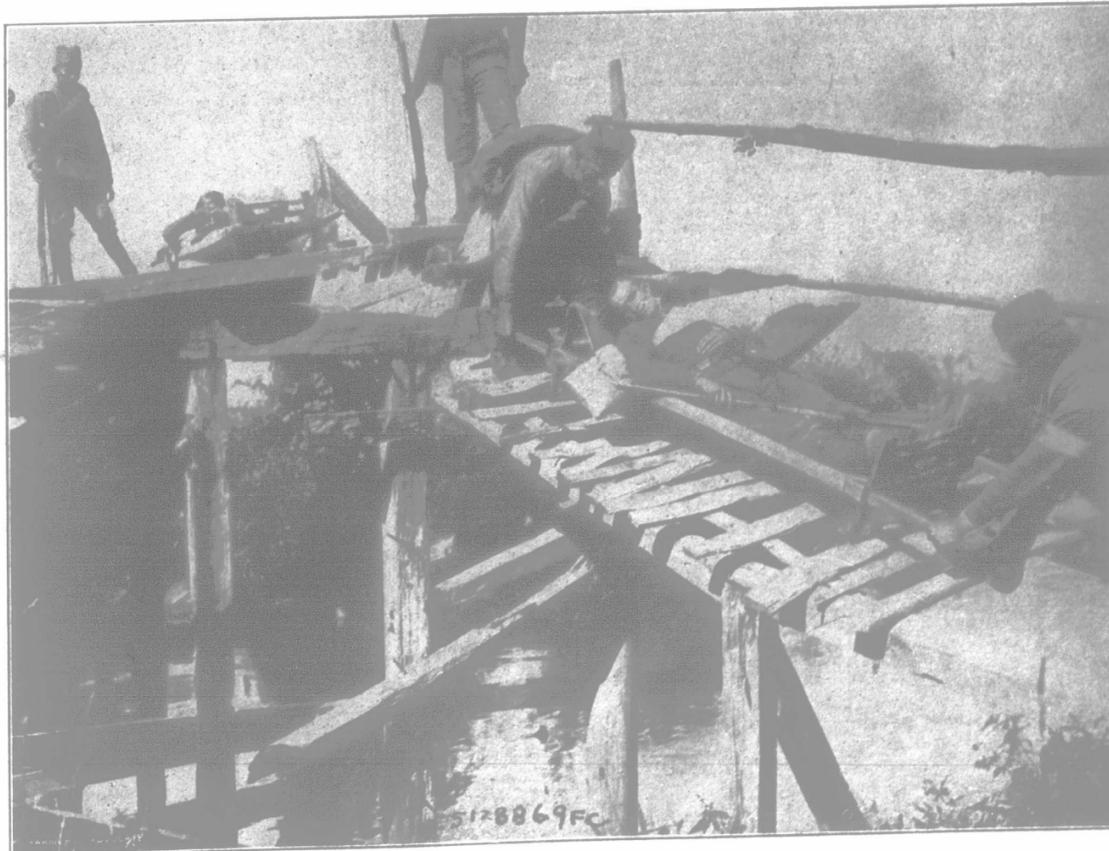
The Windrow

A staff captain from Verdun describes the fighting there as "a battle of madmen in the midst of a volcano eruption."

Already all the rooms in the leading hotels of London and Paris have been engaged by Americans who are going when the war is over to see the devastation in Europe.

By the Expatriation Bill recently passed by the Imperial Japanese Diet, the Government allows Japanese born abroad to secure naturalization. This concession will remove many international complications.

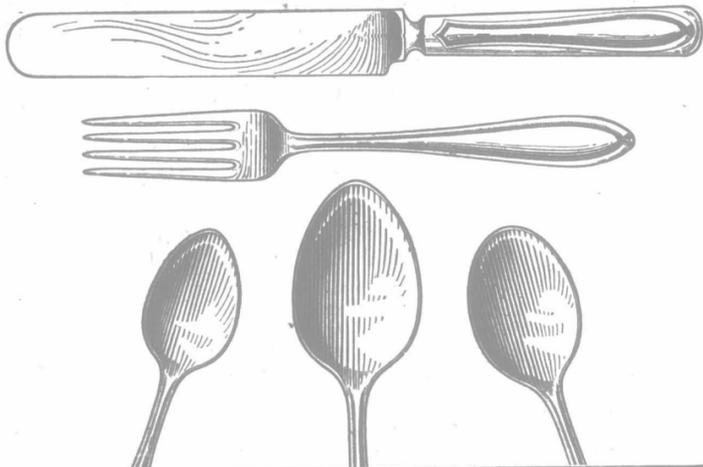
In an address delivered before the League to Enforce Peace, in Washington, President Wilson said: "Only when the great nations of the world have reached some sort of agreement as to what they hold to be fundamental to their common interest, and as to some feasible method of acting in concert when any nation or group of nations seeks to disturb those fundamental things, can we feel that civilization is at last in a way of justifying its existence and claiming to be finally established. It is clear that nations must in the future be governed by the same high code of honor that we demand of individuals. . . . If this war has accomplished nothing else, for the benefit of the world, it has at least disclosed a great moral necessity, and set forward the thinking of the statesmen of the world by a whole age. Repeated utterances of the leading statesmen of most of the great nations now engaged in war have made it plain that their thought has come to this: That the principle of public right must henceforth take precedence over the individual interests of particular nations and that the nations of the world must in some way band themselves together to see that right prevails as against any sort of selfish aggression; that henceforth alliance must not be set up against alliance, understanding against understanding, but that there must be a common agreement for a common object, and that at the heart of that common object must lie the inviolable rights of peoples and of mankind."



Taking Wounded Serbs to Safety Across a Destroyed Bridge.

Scene during the Serbian fighting. The bridge was destroyed by the Serbs in anticipation of an Austrian attack, and temporarily restored by the Serbs for the transportation of wounded to a field hospital. Underwood & Underwood.

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How Combat This?

At the Convention of the Ontario Health Officers' Association held in Toronto recently, Dr. R. Kidd, of Lambton, made the statement that 40 per cent of the milch cows of Ontario are tubercular. A man must have facts before he can make an assertion like that at a public meeting, and it is easier to see that what he says is true when one considers that cows affected with tuberculosis may go for a considerable time without showing any evidence of the disease. The only way to be sure is to have them subjected to the tuberculin test applied by an expert.

The point that challenges attention is that whenever a cow is tubercular there is infected milk. Bovine tuberculosis, it is true, may not affect grown people at all, but when children are permitted to drink milk infected with it, there is grave danger. Only the other day we visited at a home where there is a beautiful little, curly-haired boy, three years of age. There was a plaster at the side of his neck, and we inquired if he were suffering from a boil. "Why, no," said his mother, "I am sorry to have to tell you that he has a bovine tubercular gland." It was the first time that I had seen an affection of the kind, and the thought that this lovely child was face to face with such a struggle for life struck full force. It is a danger that menaces every child who drinks milk that is not known to be absolutely pure.

The ideal is, of course, to have cows that are entirely free from disease. In the meantime safety is ensured by pasteurizing the milk, and there is no excuse for neglect since every woman can do the work herself. The only requisite is a good Fahrenheit thermometer, which costs very little. To pasteurize, heat the milk to 140 degrees F. and keep it at that temperature for twenty minutes, then cool it quickly and keep it in a cool place where the air is pure. The work is practically nothing and is surely well worth while in consideration of the safety that it brings.

JUNIA

Garden Mistakes.

The other day I came upon the following poem entitled "Old Boats."

I saw the old sea captain in his city daughter's house,
Shaved till his chin was pink, and brushed till his hair was flat.
In a broadcloth suit and varnished boots and a collar up to his ears.
(I'd seen him last with a slicker on and a tied-down oilskin hat.)

And it happened that I went home last June and saw in Mallory's yard
The old red dory that sprung a leak a couple of years ago.
Dragged out of good salt water and braced to stand in the grass
And be filled with dirt from stem to stern, where posies and such could grow;

Painted to beat the band, with vines strung over the sides
And red geraniums in the bow—a boat that was built for water
Made into a flower garden. I looked, but I didn't laugh,
For I thought of the old sea captain living in town with his daughter.

And strangely enough, as I finished reading it I thought—not of the old sea captain who is supposed to engross one's attention—but of the "Old Boat" in Mallory's yard, the old dory dragged from its natural element and perched as the centerpiece to a flower garden. It was easy to appreciate the point, too, that the writer of the poem (Theodosia Garrison) would have laughed at the incongruous thing only that she "thought of the old

sea captain living in town with his daughter." There was touch of pathos enough in that to check the smile.

How long it takes for some folk to understand that things—as well as people—must be in their own environment to be wholly natural and harmonious. The old dory rotting on the sea-shore, with its timbers bleaching in the sun and the lap of the waves within reach of it, would have been perhaps a pathetic object but never a ridiculous one. It would have held the atmosphere of romance about it. Children would have come and played about it, clambering over its sides and acting old-time dramas of Raleigh and Drake. But in the garden it holds neither pathos nor romance. It simply makes one want to laugh.

Similarly one has seen "camp-fires" in gardens, tea-kettles painted red and filled with blue lobelias for smoke, hung on tripods over a bed of red geraniums supposed to represent fire. Of course the camp-fire illusion was so far-fetched that it had to be explained. Sea-shells about flower-beds come in the same category—and white-washed stones, because stones, naturally, are not white-washed. During the spring that has passed, in a park in one of our cities, was a great elevated flower-bed carefully planted with hyacinths in cerise, white and purple, to form some semblance of a flag in red, white and blue. As a curiosity the thing compelled, or challenged, notice, but the lovers of real beauty slipped away to a corner where grew a tangle of things that looked as if they belonged. Flowers must always look as if they "belonged," otherwise their charm is lost. And for this reason it is that the unique and exotic in trees or plants is seldom recommended by the best gardeners. Purple and golden-leaved shrubbery, "weeping" trees, things that grow in stiff pyramidal shapes, must be used very sparingly indeed. They are not native. They are strangers and look so.

It is just so elsewhere. The proverbial "bull in a china-shop"; an individual absolutely out of his own congenial element in society; "a square peg fitted into a round hole"; a struggling worker trying to do that for which he is not fitted; all that is misfit or pretence;—how hopeless they all are,—and yet, once in a great while it is necessary that one step out of his element in order that something great or necessary be accomplished. Perhaps there is nothing that takes greater courage than this. If the "old boat" in the inland yard brings a glint of happiness to the old sea-captain looking out through the window, it is worth while.

JUNIA.

The Jelly Season.

Jelly, to be just right, should be a clear, quivering mass, easily cut and holding its form well. Jelly of this quality is quite possible from any fruit in which enough "pectin" is present in the juice, for example, currants, sour apples, crab apples, and plums and under-ripe grapes. Fruits deficient in pectin, such as strawberries, rhubarb and cherries, will not make good jelly of themselves, but a syrup from them may be mixed with some other juice rich in pectin and so made into jelly with a very distinctive flavor. The syrup of strawberries and cherries, for instance, may be canned and taken out of the jars and added to apple juice when the apple season arrives. Apple juice combines well with almost any other kind. Jelly should always be made in a good granite or porcelain kettle, and the jelly-bag should be made of unbleached cotton well washed and thoroughly rinsed and scalded.

The fruit should be gathered just before it is perfectly ripe, as it contains more pectin then. Retain the skins and cores, but cut out the stems (except of currants), blossom ends, and all blemishes. If juicy enough no water needs to be added; if not 1 cup water to 6 quarts fruit may be put in for berries or grapes, while apples, plums, quinces and crab apples must be nicely covered with water.

A few general rules for jelly-making are as follows: First, stew the fruit gently, crushing it with a wooden potato-masher. Drain through a jelly-bag. Heat the juice to boiling point quickly and let boil moderately from 10 to 20 minutes. Add the sugar, heated in the oven, and

let boil from 1 off just as soon when dropped long cooking ha the jelly dark sugar makes it ¼ cup of sugar of juice.

When the into glasses and melted paraffin. not seem firm in the sun, cover glass or the glass leave for a few the jelly bag a little water an jelly, or it may b mixed with sugar lade.

Apple juice i may be worked variations. Sug Apples and cran apples and tom berries or stra cherries; apple combinations a sliced lemon or or cinnamon an Or vanilla or al added just befo into the glasses very well with

A jelly wrin is that the inner very rich in pe cherry, strawbe juice deficient i

A Few

Green Goose gooseberries in well, then turn Measure the j number of cup to heat. Let for 10 minute then add the h turn into glas added to the ju sugar is added berry jelly is i currant juice t berry juice.

Raspberry an the juice separ quantity of ea currants to one a cup of sugar Raspberry juic very nicely.

Currant Jelly but not the and allow hal Mash part of rest and heat point, then let stirring after heat it to boili then add the h into glasses.

added to the c drained off a using ¾ cup su

Black Curra should be well as usual, and each cup of j rapidly for 10 and boil until

Plum Jelly they are wholly water and let then drain.

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Apple Mint cold meat). I measure, and allow 3 cups 20 minutes w mint, then str tint with gre turn into glass

Tomato Jel the ripe toma drain. To e the rind and 20 minutes, sugar to each If it refuses 1 cup apple ju The same res cooking apple matoes.

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People who will find the for the face:

let boil from 1 to 5 minutes, taking it off just as soon as a little of it "jells" when dropped from a spoon. Too long cooking has a tendency to make the jelly dark and hard. Too much sugar makes it soft and sticky; usually $\frac{3}{4}$ cup of sugar is enough for each cup of juice.

When the jelly seems right pour it into glasses and when cold cover with melted paraffin. If, when cold, it does not seem firm enough set the glasses in the sun, covered with panes of window-glass or the glass tops from sealers and leave for a few days. The fruit left in the jelly bag may be reheated with a little water and made into a "second" jelly, or it may be put through a colander, mixed with sugar, and made into marmalade.

Apple juice is very useful since it may be worked up into so many other variations. Suggestive combinations are: Apples and cranberries; apples and plums; apples and tomatoes; apples and raspberries or strawberries; apples and cherries; apples and currants. Other combinations are secured by cooking sliced lemon or orange with the juice, or cinnamon and cloves tied in a bag. Or vanilla or almond extract may be added just before the jelly is turned into the glasses. Crab apples combine very well with plums.

A jelly wrinkle worth remembering is that the inner skin of oranges and lemons very rich in pectin, may be added to cherry, strawberry, rhubarb or other juice deficient in pectin.

A Few Jelly Recipes.

Green Gooseberry Jelly.—Cook the gooseberries in a double boiler, mashing well, then turn into a jelly bag and drip. Measure the juice and put an equal number of cups of sugar in the oven to heat. Let the juice boil vigorously for 10 minutes, skimming as needed, then add the hot sugar, and when ready turn into glasses. If water has been added to the juice longer boiling before the sugar is added will be necessary. Gooseberry jelly is improved by adding 1 cup currant juice to each 3 cups of gooseberry juice.

Raspberry and Currant Jelly.—Extract the juice separately and use the same quantity of each, or use three fourths currants to one fourth raspberries. Use a cup of sugar to each cup of juice. Raspberry juice and apple juice combine very nicely.

Currant Jelly.—Remove the leaves but not the stems. Weigh the fruit and allow half the weight in sugar. Mash part of the currants, add the rest and heat gradually to the boiling point, then let boil briskly for 20 minutes, stirring often. Drain the juice off, heat it to boiling and let boil 2 minutes, then add the hot sugar. Put immediately into glasses. A little water may be added to the currant pulp and the juice drained off again and made into jelly using $\frac{3}{4}$ cup sugar to each cup of juice.

Black Currant Jelly.—Black currants should be well ripened. Heat and drain as usual, and allow a cup of sugar to each cup of juice. Let the juice boil rapidly for 10 minutes, add the sugar and boil until it jellies.

Plum Jelly.—Take the plums before they are wholly ripe. Cover with boiling water and let boil slowly until soft, then drain. Finish as usual, using equal measures of sugar and plum juice. The plums left over in the bag may be made into marmalade.

Apple Mint Jelly. (To serve with cold meat). Prepare the juice as usual, measure, and for every quart of juice allow 3 cups sugar. Boil the juice for 20 minutes with a bunch of crushed mint, then strain. Add the heated sugar, tint with green spinach coloring and turn into glasses.

Tomato Jelly.—Quarter and cook the ripe tomatoes (not too ripe) and drain. To each quart of juice add the rind and juice of a lemon. Boil 20 minutes, then add 1 cup heated sugar to each cup juice. Cook again. If it refuses to jelly add apple juice, 1 cup apple juice to 5 or 6 of the tomato. The same result can be obtained by cooking apple parings with the tomatoes.

The Scrap Bag.

A Bleaching Cream.

People who tan easily in summer will find the following cream useful for the face: Lanoline 30 grams,

bitter almond oil, 10 grams. Mix and stir in a solution of borax, 1 gram; glycerine, 15 grams; hydrogen peroxide, 15 grams. Cucumber juice applied at night after washing the face with any good white soap and warm water is excellent for removing tan.

Foot Powders.

An excellent foot powder is made by mixing together 3 parts talcum powder and 1 part boric acid. Dust the feet well with this before putting on the stockings.

Remedy for Tan and Freckles.

Mix a little grated horse radish with sour buttermilk, and mix to a paste with cornmeal. Spread this mixture between thin muslin and keep on the affected parts as long as possible at night, using care to keep it away from the eyes.

Mouldy Preserves.

If preserves become mouldy remove every particle of mould, then reheat the fruit to the boiling point and again store in a sterilized receptacle. When cold cover with melted paraffin.

Cold Water Canning.

Rhubarb, cranberries, lemons and gooseberries, will keep very well if canned in cold water. The jars should be well sterilized and immersed in a deep pan of cold water, the tops being screwed down beneath the surface. In this way no air-space will be left. Keep in a cool, dark place.

The Fireless Cooker.

The commercial fireless cooker equipped with disks may be used for putting up canned fruit, jams and marmalades, and will save much perspiring over the stove in hot weather. In the fireless cooker there is no danger of scorching or boiling over.

How Much to Drink.

Dr. Chalmers Watson in his "Book of Diet," says: "As a general rule it may be said that at least three tumblers of water should be taken daily." He gives the following rule as practicable: to drink a full tumbler of hot or cold water first thing in the morning, an hour before the mid-day meal and the last thing at night. If this direction were carried out there would probably be very much less gout, rheumatism and other such troubles.

Vegetables and Fruits Necessary.

Van Noorden, a distinguished dietitian, said: "Vegetables and fruits are of the greatest importance for the normal development of the body and of all its functions. If we limit the most important sources of iron—the vegetables and fruits—we cause a certain sluggishness of blood formation and an entire lack of reserve iron, such as is normally found in the liver, spleen, and bone marrow of healthy, well-nourished individuals." Iron, says Janet M. Hill, in American Cookery, is found in dried peas and beans, green string beans cabbage, corn, potatoes, spinach, turnips, apples, prunes and raisins; sulphur is present in peas, beans, potatoes and onions; while more or less calcium and phosphorus are contained in peas, beans, beets, carrots, parsnips, potatoes, turnips, apples, bananas, oranges, prunes, pineapples, almonds and walnuts. Most fruits and vegetables are fairly rich in calcium, and some of the green vegetables are strikingly so. All of these mineral elements are needful to the body, hence the liberal use of vegetables and fruits, at every table is advisable. Green or fruit salad, with coarse bread and plenty of butter, makes a much better "course" than a heavy pudding, pie or cake. A very good fruit salad is made of dates or cooked figs or prunes with bananas and lemon juice. Cooked spinach or young beet-tops served very hot on toast, garnished with hard-boiled egg, makes a splendid supper dish. For cold or rainy days the chief dish at supper may be a hot cream soup with a vegetable foundation served with hot croutons (battered bread toasted in the oven) biscuits, or crackers.

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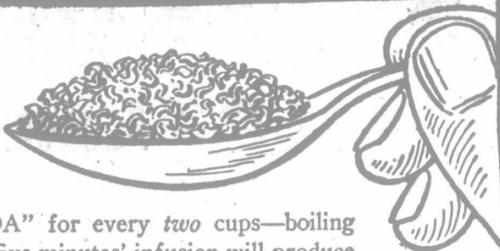
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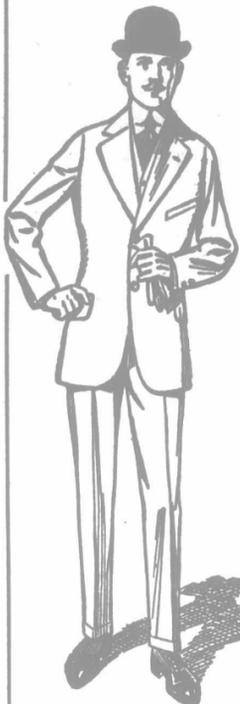
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The Beaver Circle

Our Senior Beavers.

[For all Beavers from Senior Third to Continuation Classes, inclusive.]

Columbus.

Behind him lay the gray Azores, Behind the Gates of Hercules; Before him not the ghost of shores; Before him only shoreless seas. The good mate said: "Now must we pray, For lo! the very stars are gone. Brave Adm'r'l, speak; what shall I say?" "Why, say: 'Sail on! and on!'"

"My men grow mutinous day by day; My men grow ghastly wan and weak." The stout mate thought of home; a spray Of salt wave washed his swarthy cheek. "What shall I say, brave Adm'r'l, say, If we sight naught but seas at dawn?" "Why, you shall say at break of day: 'Sail on! sail on! sail on! and on!'"

They sailed and sailed, as winds might blow, Until at last the blanched mate said: "Why, now not even God would know Should I and all my men fall dead. These very winds forget their way, For God from these dread seas is gone, Now speak, brave Adm'r'l speak, and say—"

He said: "Sail on! sail on! and on!" They sailed. They sailed. Then spake the mate: "This mad sea shows his teeth to-night. He curls his lip, he lies in wait, With lifted teeth, as if to bite! Brave Adm'r'l, say but one good word: What shall we do when hope is gone?" The words leapt like a leaping sword: "Sail on! sail on! sail on! and on!"

Then, pale and worn, he kept his deck, And peered through darkness. Ah, that night Of all dark nights! And then a speck— A light! A light! A light! A light! It grew, a startlit flag unfurled! It grew to be Time's burst of dawn. He gained a world; he gave that world Its grandest lesson: "On! sail on!"

JOAQUIN MILLER.

Little Bits of Fun.

He was a good little boy, and very thoughtful. It was during a long spell of dry weather, and he had heard of the great scarcity of water throughout the country. He came to his mother, and slipped his hand into hers. "Mamma," he said, "is it true that in some places the little boys and girls have not enough water to drink?" "That is what the papers say, my dear." "Mamma," he presently said, "I'd like to give something for those poor little boys and girls." "Yes, dear. What would you like to give?" "Mamma," he said, in an earnest way, "as long as the water is so very, very scarce, I think I ought to give up 'em' washed."

Prof. Richards of Yale enjoys a joke, and his pupils often come to him when they have heard a new one. Such was

the case when one of the students said to him, "Professor, would you like a good recipe for catching rabbits?" "Why, yes," replied the professor. "What is it?" "Well you crouch down behind a thick stone wall and make a noise like a turnip." Quick as a flash came the reply, "Oh, a better way than that would be for you to go and sit quietly in a bed of cabbage heads and look natural."

The Competition.

Will the Beavers kindly note that all essays on the subject "A Fishing Trip" must be received at this office not later than June 25th. Books will be given for prizes. If you can write a true story all the better.

Senior Beavers' Letter Box.

Dear Puck and Beavers.—This is my first letter to your charming Circle. I enjoy reading the letters very much. We have taken the Farmer's Advocate for over thirty years. I go to school every day and I am in the Junior IV. Our teacher's name is Miss Clark and we all like her fine. We also have a school garden and the lettuce, radish and sweet peas are up. We have a club at the school and we meet every two weeks. We have an entertainment, or a debate and sometimes we give two-minute speeches which are very interesting. As my letter is getting rather long I will close hoping the w. p. b. is not hungry when my letter gets there.

ELVA JACKSON, (Jr. IV.)
R. R. No. 6, Peterboro, Ont.

Dear Puck and Beavers.—This is my first letter to your charming Circle. I have read the Beavers letters with much enjoyment. I live on a two hundred acre farm, eight miles north of Woodstock, three and a half miles southeast of Innerkip, and two and three quarters miles northwest of Bethel, which consists only of a church, a school and a few farms. I go to school at the latter. I have no brothers or sisters old enough to go to school, though I have a brother six years old. I like going to school and I am in the Junior Fourth class. My teacher's name is Miss Edna Davis. I think she is a lovely teacher. I go to the Presbyterian Sunday School and also the Presbyterian church of Innerkip. There is about ninety attend the Sunday School and about two-hundred members of the church. I think my letter is getting rather long and I hope the w. p. b. is not hungry when this arrives. I will close with a riddle. What goes faster than a race horse when it's broken? Ans.—A ten dollar bill.

MABEL SCOTT, (Age 10 years.)
Woodstock, Ont., R. 2.

Junior Beavers' Letter Box.

Dear Puck and Beavers.—This is my first time to write to your charming Circle. I have a pet cat named Jumbo, who is older than myself. I have a pet dog named Fido. My teacher is Miss Love, I like her very much. Five of our next door neighbors have enlisted. One is in England now, and one in the 135th Battalion, and three are in the 161st Battalion. The three in the 161st Battalion, were presented with wrist watches by their neighbors and friends. I will close with a riddle. If butter is 26 cents a pound how much will you get for a cent and a quarter? Ans.—A pound.

CELIA CHRISTIE, (Age 9 years, Jr. III.)
R. R. No. 1, Exeter, Ont.

Dear Puck and Beavers.—This is my first letter to your charming Circle. My father has taken the Farmer's Advocate as long as I can remember. I go to school and I like it fine. My teacher's name is Miss Graham, I like her fine. I have a gray pussy, its name is Skipper. We have 5 cows. We sell our cream. Last winter when the snow was deep three little squirrels came to our place and I gave them Hickory nuts out on the snow and they carried them away. As my letter is getting long, I will close, hoping to see my letter in print. I will say good bye this time.

IRENE HITCHCOCK (age 7 years.)
R. R. No. 1, St. Anns.

Beaver Circle Notes.

Honor Roll.—Otto Hand, Beulah Stinson, Mark Reed, Maymie Johnson. One of the Beavers sends the following riddles to be answered: If I went up to the top of a mountain with a goose how would I get down?
Why does a donkey eat thistles?

Current Events.

Kingsville, Ont., has been selected for the site of the new Dominion Government fish hatchery.

A week before his death Kitchener entertained a company of wounded Canadians at his beautiful residence in Brome Park.

Brig.-Gen. Lipsett has been appointed to succeed Maj.-Gen. Mercer as Commanding Officer of the 3rd Canadian Division, and Brig.-Gen. Hughes, a brother of Sir Sam Hughes, has succeeded to the Command of the 1st Division in the place of Brig.-Gen. Williams. Both Mercer and Williams were reported wounded and missing after the battle at Zillebeke near Ypres, June 4th and 5th, in which Canadian battalions suffered heavily.

Chas. E. Hughes has been nominated by the Republicans for the U. S. Presidency. He has resigned from the Supreme Court to enter the campaign.

Yuan Shi Kai, President of China, who died on June 6th, has been succeeded by Li Yuan Hung, leader of the Republican army.

A warrant officer and eleven men from the Hampshire drifted ashore on a raft. They state that Kitchener went aboard one of the life boats, but all were swamped by the heavy sea.

Dr. Karl Liebknecht, the famous Socialist leader in Germany who has opposed the war since its beginning, is to be prosecuted for treason. He was arrested for participating in a peace demonstration in Berlin on May Day.

The Germans now admit the loss of the Lutzow, Elbing and Rostock in the Skagerrack battle. A number of Danes declare that they saw the Seydlitz sink also, while British officers report the sinking of the Hindenburg, Germany's greatest Dreadnought.

"The most tremendous military advance in history" run the reports of Gen. Brusiloff's advance in Volhynia and Galicia during the past week. Rolling irresistibly onward, the Russians have driven the Austrians and Germans back over a line of nearly 100 miles to a depth of 40 miles, taking possession of the cities of Lutsk and Dubno, and capturing in all 108,000 prisoners, including 1,240 officers. One of the many great effects of the advance has been to lessen greatly the Austrian pressure on Italy. Gen. Brusiloff recently succeeded Gen. Ivanoff in command in this section. The German chief of command is Gen. von Linsingen. The enemy is still 5 miles from Verdun. During the week they succeeded in capturing Fort Vaux, whose gallant defence dwarfs that of Thermopylae and all the other famous defences of history. After the first terrific bombardment, Major Raynal, with a little band of armored and gas-helmeted Frenchmen, held the fort for 7 days, the men fighting, at one time, for 170 hours without a wink of sleep. Almost every man of the gallant six hundred was killed. Heavy fighting is expected at any moment in the Balkans, where the reconstructed Serbian army, under Prince Alexander, has joined the forces of Gen. Sarraill at Salonika in readiness to oppose the hated Bulgarians to the finish.

Lady—"On a submarine? How jolly! And what do you do?"
Sailor—"I runs for'r'd, mum, and tips her up when we wants to dive."

The Do...

A fund maintained by the "Farmer's Advocate" for (1) Soldiers' Comforts, (2) Soldiers' Clothing, (3) Serbian Relief, (4) Serbian Contributions

9th: Maggie Thompson, Ont., \$20; A. E. Friend, R. 4, Ont., \$4; I. H. C. A. Friend, R. 4, A. E. Rumbold, H. P. Wilson, D. Cecil Stamp, Th...

Amount previously edged.....

Total to June 9th IF YOU CAN FRONT, GIVE.

Kindly address Farmer's Advocate, "zine," London,

Thanks to Sub...

The following received from the L in charge of the in this city:

The above assistance through your thanks and appreciation generous assistance Farmer's Advocate L. C. W. Fund very liberal and indeed been a for those poor has been the me to those unfortunate in need of all such Thanking your times over—wit...

Mrs. Boomer, personal thanks amounts received Chain.

A letter of the Edwards, Secret Relief Fund, of interesting paragraphs official of the England:

In conjunction ernment, the have started co France for the R have been trans and our Agent charge of the gone to Salon Coast to attend refugees from C In addition, we the needs of the whom there is disease consequen tions. A He despatched to and large stor clothing have b and ordinary re on as large a s Society will p

My Committe the efforts wh aid of this Fun Thanking you M. MUSGRAV 8 Cromwell

We may also kindness of the it has been pos funds needed Western Ontari ready to begin

A contributi sent to help I. O. D. E. is Orpington hospi the soldiers.

Fe, fi, fo, fu Pancho Villa Whether alive Or where he's

The Dollar Chain

A fund maintained by readers of "The Farmer's Advocate and Home Magazine" for (1) Red Cross Supplies. (2) Soldiers' Comforts. (3) Belgian Relief. (4) Serbian Relief.

Contributions from June 2 to June 9th: Maggie Thomson, R. 2, Mildmay, Ont., \$20; A. H. Caffyn, Ingersoll, Ont., 50 cents; R. C. F., Toronto, \$1; "Toronto," \$2; B. W. Avonbank, Ont., \$4; I. H. G., Stratford, Ont., \$1; A. Friend, R. 4, Glencoe, Ont., \$5; A. E. Rumbold, Bridgen, Ont., \$1; H. P. Wilson, Dundas, Ont., 50 cents; Cecil Stamp, Thorndale, Ont., \$1.

Amount previously acknowledged.....\$2,466.70

Total to June 9th.....\$2,502.70

IF YOU CAN'T GO TO THE FRONT, GIVE.

Kindly address contributions to "The Farmer's Advocate and Home Magazine," London, Ont.

Thanks to "Dollar Chain" Subscribers.

The following letter has been received from the Local Council of Women in charge of the Belgian Relief Fund in this city:

The above association desire to express through you our very sincere thanks and appreciation for the most generous assistance given from "The Farmer's Advocate" towards the L. C. W. Fund for Belgian Relief—your very liberal and timely assistance has indeed been a veritable "God-Send" for those poor innocent sufferers and has been the means of supplying food to those unfortunates who are so sorely in need of all such help.

Thanking yourself and associates many times over—with every good wish.
Yours very truly,
EMMA YARKER, Cor.-Sec.

Mrs. Boomer, President, also writes personal thanks for the assistance of the amounts received from the Dollar Chain.

A letter of thanks from Mrs. A. T. Edwards, Secretary for the Serbian Relief Fund, contains the following interesting paragraph, sent to her by an official of the Relief Department in England:

In conjunction with the French Government, the Serbian Relief Fund have started colonies in Corsica and France for the Refugees. Already 10,000 have been transported to these colonies and our Agents are undertaking the charge of them, and have specially gone to Salonica and the Adriatic Coast to attend to the despatch of the refugees from Greece and Montenegro. In addition, we are largely supplying the needs of the Serbian Army, amongst whom there is much suffering and disease consequent on their great privations. A Hospital Unit has been despatched to Corfu for their service, and large stores of provisions and clothing have been sent there. Medical and ordinary relief are being organized on as large a scale as the funds of the Society will permit.

My Committee appreciate very much the efforts which you have made in aid of this Fund.

Thanking you on their behalf.
M. MUSGRAVE WATSON, Secretary.
8 Cromwell Road, London, S. W.

We may also state that through the kindness of the Dollar Chain subscribers it has been possible to add \$70 to the funds needed for organizing the new Western Ontario Hospital, now almost ready to begin work.

A contribution of \$50 has also been sent to help in the good work the I. O. D. E. is doing in work for the Orpington hospital and comforts for the soldiers.

Fe, fi, fo, fum,
Pancho Villa is keeping mum.
Whether alive or whether dead,
Or where he's buried he hasn't said.
—Brooklyn Eagle.

Talks About Birds.

The Robin.

"And the birds sang round him, o'er him
'Do not shoot them Hiawatha'—
Sang the Opechee, the Robin
Sang the bluebird, the Owaisa,
Do not shoot us Hiawatha".
LONGFELLOW.

As winter goes and the warm spring begins, the buds show life and the grass shoots up. Then we look for the return of the birds. They come back to us at first two by two, or in small flocks. Later great flocks may sometimes be seen flying high over-head, steering straight for the north region where they may find food and nesting places. They went far south to escape the winter's cold, and they come back to us to build their nests and rear their young. These belong to the migratory species.

The Robin is a member of this group. Almost everyone knows the Robin, one of the most common birds we see when we walk in the fields or groves. The Robin is olive gray above and its breast is red. It is sometimes called Robin Redbreast, but that name belongs to a bird that is much smaller than our Robin, and has its home far across the sea in Europe. The Robin arrives here in March and remains until late in the fall. They usually build their nests in the trees, the nest being composed of straw, weeds, and mud, lined with soft grasses and moss. The eggs are a beautiful blue color. During the breeding season the Robin is a persistent vocalist, and if the song has not much variety its heartiness and good cheer render it one of the most agreeable of bird utterances.

Many persons who cultivate cherries, grapes and other small fruit are prejudiced against the Robin, believing it to be destructive to their crops, this however does not prove that they should be destroyed. Prof. F. E. T. Beal tells us the Robins will steal fruit, but they prefer wild fruit and whenever it is obtainable they scorn fruit that is useful to man. After a microscopic examination of the stomachs of three hundred Robins they were found to contain forty-two species of wild fruits and only four or five domestic. Fruit, however, is only a small part of robin's diet, and by the havoc he creates among worms and insects he much more than compensates for the damage done by his vegetarian propensities. The quantity of insects and worms he devours is hardly creditable. One professor of Ornithology experimented on some young robins kept in captivity with a view of determining the amount of food necessary to maintain them, and found that each one required sixty-eight worms per day, each bird ate forty-four per cent. more than its own weight in twelve hours. The length of these worms if laid end to end would be about fourteen feet. Well may we exclaim at the exhausting labor of the robin whose day is spent putting worms into the unsatiable beaks at the rate of one morsel every three minutes.

Many people who have gardens think they are justified in killing our beautiful robins, not knowing that there is a heavy fine imposed for every robin shot

Build With "METALLIC"

EASTLAKE SHINGLE

EMPIRE CORRUGATED IRON

MAKE your buildings last a lifetime. Let us show you the savings made by using "Eastlake" Galvanized Shingles, "Empire" Corrugated Iron (for roofing and siding), "Metallic" Rock and Brick Faced and Clapboard Siding, "Halitus" Ventilators, "Acheson" Roof Lights, "Metallic" Ceilings, Eave-trough, etc. Write us for information and booklet based on years of experience in farm buildings. **Metallic Roofing Co. Limited, Manufacturers, Toronto and Winnipeg**

No Beams or Braces in this Steel Truss Barn

Nevertheless it is as sturdy and rigid as heavy angle steel trusses can make it. It cannot sag or buckle, and the roof is always true and straight. Inside, there is just open space from end to end, and from roof to floor. This means easy mowing away of hay and grain. Then, the Steel Truss Barn holds thirty per cent. more grain than the old style barn. Read the following letter by W. J. Bourne.

Alvinston, Ont.
Dear Sirs,—I am well pleased with my barn, and want to say in connection with the building of the barn that one can get a barn so much quicker by taking your style than the old-fashioned wooden barn, and also the expense in the building boarding men, etc., is greatly reduced. I would judge not more than one-quarter the cost it would be for a wooden barn. These two items alone should induce anyone to build your style of barn. Now, in connection with the barn itself, I consider that it is lightning-proof, and the danger from fire is not so great should other buildings be burned close by. It never needs painting, and I think it a very much stronger barn than any timber frame I ever saw. I think it will last much longer than a wooden barn, and its general appearance should recommend it to anyone who is going to build.

Yours very truly, W. J. Bourne.
We have barns ranging from \$600 up. A Steel Truss Barn for the average farmer can be built for about \$1,200—this includes all materials complete, ready for erection.

Send for a copy of our valuable new book, "The Steel Truss Barn".
The Metal Shingle and Siding Co., Limited
Preston, Ont., Montreal, Que., Toronto, Ont.

Buy the Wilson No. 66 2,000 lbs. Drop Scale



Special Prices Now.

Diamond Steel Bearings.
C. Wilson & Son
45 Esplanade St.
E., Toronto, Can.

NITRATE OF SODA

is necessary for big crops. Send post card for free literature to
WM. S. MYERS, Director
25 MADISON AVE., NEW YORK

DUNLOP AUTOMOBILE TIRES

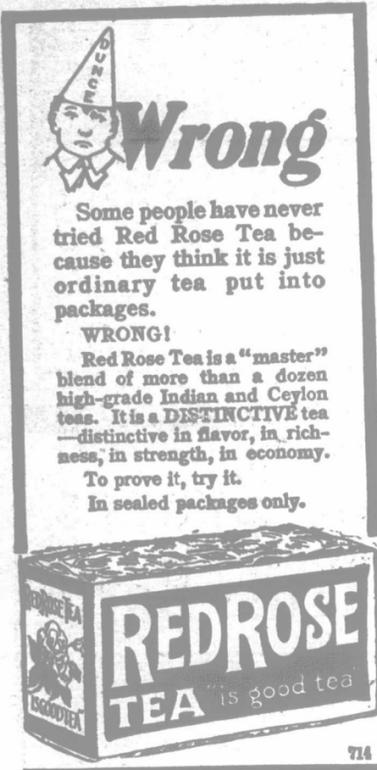


"I was the first to make an auto tire—or any type of tire—in Canada. That's why I speak positively on the tire subject. I have always maintained that you get the same quality in a tire that you get in the maker of that tire—High Sense of Values: High Record of Results. Also, to my way of thinking, Tire-Mileage is nothing else than the ability to deliver. Notice that 'Dunlop' and 'Deliver' commence with the same letter.

"Dunlop 'Traction' and Dunlop 'Special'—and the rest of the Dunlop Tire Family—have been O.K.'d by me—the Quality Censor."
—Handy Andy.

Dunlop Tire & Rubber Goods Co., Limited

A57



Wrong

Some people have never tried Red Rose Tea because they think it is just ordinary tea put into packages.

WRONG!

Red Rose Tea is a "master" blend of more than a dozen high-grade Indian and Ceylon teas. It is a **DISTINCTIVE** tea—distinctive in flavor, in richness, in strength, in economy.

To prove it, try it. In sealed packages only.

REDROSE TEA is good tea

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are omitted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisements inserted for less than 50 cents.

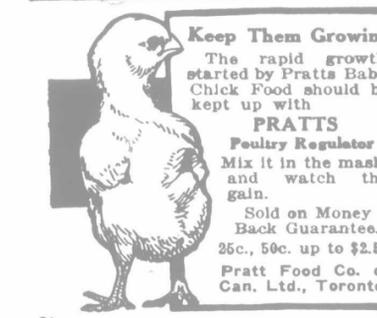
ARE YOU INTERESTED?—EGGS FROM winners at Panama-Pacific Exposition, Madison Square Gardens, Guelph, Ottawa, Bramas, Spanish, Patridge Rocks, White Leghorns, Barred Rocks (Ontario Agricultural College strain), Indian Runner Ducks. War prices. John Annesser, Tilbury, Ont.

ORDER YOUR DAY-OLD CHICKS NOW from the best strain of bred-to-lay S.-C. White Leghorns in Canada. Utility Poultry Farm, Stratford, Ont. Thos. G. Delamere, Prop.

RINGLET BARRED ROCKS—HEAVY winter layers. Send for photos of flock and further particulars. Settings \$1.50, \$1.00 guaranteed. Baby Chicks, 15 cts. Coldham, Barriefield, Ont.

S.-C. WHITE LEGHORNS BRED FROM PEDI- gree stock with heavy laying records. Eggs \$1.00 per fifteen, a hatch guaranteed, \$4.50 per hundred. Geo. D. Fletcher, R. R. 1, Erin, Ont.

TABLE-EGG DUCKS ARE FULL-GROWN IN ten weeks. You can hatch in June, July or August and have eggs by February. Write for information on this sure-profit fowl. W. A. Staebler, Drawer 625, Gananoque, Ont.



Keep Them Growing

The rapid growth started by Pratts Baby Chick Food should be kept up with

PRATTS Poultry Regulator

Mix it in the mash and watch the gain.

Sold on Money Back Guarantee. 25c., 50c. up to \$2.50

Pratt Food Co. of Can. Ltd., Toronto.

PURINA FEEDS

FOR STRONG, HEALTHY CALVES FEED

Purina Calf Meal

33% Protein

SCIENTIFIC FEEDING CHART FREE ON APPLICATION.

If your dealer does not sell it, write us.

The Chisholm Milling Co., Limited
Toronto

Any person having knowledge of an old-time stone process grist mill or a carding mill, in fair repair, will kindly write Wm. Lambert, care of Farmer's Advocate.

or destroyed. If we were to try to learn more about our birds, it would be found that as a rule they do more good than harm, in fact we could not live if it were not for the good service rendered by the insect and worm destroying birds and the robin has proved himself one of the most useful.

Mrs. E. L. B.
Port Perry, Ont.

MARKETS.

Continued from page 1040.

Buffalo.

Cattle.—Another week of higher tops at Buffalo on choice shipping steers last week. Prime shipping steers were advanced to \$10.80 to \$10.90, and on these along with steers running from \$9.85 up, it looked like about a steady market, but some in-between, fair and medium kinds of steers looked a dime to fifteen cents lower, and on grassy steers generally the market was a full quarter lower than for the preceding week.

Around sixty loads of shipping steers were offered. There were about half a dozen loads of Canadians, these ranging from \$9.25 to \$9.90, the latter price including a load of steers and heifers mixed. Best Canadian steers are quotable up to \$10.25, and prime kinds would probably bring more.

On butchering cattle, choice dry-fed kinds sold about steady, but on the grassy stuff rates were lowered from fifteen cents to a quarter. Stockers and feeders brought about steady values. Bulls sold strong and the milcher and springer trade was a shade easier. Sellers are expecting a decline of seventy-five cents to a dollar on grassy cattle, compared with dry-fed kinds of like quality and finish, and are advising shippers to buy on this wide margin.

Grassers are coming late this year on account of the backward season, but they are due to come in rather liberal numbers now shortly, and general belief is that the trade will exact very liberal declines. Demand continues very strong for all classes of shipping steers, and the east is taking steers weighing all the way from eleven and a half to fifteen hundred pounds, but they must be in good flesh and finish. Outlook is for higher prices on these best dry-lot steers. Receipts last week were 4,600 head, as against 5,125 for the preceding week, and 4,250 head for the corresponding week last year. Quotations:

Shipping Steers.—Choice to prime natives, \$10.25 to \$10.90; fair to good, \$9.60 to \$9.85; plain, \$9.25 to \$9.40; very coarse and common, \$8.50 to \$9; best Canadians, \$9.75 to \$10; fair to good, \$9.25 to \$9.50; common and plain, \$8.50 to \$9.

Butchering Steers.—Choice, heavy, \$9.50 to \$10; fair to good, \$8.50 to \$9.25; best handy, \$9.50 to \$10; common to good, \$8.60 to \$9.25; light, thin, \$8 to \$8.40; yearlings, prime, \$9.75 to \$10; yearlings, common to good, \$8.25 to \$9.50.

Cows and Heifers.—Prime weighty heifers, \$8.0 to \$9.25; best handy butcher heifers, \$8.50 to \$8.75; common to good, \$7 to \$8; best heavy, fat cows, \$7.75 to \$8.25; good butchering cows, \$7 to \$7.50; medium to fair, \$5.50 to \$6.50; cutters, \$4.75 to \$5; canners, \$3.25 to \$4.50.

Bulls.—Best heavy, \$8 to \$8.50; good butchering, \$7.75 to \$8.

Stockers and Feeders.—Best feeders, \$8 to \$8.35; common to good, \$7 to \$7.75; best stockers, \$7.75 to \$8; common to good, \$6.50 to \$7.50.

Milchers and Springers.—Good to best, in small lots, \$80 to \$100; in carloads, \$70 to \$75; medium to fair, in small lots, \$60 to \$65.

Hogs.—Prices last week were generally lower. Monday several decks of good hogs brought \$9.75, but bulk landed on a basis of \$9.70. Tuesday's top was \$9.75, with bulk going at \$9.60 and \$9.65; Wednesday the general market was \$9.65, with nothing above \$9.70; Thursday three decks brought \$9.80, and the balance moved at \$9.70 and \$9.75, and Friday the extreme top was \$9.75, with the big end of the crop going at \$9.70. Pigs were held steady all week, bulk selling at \$9; roughs ranged from \$8.25 to \$8.40, and stags mostly \$6.75 down. Receipts last week were 29,300 head, as compared with 28,348 head for the week previous,

and 31,500 head for the same week a year ago.

Sheep and Lambs.—Receipts last week were the lightest this year, grand total being 6,200 head, as against 12,159 head for the week before, and 3,800 head for the same week a year ago. The short supply last week caused a good, active trade, and prices were held steady from day to day. Best spring lambs sold from \$12 to \$12.50, and top dry-fed yearling lambs ranged from \$9.75 to \$10, with the throwouts going from \$8.75 down. No sheep brought above \$7.85, though choice strictly wethers were quoted up to \$8, and the ewe range was from \$7 down.

Calves.—Market showed improvement as the week advanced. Monday, top veals moved at \$11.50 and \$11.75; Tuesday and Wednesday best lots brought \$12; Thursday, top was \$12.25, and Friday the bulk moved at \$12.50, with a few reaching \$12.65. Cull grades, as a rule, went from \$10.50 down. Receipts last week reached around 3,500 head, being against 4,029 head for the week previous, and 4,000 head for the same week a year ago.

Chicago.

Cattle.—Beeves, \$8 to \$11.30; stockers and feeders, \$6 to \$8.90; cows and heifers, \$3.90 to \$8.95; calves, \$8.50 to \$11.85.

Hogs.—Light, \$8.75 to \$9.40; mixed, \$9.05 to \$9.55; heavy, \$8.90 to \$9.55; rough, \$8.95 to \$9.10; pigs, \$6.85 to \$8.35; bulk of sales, \$9.25 to \$9.50.

Sheep.—Native, \$7 to \$8.25; lambs, native, \$7.75 to \$10.35.

Cheese Markets.

Lindsay, 16 1/4c.; Madoc, 16 9-16c.; Kingston, 16 7/8c. to 16 15-16c.; Brockville, 16 3/4c. to 16 7/8c.; Alexandria, 16 13-16c.; New York, specials, 15c.; Perth, 17 1/8c.; Iroquois, 16 3/4c.; Picton, 17c.; Mont Joli, Que., 16 1/2c.; Danville, Que., 16 9-16c.; Napanee, 17c.

Suits Free!

Remarkable Cloth that Won't Wear Out!

Now readers, would you like a suit or pair of pants absolutely free! A most astounding offer is being made by a well-known English firm! They have discovered a remarkable Holeproof Cloth. You can't tear it! Yet it looks just the same as \$20 suiting. You can't wear it out no matter how hard you wear it, for if during six months of solid, hard grinding work every day of the week (not just Sundays), you wear the smallest hole, another garment will be given free! The firm will send a written guarantee in every parcel. Think readers just \$6.50 for a man's suit, and only \$2.25 for a pair of pants sent to you all charges and postage paid and guaranteed for six months' solid grinding wear. Now, don't think because you are miles away you cannot test these remarkable cloths, for you simply send a 2 cent post card to The Holeproof Clothing Co., 56 Theobalds Road, London, W. C., Eng., for large range of patterns, easy self-measure chart and fashions. These are absolutely free, and postage paid. Send 2 cent post card at once! Mention "The Advocate."—Advt.

Trade Topic.

"THE MICHIGAN SPECIAL."
New Night Train Between Toronto, Detroit, Chicago, via Canadian Pacific Railway.

A new night train, "The Michigan Special" now leaves Toronto 11.50 p. m. daily, arriving Windsor (M. C. R.) 8.30 a. m. eastern time; Detroit (M. C. R.) 8.10 a. m. central time; leaving Detroit (M. C. R.) 8.25 a. m. central time; arriving Chicago, (M. C. R.) 3.30 p. m. central time.

Note the convenient hour of departure, enabling passengers to spend the entire evening in Toronto, reaching Detroit at a most desirable hour in the morning.

Equipment is modern in every detail, including electric-lighted, standard sleeping cars, Toronto-Detroit and Toronto-Chicago.

Particulars from any Canadian Pacific Ticket Agent, or W. B. Howard, District Passenger Agent, Toronto.



SEALED TENDERS addressed to the undersigned, and endorsed "Tender for Supplying Coal for the Dominion Buildings," will be received at this office until 4.00 P.M., on Wednesday, June 28, 1916, for the supply of coal for the Public Buildings throughout the Dominion.

Combined specification and form of tender can be obtained at this Department and on application to the caretakers of the different Dominion Buildings.

Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied, and signed with their actual signatures.

Each tender must be accompanied by an accepted cheque on a chartered bank, payable to the order of the Honourable the Minister of Public Works, equal to ten per cent. (10 p.c.) of the amount of the tender, which will be forfeited if the person tendering decline to enter into a contract when called upon to do so or fail to complete the contract. If the tender be not accepted the cheque will be returned.

By order,
R. C. DESROCHERS,
Secretary
Department of Public Works,
Ottawa, June 7, 1916.

Newspapers will not be paid for this advertisement if they insert it without authority from the Department.



Threshermen, Read This!

Best 2-inch Wire-lined Suction Hose in 15-, 20- and 25-ft. lengths. Our price, 37c. per ft.

Write for our Illustrated Catalogue "Engineer's Bargains" Also General Supplies for Farmers

Windsor Supply Co.
Windsor, Ont.



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock.

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

COLLIE PUPS FOR SALE—R. G. ROSE, Glanworth, Ont.

FARM FOR SALE. A VERY GOOD FARM of 97 arpents, rich soil, all under cultivation, with good house, barn and other buildings in perfect order. Well situated on the Automobile Highway at St. Hubert, Que., 9 miles from Montreal, 1 1/4 mile from Electric Railway. For price and particulars please write to H. E. Trudeau, 34 Decelle Ave, Ville St. Laurent, Que.

TWO MILKERS AND TWO FARM HANDS wanted—Wages \$32.00 per month and board. Apply Erindale Farms Ltd., Erindale, Ont. (18 miles west of Toronto).

WANTED—ONTARIO FARM IN EXCHANGE for 480 acres in Weyburn district of Saskatchewan, 375 acres under plow, and fair buildings, 160 acres fenced. Ref. No. 553 when writing. Walsh Land Co., Winnipeg, Canada.

WANTED—MAN AND WIFE, OR TWO women to take charge of Lady Mackenzie's Dairy at Kirkfield, Ontario. Apply F. C. Annesley, 1 Toronto Street, Toronto.

WE OFFER A CHOICE LITTER OF PEDI- GREED Collie puppies; color sable and white. B. Armstrong, Codrington, Ont.

PATENTS AND LEGAL FETHERSTONHAUGH & CO., PATENTS Solicitors—The Old Established Firm, Head Office Royal Bank Building, Toronto, and 5 Elgin St., Ottawa, and other principal cities.

The management of the Toronto Fat Stock Show announce their intention of holding a show at the Union Stock Yards, Toronto, December 8th and 9th, 1916. We understand the prize list will contain many new classes and offer handsome prizes to breeders and feeders of cattle, sheep and hogs.

The Merchants Bank of Canada presents a very satisfactory report on another page in this issue. The assets of the bank show a rapid growth during the year. Reserves are now very strong, and all classes of deposits show a rise. The interest-bearing deposits increased five millions during the year and non-interest deposits 4 1/2 millions. Holdings of cash and liquid assets total nearly forty-one millions. Space will not permit a full resume. See the report on another page.

The Merchants Bank of Canada

The fifty-third annual report of the Merchants Bank of Canada was held at the head offices at Montreal on June 15, 1916, at 11 o'clock noon. Amongst the directors present were Mr. Long, Alex. Barne, Wilson, Farquhar, Alex. D. Fraser, F. Hague, Arthur E. Merrett, D. C. W. A. Meldrum, and Mr. J. M. I. The minutes of the meeting were read and approved. The Chairman's report was as follows:—

I have pleasure in presenting to you the annual report of the Merchants Bank of Canada for the year ended December 31, 1915. The report shows a very satisfactory record for the year, and I beg to present to you the following summary of the results:

You will note that the business of the bank has been held throughout the year under the same conditions, and you have the satisfaction of knowing that the management has deemed it wise to continue the same policy to the Contingent Fund, in excess of the amount required for the year. Referring to the Bank's portion of the Contingent Fund, the report is appended hereto. During the year the Contingent Fund has become unproductive, and the balance has been carried forward to the next year. The various items of the Contingent Fund are as follows:

Statement of the Contingent Fund for the year ended April, 1916:—
The Net Profits of the Bank for the year ended December 31, 1915, were \$1,000,000. The balance brought forward from the previous year was \$500,000. The total amount available for the Contingent Fund was \$1,500,000. The amount contributed to the Contingent Fund was \$1,000,000. The balance carried forward to the next year was \$500,000.

Making a total of \$1,500,000. This has been divided into 100 shares of \$15,000 each. The Dividend No. 1 is \$1,000,000. The Dividend No. 2 is \$500,000. The Dividend No. 3 is \$500,000. The Dividend No. 4 is \$500,000. The Dividend No. 5 is \$500,000. The Dividend No. 6 is \$500,000. The Dividend No. 7 is \$500,000. The Dividend No. 8 is \$500,000. The Dividend No. 9 is \$500,000. The Dividend No. 10 is \$500,000.

Donation to the Government of the Province of Ontario. The balance carried forward to the next year is \$500,000.

K. W. BLACK
Statement of the Contingent Fund for the year ended April, 1916:—

1. To the Capital Stock of the Bank. The balance carried forward from the previous year was \$500,000. The amount contributed to the Capital Stock was \$1,000,000. The balance carried forward to the next year was \$500,000.

2. To the Deposits of the Bank. The balance carried forward from the previous year was \$500,000. The amount contributed to the Deposits was \$1,000,000. The balance carried forward to the next year was \$500,000.

The Merchants Bank of Canada

Proceedings at the Fifty-third Annual Meeting of the Shareholders, on 7th June, 1916

The fifty-third Annual Meeting of the Shareholders of the Merchants Bank of Canada was held on Wednesday, June 7th, 1916, in the Board Room at the head offices at Montreal. The meeting was called to order at twelve o'clock noon. Amongst those in attendance were: Messrs. K. W. Blackwell, Thomas Long, Alex. Barnet, Andrew A. Allan, C. C. Ballantyne, A. J. Dawes, F. Howard Wilson, Farquhar Robertson, George L. Cains, Alfred B. Evans, E. F. Hebden, Alex. D. Fraser, Ward C. Hughson (Ottawa), John Patterson, A. Piddington, F. Hague, Arthur Browning, Robert Shaw, Edward Fiske (Joliette, Que.), T. E. Merrett, D. C. Macarow, A. B. Patterson, J. Gillespie Muir, H. B. Loucks, W. A. Meldrum, E. A. Fox, C. A. Harcourt and J. M. Kilbourn.

On motion of Mr. John Patterson, seconded by Mr. Alex. D. Fraser, the Vice-President (Mr. K. W. Blackwell), in the absence of the President (Sir H. Montagu Allan), was asked to take the chair.

Mr. J. M. Kilbourn was appointed Secretary of the meeting.

The minutes of the last annual meeting were taken as read.

The Chairman, Mr. K. W. Blackwell, then presented the Annual Report, as follows:—

THE ANNUAL REPORT.

I have pleasure in presenting the Fifty-third Annual Statement of the Merchants Bank of Canada, as at the close of business on the evening of April 29th, 1916, the last day of the Bank's financial year; and at the same time I beg to present the directors' report of the Profits for the past twelve months.

You will note that the profits are less by \$44,718.31 than they were for the previous year. This is accounted for by reason of the heavier cash reserves held throughout the fiscal year, in view of the generally prevailing monetary conditions, and the general slackening of business activity in commercial lines. You have the statement before you, showing how the profits have been apportioned. Having regard to the times we are passing through, it has been deemed wise to transfer any surplus over and above dividend requirements to the Contingent Fund. Meanwhile, the balance brought forward is slightly in excess of that of the previous year.

Referring to the General Statement, you will be glad to observe that the Bank's portion is unusually strong, as befitting the times. The usual Auditors' Report is appended, certifying to the correctness of the Balance Sheet.

During the past twelve months we have closed the following offices, which have become unprofitable, viz.:—

Second St. East, Calgary.	Edson
Athabasca Ave., Edmonton.	Raymond
Alberta Ave., Edmonton.	Redcliff
West Edmonton.	

All in Alberta. And have opened the following new Branches, viz.:—

Alliance, Alta.	Forestburg (Sub.), Alta.
Ponoka, Alta.	Heisler (Sub.), Alta.

The various offices of the Bank have been inspected during the year.

All of which is respectfully submitted.

K. W. BLACKWELL, Vice-President.

THE FINANCIAL STATEMENT.

Statement of the result of the business of the Bank for the year ended 29th April, 1916:—

The Net Profits of the year, after payment of charges, rebate on discounts, interest on deposits, and making full provision for bad and doubtful debts, have amounted to.....\$ 950,713.42
The balance brought forward from 30th April, 1915, was..... 245,140.70

Making a total of.....\$1,195,854.12

This has been disposed of as follows:—

Dividend No. 112, at the rate of 10 per cent. per annum.....	\$175,000
Dividend No. 113, at the rate of 10 per cent. per annum.....	175,000
Dividend No. 114 at the rate of 10 per cent. per annum.....	175,000
Dividend No. 115, at the rate of 10 per cent. per annum.....	175,000
	\$ 700,000.00
Donation to Canadian Patriotic Fund.....	25,000.00
Donation to British Red Cross Society.....	2,000.00
Government War Tax on Note Circulation.....	67,870.00
Transferred to Contingent Fund.....	150,000.00
Balance carried forward.....	250,984.12
	\$ 1,195,854.12

K. W. BLACKWELL, Vice-President. E. F. HEBDEN, General Manager.

Statement of Liabilities and Assets at 29th April, 1916.

LIABILITIES.

1. To the Shareholders.	
Capital Stock paid in.....	\$7,000,000.00
Rest or Reserve Fund.....	7,000,000.00
Dividends declared and unpaid.....	175,542.50
Balance of Profits as per Profit and Loss Account submitted herewith.....	250,984.12
	\$14,426,526.62
2. To the Public.	
Notes of the Bank in Circulation.....	\$ 7,486,906.00
Deposits not bearing interest.....	17,181,959.18
Deposits bearing interest (including interest accrued to date of statement).....	54,995,069.97
	363,799.39
Balances due to other Banks in Canada.....	
Balances due to Banks and banking correspondents in the United Kingdom and foreign countries.....	877,399.91
Bills payable.....	1,029,702.00
Acceptances under letters of credit.....	
Liabilities not included in the foregoing.....	
	\$96,361,363.07

ASSETS.

Current Coin held.....	\$ 3,681,854.13
Deposit in the Central Gold Reserves.....	1,000,000.00
Dominion Notes held.....	8,106,240.25
Notes of other Banks.....	702,006.00
Cheques on other Banks.....	2,754,968.88
Balances due by other Banks in Canada.....	2,836.92
Balances due by Banks and banking correspondents in the United Kingdom.....	207,226.65
Balances due by Banks and banking correspondents elsewhere than in Canada and the United Kingdom. (In U. S. \$3,839,597.24).....	3,892,026.83
Dominion and Provincial Government Securities, not exceeding market value.....	2,480,446.72
Canadian Municipal securities, and British, Foreign and Colonial public securities, other than Canadian.....	5,251,321.38
Railway and other Bonds, Debentures and Stocks, not exceeding market value.....	5,055,106.27
Call Loans in Canada on Bonds, Debentures and Stocks.....	5,175,048.49
Call Loans elsewhere than in Canada.....	2,651,404.32
	\$40,960,436.84
Other Current Loans and Discounts in Canada (less Rebate of interest).....	48,835,565.38
Other Current Loans and Discounts elsewhere than in Canada (less Rebate of Interest).....	203,125.72
Liabilities of customers under letters of credit as per contra.....	1,029,702.00
Real Estate other than bank premises.....	177,186.29
Overdue debts, estimated loss provided for.....	164,363.18
Bank Premises, at not more than cost, less amounts written off.....	4,507,782.34
Deposit with the Minister for the purpose of the Circulation Fund.....	345,000.00
Other Assets not included in the foregoing.....	133,161.32
	\$96,361,363.07

K. W. BLACKWELL,
Vice-President.

E. F. HEBDEN,
General Manager.

REPORT OF THE AUDITORS TO THE SHAREHOLDERS OF THE MERCHANTS BANK OF CANADA.

In accordance with the provisions of sub-Section 19 and 20 of Section 56 of the Bank Act we report to the Shareholders as follows:—

We have examined the above Balance Sheet with the Books of Accounts and other records of the Bank at the Chief Office and with the signed returns from the Branches and Agencies.

We have checked the cash and verified the securities of the Bank at the Chief Office against the entries in regard thereto in the books of the Bank as on April 29th, 1916, and at a different time during the year and found them to agree with such entries. We have also attended at some of the Branches during the year and checked the cash and verified the securities held at the dates of our attendance and found them to agree with the entries in the books of the Bank with regard thereto.

We have obtained all the information and explanations we have required. In our opinion the transactions of the Bank which have come under our notice have been within the powers of the Bank, and the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Bank's affairs according to the best of our information and the explanations given to us and as shown by the books of the Bank.

VIVIAN HARCOURT,
of Deloitte, Plender, Griffiths & Co.

J. REID HYDE,
of Macintosh & Hyde.

Auditors.

Montreal, 23rd May, 1916.

The Chairman moved the adoption of the Report, seconded by Mr. Thomas Long, and it was unanimously adopted.

The General Manager (Mr. E. F. Hebden) then reviewed the business of the year, and also spoke of the necessity for strict care and economy in the future.

On motion of Messrs. John Patterson and A. Browning, Mr. Vivian Harcourt, of Deloitte, Plender, Griffiths & Co., was appointed Auditor for the Bank to hold office until next Annual General Meeting, Major J. Reid Hyde, who was associated with Mr. Harcourt last year, being now on active service.

INCREASE IN BOARD OF DIRECTORS.

The Chairman then explained that it had been found desirable to increase the number of Directors to fourteen, in order to ensure adequate attendance at meetings, intimating that the two vacancies thus created would not be immediately filled, but would be left over for future action.

The amendment to By-law 3, increasing the number of directors to fourteen, was then passed unanimously.

On motion of Messrs. Alex. D. Fraser and Fred. Hague, Messrs. John Patterson and A. Browning were appointed Scrutineers for the election of Directors.

Mr. John Patterson moved, seconded by Mr. Alex. D. Fraser, that the Scrutineers cast one ballot in favor of the following persons as Directors:

Sir H. Montagu Allan, Mr. K. W. Blackwell, Mr. Thomas Long, Mr. Alex. Barnett, Mr. F. Orr Lewis, Mr. Andrew A. Allan, Mr. C. C. Ballantyne, Mr. A. J. Dawes, Mr. F. Howard Wilson, Mr. Farquhar Robertson, Mr. Geo. L. Cains, Mr. Alfred B. Evans.

The motion was unanimously carried, and these Directors were declared elected.

Mr. John Patterson expressed the appreciation of the Shareholders of the able and loyal services of the General Manager and Staff of the Bank, and was later personally thanked. Mr. Fred Hague spoke in the same strain regarding the Directors.

This concluded the business of the meeting, which then adjourned. At a subsequent special meeting of the Directors, Sir H. Montagu Allan was re-elected as President and Mr. K. W. Blackwell as Vice-President.

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1866 1916

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ALFALFA		Per bush.
Ontario Variegated No. 1		\$25.00
No. 3 (No. 2 for purity)		19.00
Montana (Northern Crown) No. 1		15.00
Lyman's Grimm No. 1	lb.	.75
Alberta Grimm No. 1	lb.	.75
North Western Grimm No. 2	lb.	.65

SEED CORN. Bags Free.		Per bus.
1914 and 1915 growth.	(70 lbs.) on cob. In crates In bags	
Wisconsin No. 7	\$3.00 \$2.25	
Golden Glow	3.00 2.00	
Bailey	3.00 1.75	
Leaming	3.00 1.75	
White Cap	3.00 1.75	
Longfellow	3.00 1.90	
N. Dakota	3.00 1.90	
Comptos	3.00 1.90	
Quebec 28, registered seed	3.75	
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" GALT	2.16 a.m. " " "	" WOODSTOCK	9.39 a.m. " "
" WOODSTOCK	3.30 a.m. " " "	" GALT	10.29 a.m. " "
" LONDON	4.43 a.m. " " "	" GUELPH JCT.	10.57 a.m. " "
" CHATHAM	7.00 a.m. " " "	Ar. TORONTO	12.15 p.m. " "

LONDON PASSENGER

Lv. DETROIT (Fort St.)	7.00 p.m. Daily
" WINDSOR (CPR)	7.40 p.m. " "
" TILBURY	8.34 p.m. " "
" CHATHAM	9.08 p.m. " "
Ar. LONDON	10.50 p.m. " "

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A FINE RECORD

The results of the examinations during the past year show a magnificent record for Albert College. In the Departmental Examinations 90 per cent. of those who wrote on Senior Matriculation and Faculty got their standing. In Normal Entrance and Junior Matriculation ten students were successful, three securing honors, and only one had spent two years on the work, the time allowed by the High Schools.

With one exception, all Piano and Vocal students were successful in passing Conservatory and College examinations, most securing honors and many first honors. All candidates in Art, whose work is examined by Prof. W. A. Sherwood, R.A., C.A., passed, many with honors. All students in the Expression Department were successful.

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II.
10

We were in the Other Room, the evening of the fourth day.

" . . . Nothing so great has ever come to me, Ryerson Boy. It won't be hard for you. Why, you've seen it without any words from me. I should have known. I did not trust the mysterious forces which drew us together. But it is hard for me—"

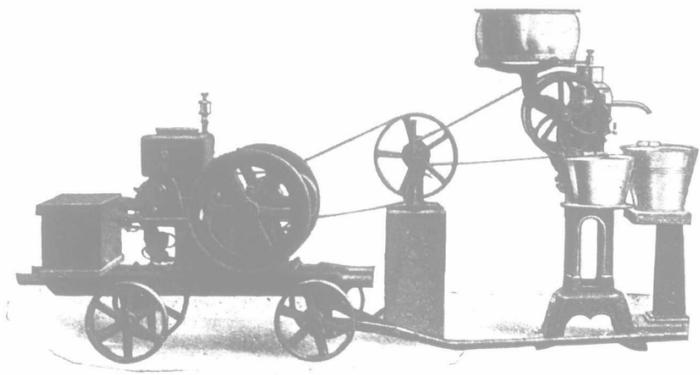
It seemed we were in mid-channel, floating the while, planning strongly the best way to make the landing on the opposite shore, and holding well in mind the rigors and the perils of the life passage so far. . . . Indian Summer had come to make our tryst in Covent flawless. No finer, deeper, nor fuller days were ever given a man. I had not known that days could be so dear.

We sat by the east window, so we could see the moon rise to the southward, and opposite in the great cool dark beyond the Sound, the far-apart sentinels shone on the frontier of the universe.

"But it is hard for me—" Those words shut me in a place where dead men lay. I knew her courage; mine was inspiration from her. I held to the hands that played for me so marvellously through the long forenoons.

"I'm glad you knew my mother," Mary Romany went on. "It makes it easier—since you were drawn to her. She always told me what a wonderful time it was for a girl, when her heart turned to its lover. It wasn't long after the Oporto days, when she began to talk of these things—as if she knew there would not be many days. Young women do not take seriously enough this period of learning who is to be their dearest among men. My mother made me see this. She said that you were impetuous and not easily understood, but that the things which make manhood noble and beautiful were in you; that you had a fine father and must have had a sweet mother. She seemed to know that we would meet again. We

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always spoke of you as the 'Ryerson Boy'.

"And when you see him you will know. If there is a look in his eyes that changes all the thoughts of your girlhood, that makes you feel lonely and lost—oh, be very sure to pass on quickly. Boys go strange ways to manhood. Do not trust your eyes, but the feeling in your heart. If he is a stranger there—he must remain one." This is what my mother said.

"Everything about you belongs to a better country," I told her. "And you found something in my eyes in Hong Kong that made you feel lonely and lost?"

"I wasn't sure. The more I think of it, I see how we suffered that night. I knew I must go away—and yet, I could not let you go for always. You know I could not—I kissed you that last minute. . . . That look in your eyes—no, it was not fatal. It has nothing to do with your being handsome or not—just a little intimate matter that my mother had made me know—an unheard of thing that belongs to a woman who has chosen to take a long and lonely road to her house of happiness—rather than—"

"Yes—"

"Oh, Ryerson Boy—rather than the tempting shortcut of saying, 'I will marry you to-night'."

"My mother made me see—that men who came to win a girl's heart, are different men when they have won it. In this, all sorrow lies. Men and women, too, rise to great occasions in the first days of loving, and having been joined together—fall back upon themselves. I was taught to believe, and to live with the thought, that there must be no relaxation in loving a husband; that the deadly sin is ever to turn from romance to routine. But it is a game of two—and I had to be sure that my lover would not turn. . . . So you know what it meant to me—when you said what you wanted most for the future—always to be finer than I thought.

"Just see what it means," she went on, "—each day a lifting endeavor, each thought adjusted to better light, each motive a giving instead of a getting, a constant repression and casting back of the unworthy—and the worthy rushing in to take its place. All this—not for the good of one's soul—not for that—but for the loved one. This is what my mother said. . . . And you see, the old and unworthy dies from not

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being expressed—and only the good lives and prospers. That is love's way—a constant replenishing of body and mind and soul—no relaxation, no taking for granted the easy nature of the other—never, never making a common everyday matter of your life-gift to each other".

And now I told her what had come to me in this room the first morning:

"You know how an idea sometimes comes—quietly but with a strength that seems to have an army behind it. . . My heart ached from holding you that first morning—you were so great to me. I did not seem strong enough in manhood. I felt that I must go away for a time, for a year. I had seen you, now must realize you—all that you mean and are—I must prepare a place for you in my life".

Mary Romany bent forward, the pallor of the moonlit south upon her face, shining in her eyes. "I could cry out from happiness, Ryerson Boy. To think that I did not have to tell you—that is the very thing. . . The year is for me—quite as much as for you. I have seen you. I must realize you. But I did not think it could be so hard. It is almost as if there were no need of your going away—since you have realized it—with no words from me. I'm afraid,—you'll have to be strong for me. . . And I have carried this thing in mind for years. You said you would be strong for me—with all your might—"

All about me was the warmth and beauty of her emotions, with such grace and power had she woven her spirit about my heart.

"We must have the Year, Beloved," I whispered. "All these fluent conceptions you have given me, must harden into truth and character. The dream to me is of what I shall bring back to you. Thinking of you and the great good that has come to me, thinking of you and these hours, in my nights and days, must bring to my eyes that look which you were not sure of in Hong Kong. It will be there, when I come back. You will not feel lost nor lonely".

She broke the silence. "I wonder if my mother could ask for you to go away—if she knew how dear you were?"

"This good is not mine yet. It is your sustaining. You are wings, since I have been here. I must win your high place alone. I must be—of myself—what you have inspired me to be here. That is the meaning of the Year. She was very wise, your mother".

"You do not know how I have expanded in this happiness. The power has come to us, and we must make it a home in our hearts. . . But it seems so terrible to send you away—you so good—you that have suffered so much for me. Even my mother would be afraid, I think. . . We are so close, so real, to-night. Truth is so near and blessed to-night. . . Oh, dear heart, I am letting you be strong for me. . . And yet it is so sweet—to feel your strength—"

The moon was much higher. Its pallor had spread over the Sound, and hung like a mist before the northern stars.

"To think of the little ones," she was whispering, "the little boys and girls, with their things to say; every sentence, art's own true voice; and their great business to do every day. Isn't it ecstasy—the little heads and their marvellous unfoldings—and to think that in every thought—even through our Year—we have done our utmost best, our utmost united inspiration—in dreaming, loving, praying, toiling, bearing—our utmost best for them—all our lives—until we are as children beside them".

The night was a pilgrimage to Holy Land for me. I had no words, but walked exalted in her white passion.

"Think—if they were about us here now—the little heads—how they would listen to the forest and the ocean—and hear the spirits of the good in all the great harmony—and learn the corn and the bees together, and flowers and stars. . . And oh, how proud, when they were older (you do not know this of a woman, I am sure), how proud to show them how I am loved by their father. That is a woman's supremacy. . . And putting them to bed—hearing the sleepy words from little lips that have come so far to taste what the world is like; and to hear their dreams, and to be waked by them—when



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the morning is a baby, too—to watch them find you. . . . Oh, Ryerson Boy, this is the greatness of Earth to me. . . . This seems what God must have meant. And our Year is preparation for this sacrament. . . . And you have understanding. How strong—how dear you are. I will love you safely home".

11

So many brightenings of the inner dimension of man Mary Romany brought to me. Every turn of her presence was a different melody—strange hushed little melodies in a minor key, that started me singing within. She made me see the world from new and wonderful angles, and in dream-colored light. . . . I think there must be vast ranges of virgin understanding in every man's mind, that are illumined best in flashes of a woman's love—as the mountains of Tropicania are lit at times by clicking snaky flashes of electric fire. Routine and mingling with men are matters of major key. When a man makes up his life of such, he remains a boy, except that part of him which is animal; and that grows old. But the minors of life—certain haunting melodies, certain inexplicable perfumes, voices of the night, twilights, the hungers that have naught to do with frying-pans, and the voice, the look, the kiss of a loved woman—these are realities. . . . I needed the Year—to be alone, to make ready—to mature the conception of happiness. Can you imagine, even in the midst of that perfect season at Covent, that a part of my nature was eager to begin the Year?—just as there was a part that would startle me at intervals through the long hours of light, with the thought of the end of the day, and the good-night in the Other Room. I was elate, brimming—and so good did the world seem, and the God of the world, that it was effort to recall death and fire and flood and the world's misery. Of course I realized then that I must go out and help, must earn the right to come back to Mary Romany. . . .

"Sometimes I wish I were poor—even that we were poor", I thought aloud, as we walked along the Bluffs, the day before I left for Washington to help Yuan. So often, had I seen full comprehension in her eyes, before I was half through picturing an idea, that I felt only the need of thinking clearly and offering fragments from time to time. "What I mean is—there would be joy in bringing the antelope and fire-wood to your tepee—"

And then I fell to thinking what Yuan had said about a man's work, and the necessity of making a woman see that the world respected his prowess. "Money seems to have so little to do with us", she said. . . . "Why, if we were without, we could go forth together and get fire-wood and antelope. We're well and strong—that's too simple". "Yet it's like a rope around the throat of our kind", said I, "and men hang upon it—until they are dead".

There was a certain magic in her sentence of going out together. It had to do with her ideal of a man's mate—an ideal of the elder world, the woman of strength and knowledge in house and land, the woman of valor, with olive branches about her—whose price is above rubies. Her sentence had a mystic meaning for me—a boy and girl in fairy light setting out hand in hand. . . . We stood upon the rocky shore and it was high noon, the forest at our right, and that cool green sea, always sounding. I remember, we had left the door of the little house open. I told her I should spend the year in South America with her father if he would permit. This had come to me like an inspiration, and the more I thought of it, the more pivotal it appeared. "It is splendid of you to go to him," she said strangely, "but South America means a man's dream of rivers of gold to me. Oh, yes, I am grateful—"

"At first I thought I wanted the great mountains, and then it drew closer and closer to me that it was your father I needed—not the Himalayas. After that I realized that he was in the heart of the Andes".

"My mother and I learned what the dream of rivers of gold will do to one man's mind," she added slowly. "But it is like you. I shall be glad to think of you both there. And my father will be glad. Yes, even if the rivers of gold are there—you will not forget

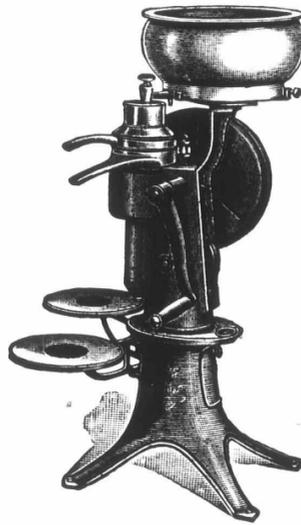
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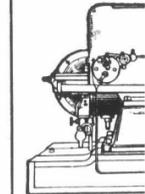
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from 10 to 24 mo
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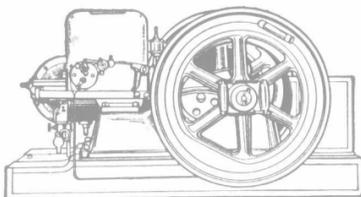
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Here's a great little engine for \$42.50

Think what it will do for you

Used with a Governor Pulley, it will run your Cream Separator—and do it more smoothly than you can turn it by hand.

It will pump all the water for your stock as well as for your home.

It will churn, or operate your wife's washing machine and thus save her that part of the housework that women dread.

At a cost of 2c. per hour for fuel, does this look like economy to you?

Does it look reasonable to pay high wages to hired help when this little wonder of an engine works for so much less; and never asks for more pay?

If you would know more, you may write us without any obligation to buy.

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1 1/2 h.p.	\$ 49.00
3 h.p.	73.00
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Bog Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

FLEMING'S SPAVIN CURE (Liquid) is a special remedy for soft and semi-solid blemishes—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be imitated. Easy to use, only a little required, and your money back if it ever fails.

Fleming's Vest-Pocket Veterinary Adviser describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

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75 Church Street, Toronto, Ont.

ALLOWAY LODGE STOCK FARM

Angus, Southdowns, Collies

Special this month:

Southdown Prize Rams

ROBT. McEWEN, R.R.4, London, Ont.

Elm Park Aberdeen-Angus

"Glencarnock Victor," th. grand champion steer at Chicago International Show. Was sired by Elm Park Ringleader 5th 106676. We have two full sisters to this great breeding bull in our herd also a number of half sisters that are producing the kind of bulls that will get the best kind of Aberdeen-Angus cattle. We have some bulls and females for sale at reasonable prices.

James Bowman Box 14, Guelph, Ont.

Balmedie Aberdeen-Angus—Get a high-class Angus bull and breed the champion steers. I have show-ring quality bulls from 10 to 24 months of age; also choice 1- and 3-year-old heifers.

T. B. BROADFOOT, Fergus, Ont.

the greater thing. . . Ryerson Boy, if I asked you—would you stay now and not go to South America?"

"I think—if we do this hard thing together, Mary Romany, we'll breathe deeper the breath of life in the years ahead. I am one who has come into a great inheritance—many mansions and lands, so that I am lost in the midst of them. I must realize and grow accustomed to my great fortune—"

I was talking as if for air. I held blindly to the single idea that I must not waver, must not yield. I dared not look at her, but felt her nearer.

"Forgive me. I shall never say that again. . . You are my lover, terrible and unalterable."

Covent was famed for its sparkling beaches. Often as we gathered the colored stones, I had seen her turn to the sea with that lured far look which comes from steady wind in the eyes. She seemed to be listening for the voices again—the spirits of that first night.

Once she told me a queer dream: Our mothers and my father were together. She mused a moment after making this dream clear to me, and then repeated her thankfulness in that I was going to South America. I understood.

"Did they say anything—that Trinity in the dream?" I asked.

"Yes, but I cannot remember. It's the same with the other voices. You don't know if they speak, or if they just think their messages with your mind. You understand at the time—"

"Please tell me more about the Other Voices."

"They come to a woman who is radiantly happy. Such a woman is panoplied with them—and they are the elect. . . They know I am loved. They did not draw near until you came. They would not approach, if I were alone. Sometimes they come in the night—but I think it is because our doors are open. . . There is One who smiles from afar—with a brightness and a serenity that we can hardly understand—on earth. He has none of the sweet intensity of the anxious ones—but he is greater. He seems to be waiting—"

She halted, and caught her breath, and came closer to me. The sun was setting and we were under the cliffs at the edge of the land, where the stones were brightest. We could see but one pebble at a glance, and on either side stretched the hueless millions that paved the beaches.

"They are waiting over there, thick as these stones, and some are brighter than others," she whispered.

"But I thought—Mary Romany, I thought they were little children that happy women dreamed of."

"They are not little children over there. . . Only they want to be again. They are greater than the happiest woman—that One is—that Waiting One. . . There are so many—many—the whole beyond is filled with them—like the stones here—some brighter than others—the thousands that have nothing to do with us—like those stones which we only see, as a part of the shore. They are waiting for the world's women to grow happy."

Suddenly I realized that Mary Romany was trying not to cry.

"But I shall come back for a day after Washington—and then, you must know, Mary Romany, that our Year is a love pilgrimage—to put the old away and attract the finest of the new; to think of the woman who has opened the doors, that I may hear what the winds say, and the trees and the silence. The great mountains shall know you, because my thoughts will call you there. . . We shall always remember that we shared this hard thing which we knew from within was right. And we shall have a greater peace and a greater beauty. . . I think that brightest One—the One who smiles from afar—I think he is waiting for the Year—"

Now I saw that I had tried the wrong way to help her not to cry.

"Yes, yes—until we are purer and braver—but that you should think of that. . . I'm afraid sometimes—that I must suffer from not loving you this way always—"

"Please—Mary Beloved—it is being with you—that has made it possible.

Her arms lifted and she drew my face to her breast. "Always, always—your yellow rose—Ryerson Boy—shall be blooming here."

To be continued.

BY APPOINTMENT TO HER KING GEORGE V

My Treasure Book

Until Mappin & Webb opened a store of their own in Montreal, the woman who possessed a copy of their English catalogue counted herself as of the elect. It was her choicest possession—a rare edition—eagerly consulted—jealously guarded—because so few of these found their way to Canada.

With the opening of the Montreal store, a different policy has been pursued.

Instead of one large "Treasure Book" issued once a year, a number of seasonable catalogues are arranged, each one complete in itself and showing the choicest, the rarest and the most substantial in Jewellery, Precious Stones, Gold and Silverware for the individual season.

Our latest catalogue—and a very beautiful one—is ready for distribution. May we send you a copy?

Mappin & Webb

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353 ST. CATHERINE ST. WEST, - MONTREAL.

"THE VETERINARIAN"

A treatise on the diseases of domestic animals by Dr. Chas. J. Korinek, Graduate of the Ontario Veterinary College of the University of Toronto and Hon. Member Ontario Veterinary Medical Association, describes the cause, symptoms and treatment of all diseases of Horses, Cattle, and Poultry, cloth bound, illustrated, and sells for **\$2.50**



This valuable and instructive book given **ABSOLUTELY FREE** with a trial order of a ton of **LINSEED OIL CAKE "MAPLE LEAF" BRAND**

The feed that will increase the weight of your cattle and make your Milch Cows produce more milk and butter. Should be used as a supplementary feed all the year round. Linseed Oil Cake will increase the profits from your live stock and the Veterinarian will save you in your Veterinary Fees. Write for prices on a ton trial order to-day.

THE CANADA LINSEED OIL MILLS LIMITED Toronto & Montreal 1906

Percheron Stallions and Mares



All imported from France, four to seven years old, all proven foal-getters Government approved; first-class certificates, weighing 1,900 to 2,100 lbs. Blacks and grays. I am going to close them out. Now is your opportunity to get a good stallion at your own price. Terms to suit. Write at once for particulars and come.

J. B. Hogate, - - Weston, Ontario

A SURE CURE FOR THRUSH

Douglas' Egyptian Liniment

For sale everywhere. Write for Free Sample.

Douglas & Co., Napanee, Ont.

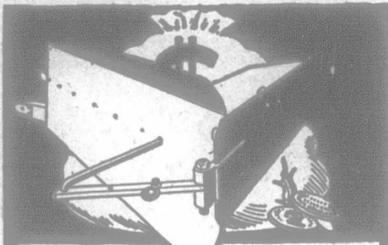
Clydesdales We have still left some exceptionally good draft stallions, ranging in age from one to eight years, prizewinners, including champions; also in-foal mares and fillies. There is a horse boom coming. Buy now.

SMITH & RICHARDSON, Columbus, Ont.

ORCHARD GROVE HEREFORDS

Have several young bulls and heifers for sale. Satisfaction guaranteed;

L. O. CLIFFORD, OSHAWA, ONT.



ONLY for this marvellous Ditcher and Grader. It will dig your ditches to a depth of 2 or 3 feet—grade your roads—clean out your old ditches—will do as much work in a day as 50 men with picks and shovels. Send to-day for catalogue.

The Martin Farm DITCHER and Road Grader
MADE EXCLUSIVELY BY

Preston Car & Coach Co., Limited
97 Dover St., Preston, Ont.

Buchanan's Self-Compressing Long Sling
—the result of 33 years experience in making Pitching Machines. Consists of three slings and sectional pulley for drawing ends together. Easy to operate, quick to work, and exceptionally strong. We make all kinds of Pitching Machines—Swivel Carriers and Tracks, Slings, Harpoon Forks, etc. Write for catalogue. M. T. BUCHANAN & CO., INGLEBOLL, Ont. 2

We also manufacture Steel Cow Stalls and Positive Lock Cow Stanchions.

DISPERSION SALE OF Dual - Purpose Shorthorns
ON WEDNESDAY, JUNE 21st, 1916

At the farm, 5 miles from Erin Sta., C. P. R., where conveyances will meet all morning trains, I will sell by auction my entire herd of 20 Dual - purpose Shorthorns, 15 females, all of breeding age will be in calf to the famous, officially backed, O. A. C. bull, Imp. Barrington Record, also 5 young bulls from 7 to 15 mos. of age, bred on heavy milking lines. These cows are heavy milkers and a most desirable lot. I will also sell a few registered Yorkshires and a number of high-class saddle horses.

Terms cash for 6 mos. on Bankable paper with 5%.
Geo. McAllister, Shelburne, Auctioneer,
For catalogue write—

A. E. CURRIE
R. R. No. 1, GUELPH

SHORTHORNS

Five high-class bulls, from 10 to 15 months, sired by Real Sultan, others just as good. Am pricing them low, as it is getting late in the season. A few heifers and young cows to offer, some milking families. Freight paid.

Stewart M. Graham, Lindsay, Ont.
1854—Maple Lodge Stock Farm—1916
SHORTHORNS and LEICESTERS
Good quality and choice breeding. Come and see our herd and flock.

MISS C. SMITH, Glanville, R. R. 1, Ont.
Farm one mile west of Lucan Crossing—Telephone
SCOTCH SHORTHORNS

We are offering choice young bulls from 6 to 12 mos. of age. Cows in calf, heifers from 1 to 2 yrs. of age. Also our big, thick stock bull, Barmpton Sailor, A. McKinnon, Erin, R.M.D. Hillsburg or Alton Stations. Long-distance Phone

Questions and Answers. Miscellaneous.

Maintaining Line Fence.

A and B own adjoining farms. Some time ago a railway came through both of them, since which time B has sold his land on the north side of railway, and all the land he has is on the south side. Now, B claims that the width of the railway should be deducted from his share of the line fence. A thinks not, and that each should maintain half of the fence. Which is right?
Ontario. LEICESTER LAD.
Ans.—A.

Widow's Share of Estate.

If a man dies without a will, is his wife entitled to the first thousand dollars and her thirds, or what are her legal rights—she having heirs?
Ontario. SUBSCRIBER.
Ans.—No. We assume that by the word "heirs" in the question is meant children of the marriage of the wife's deceased husband and herself. She would be entitled to take one-third of the entire estate remaining after payment of the debts, funeral and testamentary expenses and succession duties, if any.

Pasturing Sheep, Etc.

1. How many acres of land would it take to pasture 50 head sheep?
2. Name some place where roots are bought for medical purposes.
3. Could you give me the name of some entomologists who buy insects?
E. E. S.

Ans.—1. It depends on the land and the grass it grows. Six sheep are generally reckoned to eat as much as one cow, but land will scarcely pasture six times as many sheep as cattle. If the pasture is well handled from 18 to 25 acres should pasture them.

2. We cannot give the names of purchasing firms. No doubt some wholesale druggists handle these. Inquire at your nearest drug store about the matter. They might tell you where you could sell.

3. We know of none, but if you have rare specimens you might get in touch with Prof. C. J. S. Bethune, O. A. C., Guelph, Ont.

Fence Trouble.

A built a wire fence along road full length of farm several years ago. This spring neighbor B put up a fence by road too, and wanted to anchor to A's anchor post. A refused. B said, "then I will do just as the council told me to. I'll put my post up as close to yours as I can get it, and yours can lean to Jericho!" B has put up the post, and in doing so broke the cement around A's anchor. How far apart should the anchors be according to the law? Could A claim damages? If so from council or from B? How should A proceed? If council did not give B the right to put his post so close is he not trying to get gain by false pretence? Could council legally give B the right to do as he said they did? Has an executor a right to his say in a line-fence dispute, he being executor for one of the parties disputing?
M. G.

Ans.—The logical thing to do is for the two parties with fences adjoining to connect on the one anchor post. It does less harm than where an extra post is put down close to the one already in. The whole question is one for your local fenceviewers. If the man did not wilfully damage your fence, and if he kept his own strictly on his own soil, it is scarcely likely that A could collect damages. Call on the fenceviewers and settle the question.

A dispersion sale of dual-purpose Shorthorns is not a common event in Canada, so breeders cannot afford to miss A. E. Currie's sale on June 21. There are 20 animals to be offered and 15 of these will be females in calf to the famous Barrington Record Imp. Five young bulls from 7 to 15 months of age will also go at the buyer's price, and they are bred along lines of heavy milk production. Anyone desiring Shorthorns that will give a good mess of milk should not fail to write Mr. Currie and receive a catalogue of the offering. There is something about the stock bull that will make the event worth while. See the advertisement elsewhere in this issue.

Cow Comfort Pays! YOU want to keep your cows healthy and contented, because they give you more milk when they're that way.

Why not equip your Dairy Barn with O.K. Stanchions and Stalls? They give the cows plenty of room and freedom to shift around. There is no weight on their necks. There is nothing to tug or jerk their heads. No fear of big knees or bruised shoulders to work injury to their health.

OK CANADIAN U-BAR STANCHIONS & STALLS

are well worth having if only for that one reason. But that isn't all. They also simplify the work of cleaning the stable; keep the cows lined up over the gutter; save 75 per cent. of the bedding used during the winter; cut out the work of everlastingly cleaning the cows' udders and flanks; save money on repair bills; and save time in handling the cattle.

Our FREE booklet will tell you all about the "T" clamp, the safety lock, the high hinge and clevis on the swing-bar, and other big advantages of O.K. Stalls and Stanchions.

Better mail the coupon to-day.

Canadian Potato Machinery Co., Limited
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Please send Stanchion and Stall Book. When will you build or remodel? How many cows?
Name.....
Address.....

Escana Farm Shorthorns

FOR SALE: Two imported bulls, proven valuable sires; 12 bulls, 10 to 20 months old, all by imp. sires and from high-class dams; also for sale, 20 heifers and young cows, several with calves at foot, all of very choicest breeding, and especially suitable for foundation purposes.

Mail orders a specialty. Satisfaction guaranteed.
MITCHELL BROS. Burlington P.O., Ont.
Jos. McCrudden, Manager. Farm 1/4 mile from Burlington Jct.

Canada's Grand Champion Shorthorns of 1914-1915

are headed by the great "Gainford Marquis," Imp. Write your wants.
J. A. WATT, ELORA, ONT. G.T.R. & C.P.R.

GLENGOW SHORTHORNS AND COTSWOLDS

Pure Scotch in breeding, we have an exceptionally choice lot of bulls for this season's trade, ranging in age from 8 to 15 months, big mellow fellows and bred in the purple. Also ram and ewe lambs of first quality.
Wm. Smith & Son, Columbus, Ont. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

Blairgowrie Shorthorns

Are always for sale at reasonable prices. Cows with calves by side and re-bred.
Heifers in calf. Four bulls which should be heading good herds.
JOHN MILLER, ASHBURN, ONT. Myrtle Sta., C.P.R. & G.T.R.

Pleasant Valley Farm Shorthorns

—For sale, 9 bulls of serviceable age. We can interest you in a real good bull at a right price, for herd headers or use on grade herds. Some sired by (Imp.) Loyal Scot; also females. Write us before buying.
GEO. AMOS & SONS, MOFFAT, ONT., STA., C.P.R. 11 miles east of Guelph.

OAKLAND-48 SHORTHORNS

Present offering is one choice red bull, 20 months old, price \$175; also three about seven months old. A few cows with calves at foot and bred again, and some fine heifers bred. All registered and priced to live and let live.
JNO. ELDER & SONS, HENSALL, ONT.

Fletcher's Shorthorns

Our herd of pure Scotch Shorthorns (imp.) and from imp. stock is headed by the show bull Victor Stanford - 95959 - a winner in Toronto in 1914 and 1915. Former sires, Royal Bruce (imp.) - 55038 - Benachie (imp.) - 69954 - and Joy of Morning (imp.) - 32070 - Present offering, 3 choice young Scotch bred bulls, an "Orange Blossom", a Roan Lady and a "Mysie"; 3 choice breeding cows and some yearling heifers.
Geo. D. Fletcher, P. R. 1, Erin, Ont. L.-D. Phone, Erin Station, C. P. R.

Four Imported Bulls

The above bulls are choicely bred, of good quality, and should make valuable sires. We have five Canadian bred bulls from 10 to 18 months old. We invite inspection of our stock and will give correspondence our most careful attention.
J. A. & H. M. PETTIT, Phone Burlington, Freeman, Ont.
Burlington Jct., G. T. R. half mile from farm.

Spruce Glen Shorthorns

When in want of Shorthorns visit our herd. We have 70 head to select from. Minas Fames, Miss Ramsden's, Florences, Emils, etc. Many of them one and two-year-old heifers. Also several young bulls of breeding age—level, thick, mellow fellows and bred just right.
JAMES McPHERSON & SONS, DUNDALK, ONT.

Maple Shade Farm Shorthorns

The products of this herd have been in very strong demand. There's a reason. Can always supply a good young bull at a price which will make him well worth the money. Not many females for sale, but can show a few which should interest you.
Brooklin, G.T.R., C.N.R.; Myrtle, C.P.R. W. A. DRYDEN, Maple Shade Farm, Brooklin, Ont.

Spring Valley Shorthorns

Herd headed by the two great breeding bulls, Newton Ringleader (imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.
KYLE BROS., Drumbo, Ont. Phone and telegraph via Ayr.

Shorthorns and Shropshires

—T. L. MERCER, Markdale, Ontario—With 125 head to select from, we can supply young cows in calf, heifers from calves up, and young bulls from 9 to 18 months of age, richly bred and well fleshed. In Shropshires we have a large number of ram and ewe lambs by a Toronto 1st-prize ram; high-class lot.

WOODHOLME SHORTHORNS

For sale, a number of yearling and two-year-old heifers, the two-year-olds are bred a short time, and a number of good farmer's bulls of the right kind and breeding. Write your wants.
G. M. FORSYTH, Claremont, Ontario

Questions Miscellaneous

Urinary Tract

I have a dog which about once a week urinates. One had stone in the bladder which might be operated on, but he gave the operation a try and it helped at the time, but all the time in you think any of years.

Ans.—It would be a good idea to have this dog examined. The veterinarian would certainly examine the dog and it would be the same preparatory relief and persisted in it the beast service of years.

Kindly inform Farmer's Advocate are and how to

Ans.—By potash. Soils under this head seldom enters of soils in sufficient anything but lands. As fertilizer would be necessary and nitrogen. be ideal under Phosphates and form of acid phosphate bone meal. Some of ammonia would as would barn manures. We ever, that the not also contained already. Some conducted.

Kindly inform of my dairy morning a distance of all mile, and after bloated. I put that had not five days. In she was dead field with her to be in great cow with the s

Ans.—This bloating is a subject in which being changed. Our correspondence however, when time the animal season. Prevent On a rich p allowed only a first, and the should also g in the stable. probably died the bursting. When a bloated it is wise to ti in its mouth escape of gas 2 ounces, give 2 or 3 ounces drench some no drugs are baking soda will often all extreme cases punctured wi The place to depression be the hook bone are inexpensive farm. This the issue of "Dan How to Avoid

Questions and Answers.
Miscellaneous.

Urinary Trouble With Horse.

I have a driver about 20 years old which about four years ago had trouble urinating. One veterinarian said he had stone in the bladder and that he might be operated on successfully but his age was against him. Another veterinarian said there was no cure for him but he gave the horse some powders that helped at the time. Now his urine comes all the time in small quantities. Do you think anything could be done for him?

W. W.

Ans.—It would be difficult to prescribe for this case without a thorough examination. The age of the patient and the several years' effect of the disease would certainly militate against recovery. The veterinarian who administered the powders probably understood the case and it would be wise to procure more of the same preparation. It gave temporary relief and if the treatment were persisted in it might result in making the beast serviceable for a further period of years.

Potash Soils.

Kindly inform me through "The Farmer's Advocate" what potash soils are and how to fertilize them.

G. E. J.

Ans.—By potash soils we infer that our correspondent means soils rich in potash. Soils are not generally classed under this heading as potassium, the valuable ingredient or part of potash, seldom enters into the composition of soils in sufficient quantities to make them anything but fertile and productive lands. As fertilizer, only two kinds would be necessary, viz., phosphates and nitrogen. Barnyard manure would be ideal under most circumstances. Phosphates could be supplied in the form of acid phosphate, basic slag or bone meal. Sodium nitrate or sulphate of ammonia would supply the nitrogen as would barnyard manure or green manures. We have no proof, however, that the soil rich in potash would not also contain sufficient phosphates already. Some field tests should be conducted.

Cows Bloated.

Kindly inform me regarding the ailment of my cow. I milked her in the morning as usual, and she gave a dairy pailful of milk. She walked a distance of about three-quarters of a mile, and after a short time she became bloated. I put her on a meadow that had not been pastured for about five days. In about two hours time she was dead. She ran around the field with her mouth open, and seemed to be in great pain. We have another cow with the same trouble.

J. D.

Ans.—This is evidently a case of bloat to which ruminants are quite subject in the spring of the year when being changed from dry to green fodder. Our correspondent does not state, however, whether this was the first time the animal was on grass this season. Prevention is better than cure. On a rich pasture cattle should be allowed only a short time each day at first, and then when it is dry. They should also go out after a good feed in the stable. The animal in question probably died from suffocation or from the bursting of some internal organ. When a bloated beast is first discovered it is wise to tie a piece of a fork handle in its mouth which assists in the escape of gas. A dose of turpentine, 2 ounces, given in water, or better in 2 or 3 ounces of raw linseed oil, as a drench sometimes gives relief. Where no drugs are at hand one-half cup of baking soda given in a pint of water will often alleviate the condition. In extreme cases the animal should be punctured with a trocar and canula. The place to tap is the middle of the depression between the backbone and the hook bone. The trocar and canula are inexpensive and should be on every farm. This matter was discussed in the issue of May 4, 1916, under the title of "Dangers From Pasturing and How to Avoid Them."



The Fast Trap Load

"Canucks" make high scores possible. They are the fast Shot Shells that hit hard and break the targets clean. A well balanced load with double chilled shot and there with the speed—that's why Canucks are used by trapshooters who know.

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shot shells are the kind that you will insist on having after the first test. Good dealers everywhere sell Canucks. They are the best that skill and workmanship can produce in a moderately priced shot shell. The "Big D" trade mark on the box is your guarantee of satisfaction. Send for free colored hanger "A Chip of the old Block."

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Ask us about the Dominion Hand Trap.



Does Your Cow Pay Her Board?

Cows give more milk and make more beef when they are kept in health and comfort. There's money in cows, but when neglected they don't pay their board. Cows cannot eat contentedly and turn feed into fat meat, milk, cream or butter if they are pestered with fleas, fight flies or scratch lice all the time. Take care of your cow's health and comfort and she will pay her board and pay you a good profit also. You can insure a cow's health and comfort with a gallon of Zenoleum. It's the cheapest insurance and the best investment a farmer can have. Zenoleum is a highly refined Coal-tar product, having three times the disinfecting power of carbolic acid; has a pleasant smell; is clean to handle, is non-irritating, non-poisonous, non-inflammable, non-greasy and a "Safety First" article in every way. Practically every form of germ infection or disease may be cured by Zenoleum. It quickly heals sores and cuts. Where Zenoleum is properly used to disinfect barns, stables, pens and poultry houses—NO DISEASE EVER APPEARS. Used by 60 Agricultural Colleges. Ask your dealer or send direct to us.

ZENOLEUM

Our Folder on DISEASES OF LIVESTOCK AND THEIR CURE—FREE. ZENNER DISINFECTANT CO., - Windsor, Ont.



FACTORY PRICES

89c

HEAVIER GRADES AT EQUALLY FAVORABLE PRICES

READY TO LAY—PURE ASPHALT

ROOFING

Quickly and Easily Laid without previous experience and requiring no expert help

CAN BE LAID OVER OLD SHINGLES

DURABLE, WEATHERPROOF

FIRE-RESISTING

WRITE FOR FREE SAMPLE

The Halliday Company Limited

FACTORY DISTRIBUTORS

HAMILTON, CANADA

Dual-Purpose Shorthorns

Two young bulls, Weldwood Roan Revelation, a dark roan out of Mina Gem, a big, strong cow with an official record of 10,340 lbs. of milk, 388 lbs. butter-fat, and Weldwood Red Victor, out of Lena of Northlynd, with an official record of 7,501 lbs. milk and 328 lbs. butter-fat. These bulls are both sired by College Duke—85912—. Also a few cows and heifers.

WELDWOOD FARM, The Farmer's Advocate, London, Ont.

Robert Miller Still Pays the Freight—And he is offering in Shorthorns some of the best young bulls and heifers that can be produced. Young bulls fit for service, some younger still, ready to breed and young, and some in calf. They are of the best Scotch families, and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to im-prove any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years and still it grows. There is a reason. ROBERT MILLER, Stouffville, Ontario

Females SHORTHORNS Females I can supply females of the most popular Scotch families, Crimson Flowers, Minas, Lady Fannys, Nonpareil, Butterflies, Amines, Athas, Miss Ramsdens, Marr Missies and Clarets. A few bulls. A. J. HOWDEN, COLUMBUS, ONT. Myrtle, C.P.R. and G.T.R. Oshawa, C.N.R.

30-lb. Bred Holsteins 30-lb. We are now offering for sale a bull calf from our great cow, Sadie Cornucopia Mignone, who has just completed her third consecutive record of over 30 lbs. This time she made 33.37 lbs. butter from 654 lbs. milk in 7 days, and 134.29 lbs. butter from 2,600 lbs. milk in 30 days. His sire is from a 32-lb. cow. Send for extended pedigree and photograph. D. B. TRACY COBOURG, ONT.

Riverside Holsteins—Herd headed by "King Johanna Pontiac Korndyke," a brother of Pontiac Lady Korndyke, 38.02 lbs. butter in 7 days, 156.92 in 30 days—world's record when made. His 10 near relatives have official records that average 34.94 lbs. butter in 7 days. His daughters have made good in official test. The present R. of P. cow of Canada was bred here. Choice young bulls for sale. J. W. RICHARDSON, R.R. No. 2, Caledonia, Ont.

Dumfries Farm Holsteins—Think this over—we have 175 head of Holsteins, 50 cows milking, 25 heifers due to calve in the fall, and 60 heifers, from calves up to 2 years, as well as a dozen yearling bulls, and anything you may select is for sale. Breeding and individuality the very best. S. G. & ERLE KITCHEN, St. George, Ontario

OXFORD & HAMPSHIRE DOWN SHEEP

Farnham Farm The oldest established flock in America

Having quit the show ring we hold nothing back. Our present offering is a number of superior yearling and two-shear rams for flock headers, a carload of yearling range rams, a hundred first-class yearling ewes; also a fine lot of ram and ewe lambs of 1916.

ALL REGISTERED HENRY ARKELL & SON, ROUTE 2, GUELPH, ONTARIO

\$15⁹⁵ UPWARD ON TRIAL

Fully Guaranteed

American CREAM SEPARATOR

A SOLID PROPOSITION to send a new, well made, easy running, perfect skimming separator for \$15.95. Suits warm or cold milk; making heavy or light cream.

ABSOLUTELY ON APPROVAL

Bowl a sanitary marvel, easily cleaned. Different from picture which illustrates our large capacity machines. Shipments made promptly from Winnipeg, Man., Toronto, Ont., and St. John, N.B. Whether dairy is large or small, write for handsome free catalog. Address: AMERICAN SEPARATOR CO., Box 3200, Bainbridge, N. Y.



BE SURE AND ASK FOR THE

Maxwell

Line of WASHERS, CHURNS, BUTTER WORKERS, FOOD CUTTERS, GAS ENGINES, etc. Write for Catalogue.

Maxwells Limited, St. Mary's, Ontario

Bulls, females, reds, roans, size, quality. Breeding milkers over 40 years. Cows milking 50 lbs. a day. Big, fleshy cows that will nurse calves right. Prices easy. Write: THOMAS GRAHAM, R.R. 3, Port Perry, Ont.

17 YEARS' PERFECT SKIMMING

STILL AS GOOD AS NEW

Twice-a-day—every day for seventeen years—that is the wonderful record of a Magnet Cream Separator. Ask William Dykeman of St. George, Ont. what kind of service this best of all separating machines has given on his farm. He will tell you that it is skimming to-day just as cleanly, just as perfectly as it did when bought 17 years ago. It still runs just as easily as it did the day he bought it. He spends only 5 minutes each morning and evening cleaning his Magnet. He has spent only a couple of dollars for repairs, oil, etc.—and this is the USUAL thing with the Magnet. The Magnet is so sturdily, so honestly built that every machine will give this splendid satisfaction.

MAGNET CREAM SEPARATORS

Gives 50 Years Service

The first Magnet ever built is in our own factory and has been run the equivalent of fifty years twice-a-day service. It still skims perfectly and runs easily. Every Magnet made to-day is even better than this first one. Seventeen years of manufacturing the best separator made has taught us pretty well all there is to know about separators.

Easy to Run

Square gears give Magnet long-life. They're the secret of easy running also. No check on the speed like worm-gear machines have when milk is poured in. The square gears run true and have the belt to carry the load. And the longer you use the Magnet, the easier and more smoothly it runs. Every moving part is machined exactly as a watch.

Easy to Clean

Women will appreciate the fact that it takes less than five minutes to clean the Magnet perfectly. The open one-piece skimmer makes cleaning easy—no trouble at all. No discs used means no taking apart. Bowl and spouts too, are constructed for convenient cleaning. Catalog will tell you of scores of children who clean Magnets every day in 5 minutes.

Skims Milk Hot or Cold

The Magnet skimmer is different from any other on the market. A cheap machine cannot give you a skimmer that is so efficient with hot or cold milk of any degree of butter-fat.



Free A DAIRY LIBRARY Write To-day.

Skims the Last Drop of Cream

A money-saving skimmer tool. It will deliver the very last drop of cream—clean, sweet, free from froth and dirt. The wonderful double-supported bowl cannot wobble—spins on bronze bearings at both top and bottom. You can separate with the Magnet even on rough ground.



FREE Demonstration in Your Own Dairy—and Big Catalog

We are satisfied that the Magnet is the best separator on the market. To convince you we gladly make this offer. Say you are interested and we will bring a Magnet right to your own dairy, and operate it free from any charge whatsoever to you. You can learn all about the Magnet, all about the thousands of farmers who have had Magnet satisfaction for years, in our beautiful catalog. We send that free, and gladly too. Write today.

THE PETRIE MFG. CO., Limited
Hamilton, Winnipeg, Regina, Calgary, Edmonton, Vancouver, Montreal, St. John, N.B.

Every Farmer Should Have This Book.

Petrie Mfg. Co. Name.....
(Write nearest branch) Address.....
Please send me without obligation your catalog and give me a free demonstration in my dairy.



THE GREENER "EMPIRE" GUN.

Like all Greener guns, is made in the most completely equipped Sporting Gun Factory in the World by All British labor under the supervision of Sportsmen-Gunmakers, who know by experience JUST WHAT YOU WANT—Satisfaction is guaranteed; you get a gun with "life in it, a weapon you will "love" and hand down to your grandson as a "real killer," don't buy a piece of metal and wood, a "courtesy" gun built by the mill and cut off by the yard—get a real gun—a Greener, and get it NOW.

Catalogue P.A. 3 and Booklet free.
W. W. GREENER
101 Windsor Arcade Buildings
47 1/2 St. Catherine St. W.
MONTREAL, P.Q.

19 Bulls—Holsteins

From 18 months down. Grandsons of "King Fayre Segis," "King Segis Pontiac," "Rag Ayle" Korndyke, 8th, the best of the breed. Write us giving particulars as to your requirements.

R. M. HOLTEY
R. R. 4 Post Perry, Ont.

HOLSTEIN CATTLE

The only herd in America that has two sires in service whose dams average 119 lbs. milk a day and over 35 lbs. butter a week. Cows that will give 100 lbs. milk a day are what we are trying to breed. At present we have more of them than any other herd in Canada. We can supply foundation stock of this breeding. Visitors always welcome. Long-distance Phone.

D. C. FLATT & SON, R. R. 2, Hamilton, Ont.

King Segis Pontiac Paul 15940

WE have for sale a few sons of the above bull, ready for service, and whose dams are large, heavy-producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices. Correspondence solicited.

Also Berkshire and Yorkshire Swine
Larkin Farms Queenston Ontario

Lakeview Farm, Bronte, Ont.

Offer for sale, sons and grandsons of 100-lb. cows; one is out of a 24.56 lb. 3-year-old daughter of Lakview Rattler's 28.20 lbs., the latest Canadian champion 30 day butter cow 8 months after calving, and is half brother to L. D. Artis, 34.66-lb. Canadian champion senior 3-yr-old. Terms to suit purchaser. MAJOR E. F. OSLER, Prop. T. A. DAWSON, Mgr.

Clover Bar Holsteins A splendid 14 mos. old son of Minnie Paladin Wayne, who has just completed a record of 26.87 lbs. butter, 545 lbs. milk in 7 days. Her 2-year-old record was 22.33 lbs. For type and color he is second to none. Also her 3-weeks-old bull calf and a few others from good R.O.M. dams.
PETER SMITH R. R. No. 3, STRATFORD, ONT.

Evergreen Stock Farm High Class Registered Holsteins. We keep nothing but the attractive, profitable and producing kind. Just now we are offering a choice young bull 10 months old and ready for light service. The records of his dam and sire's dam average 25 lbs. butter in 7 days and 85 lbs. of milk per day. Moreover he is a show bull with just a little more white than black. First cheque for \$100 takes him.
A. E. HULET, Bell Phone NORWICH, ONT.

For Sale Only three bull calves from our senior herd sire and a few from the junior herd sire left. In these is combined some of the richest testing blood of the breed. Also females of all ages, 75 or 80 head from which to choose.
M. L. HALEY, & M. H. HALEY, Springford, Ont.

HOSPITAL FOR INSANE, Hamilton, Ont. For Sale—HOLSTEIN BULLS, varying in age from 1 to 11 months, from Record of Performance or Record of Merit dams, and the grand bulls, Sir Korndyke Wayne Dekol, grandson of Pontiac Korndyke, or Lakeview Dutchland Le-Strange, a grandson of Count Hengerveld Fayne Dekol. Prices right. APPLY TO SUPERINTENDENT.

For Sale—Sons of King Segis Walker

From high-testing daughters of Pontiac Korndyke. Photo and pedigree sent on application.
A. A. FAREWELL OSHAWA, ONTARIO

Sunflower Culture.

EDITOR "THE FARMER'S ADVOCATE":

I have noticed nothing recently in your paper in reference to the sunflower or its culture. Many do not realize the possibilities of a plot of this useful as well as ornamental plant. It is a plant of the genus Helianthus. It is named Sunflower from the form and habit of its flower, which is a large disk with yellow rays, and its habit of turning to the sun. There are a number of varieties. The Russian Mammoth is, I believe, the most profitable to grow on the farm, where its value as well as its beauty is appreciated. It is very hardy and produces very large seeds on large heads. They can be grown from seed planted in hills similar to corn, or the plants started in a bed and then transplanted, or any plants which may have come up on last year's plot taken up and moved to the new plot. Transplanting means less hoeing or cultivating which is an important factor these war times. The ground is prepared as for other garden or root crops, marked in rows or cross-marked if you intend cultivating both ways and seeds planted or plants transplanted as the case may be. Plants, as a rule are vigorous and a few hoeings or cultivations give them the start of weeds which they soon smother out by their shade and rapid growth.

It is quite common to see a few sunflowers on many farms, but I believe some waste corners around could be profitably utilized to growing sunflowers. It covers up unsightly spots and is just as useful for scratching ground and shade for chickens as the much extolled corn field. In fact better, as the corn field is invariably some distance from the house, usually too far for young chickens to be taken while the sunflower plot is nearer and can be used until chickens are large enough to be taken farther away. Half an acre provides an abundance of seed to give the hens an occasional treat during winter. Sunflower seed is exceptionally good for laying hens and is much relished by them for a change.

Harvesting presented many difficulties until I tried tying a number of heads together with strings and throwing them over wires put up in an open shed facing south. This gave the necessary air to prevent mould which was my main trouble and at the same time they were out of the reach of mice, which relish the seeds equally as much as the hens by the way they previously had disappeared. Do not forget to leave a few small heads for "our friends" the birds. My sunflower plot is near the house and I noticed many birds come for a feed during the winter.

I have read that in Russia an oil is made from the seed and the stalk is used for wood. I have tried burning them and find, if allowed to thoroughly dry, they take the place of kindling quite acceptably. If the inside of the stalk is well dried it only requires a match to start a fire quickly. The stalks are excellent for boiling a kettle in a hurry. They do not last long and do not heat up the house like wood, which is a very desirable feature in summer, especially if you are not the possessor of an oil stove. We break off the stalks and pile them near the wood to have handy and dry for kindling. Have often heard it said that sunflowers keep malaria away. If an odd sunflower is allowed to grow by itself it looks like a huge green pillar with a yellow flower at top. Of course the better care it gets the grander it will be. Have had them with leaves 22x23 inches. Needless to say the heads were immense. The seeds from these are saved for the next year's crop. The small boy or girl usually enjoys working among the sunflowers. Bees will be buzzing around them as soon as in blossom gathering honey. The heads can be used for feeding bees syrup after the seeds are taken out. In fact it was for the bees that I first started cultivating sunflowers. Even if put in late and cared for a little there will be a crop. Of course like all other crops the best results are obtained by good conditions and care.

POLLY PRIMROSE,
Northumberland Co., Ont.

"SUPER"



The EASIER Separator

That is a... easily proven... to buy the... ator to try it... the name of... agent, where... and satisfy y... patent ball-an... of the spindle... tion of the bo... machine home... you desire. Le... you how in... Bearings' Oil... oil does the v... grease.' And the Clute... savor! Watch... bowl up to full... ing one complete... crank.

Write for the... You cannot re... vance made in... unless you read... the Superior Sep... now, while you l... front of you.

ONTARIO COMPAN... 18 Bloor TOR



Lakeside

A few young bulls for... performance dams, impor... sired by Auchenbra... 85758, grand champ... and Sherbrooke. W... GEO. H. MONTGO... Dominion Express Co... D. McArthur, Manage

Stockwood Ayr

prizewinning bull. White... for sale are in calf heifers... Imp. and big producing... D. M. Watt, St. Lo

High-Class Ay

richly bred young bull o... over cow, imported or Ca... write me. Females all ag... D. A. MacFarlane

Alderley Edg

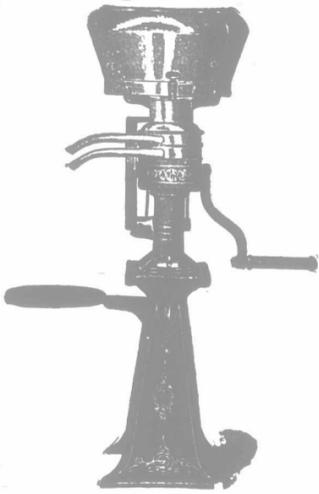
Two yearling bulls sired... (Morton Mains Planet)... J. R. KENNE

Jerseys for Sale—1

Jersey bulls... also heifer calves from in... dams. To prevent inbre... bull, De La Roche Duke... CHAS. E. ROG

The "SUPERIOR"

Separator



The EASIEST Turning Separator on the market

That is a broad claim, but easily proven. You don't have to buy the SUPERIOR Separator to try it. Write us for the name of your nearest agent, where you can drop in and satisfy yourself that the patent ball-and-socket housing of the spindle abolishes vibration of the bowl, and take the machine home for a trial, if you desire. Let the agent show you how in our "Direct-to-Bearings" Oiling System, fresh oil does the work of "elbow grease."

And the Clutch—what a muscle saver! Watch the agent get the bowl up to full speed without making one complete revolution of the crank.

Write for the Book To-day

You cannot realize the great advance made in Cream Separators unless you read this book and see the Superior Separator. Write us now, while you have the address in front of you.

THE ONTARIO MACHINE COMPANY, Limited
18 Bloor Street East
TORONTO 10

Pays for Itself in 7 days
WRITE FOR OUR SPECIAL OFFER

This latest model Hand Mixer produces a better mix with less cement, saving you time, labor and money.

Wettlaufer Bros., Ltd.
178 A Spadina Ave., Toronto

Lakeside Ayrshires

A few young bulls for sale from Record of Performance dams, imported and Canadian-bred, sired by Auchinbrain Sea Foam (imp.) 85758, grand champion at both Quebec and Sherbrooke. Write for Catalogue.

GEO. H. MONTGOMERY, Proprietor
Dominion Express Bldg., Montreal, Que.
O. McArthur, Manager, Phillipsburg, Quebec

Stockwood Ayrshires—Sired by my royally-bred and prizewinning bull, Whitehall King of Hearts, Imp., for sale are in calf heifers and young bulls, out of Imp. and big producing cows.

D. M. Watt, St. Louis St. P. O., Quebec

High-Class Ayrshires If you are wanting a richly bred young bull out of a 50-lb.-a-day and over cow, imported or Canadian bred dam or sire, write me. Females all ages. Prices are easy.

D. A. MacFarlane Kelso, Quebec

Alderley Edge Ayrshires
Two yearling bulls sired by Lakeside Day Star (Morton Mains Planet). Write for description.

J. R. KENNEDY, Knowlton, Que.

Jerseys for Sale—I am offering two very fine Jersey bulls, age 10 and 12 months, also heifer calves from imp. sire and high-testing dams. To prevent inbreeding will sell my stock bull, De La Roche Duke (imp.). Prices right.

CHAS. E. ROGERS, Ingersoll, Ont.

Questions and Answers.
Miscellaneous.

The Amended Sheep Protection Act.

In the issue of June 1, it is stated in an article that during the last session of the Ontario Legislature the clause of the Dog Tax and Sheep Protection Act relating to compensation was amended. Would you kindly tell me through your paper where I can get a copy of the Act as it now reads.

M. C. S.

Ans.—This information might be obtained through the Department of Agriculture, Parliament Buildings, Toronto, or through the office of the Attorney-General, same address.

Prick Silo.

What is the best way to build a brick silo? Would a double wall be sufficiently strong, or would it have to be reinforced?

C. W.

Ans.—A firm foundation would have to be laid, then the brick would be built as for an ordinary wall except that cement is used in the mortar. Care would have to be taken to keep the walls circular. A square silo is not satisfactory. A double wall reinforced every two feet with heavy wire or three-eighths inch iron might stand but we would prefer a wall the length and width of a brick thick. All walls of masonry work must be reinforced to keep them from spreading.

Yeast Treatment.

Would you kindly publish the method of yeast treatment for breeding mares?

J. G.

Ans.—One yeast cake is made into a paste by dissolving it in warm water. It should then be allowed to stand in a moderately warm room for twelve hours before being stirred into one pint of freshly boiled, lukewarm water. Allow it to stand as before for another eight or twelve hours when the mixture will be ready for use and simply has to be injected into the vagina by means of a large syringe after first flushing out the passage with warm water. Make the injection when the animal first is seen to be in season and have her bred when the period of oestrus is about over. Repeat the treatment at each period of oestrus until the animal conceives.

Pigs Coughing.

Our pigs, both old and young, have a cough. They are healthy, have good appetites, and are doing well. We are feeding ground buckwheat, oats and barley, also shorts. What is the trouble and remedy? They are all running out doors.

S. D. S.

Ans.—Pigs cough as a result of many different causes. Constipation, dust in the bedding, lung worms and infectious bronchitis will all cause a pig to cough and it would be difficult to diagnose a case without fuller information regarding this stock. However the owner will know if they are constipated and he can feed in such a way as to restore the swine to a normal condition. Dust in bedding in sufficient quantity to cause the pigs to cough is also improbable. For lung worms or infectious bronchitis there is no infallible treatment but the one generally advised is to shut the pigs in a closed pen and burn sulphur until the fumes become so dense that a human being can stand them no longer. Then open the windows and admit fresh air. This treatment should be repeated every 8 or 10 days. In view of the fact that the pigs are out doors it seems unlikely that these ailments would attack them. We would advise our correspondent to withhold the buckwheat or have the hulls removed. There is a possibility that the irritating effect of the hulls might be responsible for the cough.

C. F. Jackson, whose advertisement appeared in these columns, had a very successful sale. A large crowd was present. Buyers were there from Hensall, Exeter, Galt, Brantford, Woodstock, Ingersoll, Alvinston, Glencoe, Rodney and Muir Kirk. He sold over \$22,000 worth of stock. Fifty-five grade cows averaged \$98 apiece. The rest of the cattle sold well. Owing to the rain only a few hogs were offered. Locke & McLachlin auctioneers were on the block, and kept the large crowd in good humor.

Send for new "Money Saver" Booklet

Barrett Money Savers for Farmers
Made in Canada

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

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



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



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

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



Barrett's Grade One Liquid Creosote Oil

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

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



Everjet Elastic Paint

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

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



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

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

City View Ayrshires—Improve your milk test. Four yearling bulls fit for service, sired by bulls from R.O.P. dams and from R.O.P. cows. Average test for the year 4.15, 4.21, 4.64 and 4.7 per cent. fat. Prices reasonable. Cash or credit on bankable paper. Eggs for setting, R.-C. and S.-C. Rhode Island Reds. Winners wherever shown.

JAMES BEGG & SON, R.R. 1, St. Thomas, Ont.

AYRSHIRES One bull fit for service, a prize-winner. Dam twice first at Toronto, qualified in R.O.P. with good record, Jan., 1916. Calves of best breeding, special prices. Females all ages. Write for prices to-day.

ALEX. HUME & CO., R. 3, Campbellford, Ont.

DON JERSEYS
Special Offering—A few choice yearling bulls fit for service, also heifer calves six months old, sired by Eminent Royal Fern. Write for what you want.

D. DUNCAN & SON, Todmorden, R. R. No. 1, Duncan Sta., C.N.O.

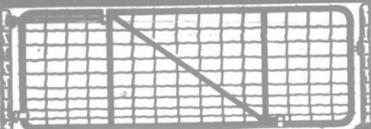
Brampton Jerseys
We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show ring.

BRAMPTON, ONTARIO

THE WOODVIEW FARM JERSEYS
LONDON, ONTARIO
John Pringle, Proprietor

Canada's Most Beautiful Jersey Herd—Half the herd imported from the Island of Jersey. Several cows in the Record of Merit and others now under official test. Some very choice stock for sale. When writing, state distinctly what you desire, or, better still, come and see them. Farm just outside city limits. We work our show cows and show our work cows.

PEERLESS Farm Gates



THERE is no guess work in the manufacture of Peerless gates. The points of greatest strain are scientifically calculated and then we design braces, stronger than actually necessary, to make our gates stiff and rigid—they simply

Can't Sag or Twist

They embody only the best materials. Frame-work of 1 1/2 inch steel tubing electrically welded together. Peerless pipe braced gates are all filled with No. 9 Open Hearth galvanized steel wire—built for strength and durability weather proof and stock proof.

Send for free catalog. Ask about our farm and poultry fencing, also our ornamental fence and gates. Agents nearly everywhere. Agents wanted in open territory.

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Hamilton, Man., Ont.



Good Luck

COTTON SEED MEAL
CALF MEAL
OIL CAKE MEAL
FLAXSEED GLUTEN MEAL
POULTRY FEEDS
SEED POTATOES
SEED GRAINS

Write for prices.

CRAMPSEY & KELLY
Dovercourt Rd., Toronto, Ont.

HIGHEST PRICES PAID FOR

WOOL

HIDES, SKINS, HORSEHAIR,
WRITE FOR OUR PRICES BEFORE SELLING
SPORTSMEN'S CATALOG
FREE OF GUNS, TRAPS, NETS,
FISHING TACKLE, &c.
JOHN HALLAM, LIMITED
No. 3 HALLAM BUILDING TORONTO

YORKSHIRES

Young pigs, both sexes, just weaned. A number of choice young sows recently bred. Also stock boar, Maple Grove Romeo 4th—45054—.

WELLDWOOD FARM
Farmer's Advocate, London, Ontario

TAMWORTHS

Young sows bred for September farrow and some nice young boars. Write—
JOHN W. TODD, R.R. No. 1, CORINTH, ONT.

PROSPECT HILL BERKSHIRES
Young stock, either sex, for sale from our imported sows and boar. Also some from our show herd headed by our stock boar, Ringleader. Terms and prices right.
John Weir & Son, Paris, Ont. R. R. No. 1.

Avonhurst Yorkshires and Collies
Two choice litters of Yorkshires—both sexes. A splendid litter of pedigreed collies.
B. Armstrong & Son, Godfring, Ontario

Pine Grove Berkshires
Sows bred and ready to breed. Boars fit for service. Young things, both sexes, from my prize-winning herd.
W. W. Brownridge, R.R. 3, Georgetown, Ont.

Morrison Tamworths and Shorthorns. Bred from the prize-winning park of England. Choice Tamworths, both sexes, for sale, also Shorthorns, males and females of the deep-milking strain; also Clydesdale stallion, 3-year-old, a dandy.
Chas. Currie, Morrison, Ont.

Questions and Answers.

Miscellaneous.

Fatality in Ewe.

A ewe of mine died last summer and I often wonder what was the matter. She was a great size. When she commenced to eat she would cough and almost choke, I held a post mortem and found that the abdomen contained pails of water.

Ans.—She had dropsy. An operation by a Veterinarian would have given temporary relief, but it is not probable that treatment would have effected a cure.

Silage for Summer Feed.

I have a stave silo 12 feet in diameter which was built 5 years ago. About 4 feet of silage is left in it. Some people say it will not keep over summer in a stave silo. What is your experience with it and what should I use to cover it?

M. S.

Ans.—We know of no reason why the silage should not keep over summer. There may be a little waste around the sides and on top but that can be reduced to a minimum by covering the silage with cut straw or chaff. If a few oats were scattered in the chaff they would start to grow and practically make a covering impervious to air. Except for a few inches on top the feed should be as good next fall as it is now.

Hired Man.

I hired a man for 8 months at \$30 a month. He stayed for two months and left me without any cause before I had my seeding done. He said he was going to get bigger pay. Can he collect full pay? Would I have to pay him now or at the end of 8 months?

W. H. K.

Ans.—1. If the man had hired for \$240 for 8 months he could not collect full pay if he left with out any just cause, at the end of 2 months, but he would be allowed a portion of his pay for the time he had worked. When hiring by the month he can leave at the end of any month and collect his pay at the time but he should give notice of leaving. A judge might allow him only part pay where he leaves without giving notice.

Tuberculosis.

A drover purchased three stockers from a farmer and put them on a farm near his home. Two of the animals averaged 800 pounds and one a year younger weighed 450 pounds. One month after taking the stockers away the drover informed the farmer that one of the animals had died and wanted the farmer to return the money paid for it as he claimed it had died of tuberculosis. The animal was opened by a veterinarian and the gall was found to be greatly enlarged. The animal also had a bad attack of scours and kept getting weaker until it finally died. Who should lose the animal? Who should pay expenses of board etc.?

Ans.—Evidently the cattle were all right from outward appearance when the drover purchased them and took them to his farm. Unless the farmer gave a guarantee that the cattle were free from disease he is not responsible for any loss or expense.

Trapping Ground Hogs.

W. L. K. asks in the issue of June 1 how to kill ground hogs and you advise the use of carbon bisulphide as a remedy. I was much bothered by the little brutes for a time, losing many fine young apple trees on account of their gnawing propensities, but the carbon bisulphide which I used proved a failure as well as muskrat traps tried for a time, but I cleared my orchard of them by the use of strong fox traps and would ask W. L. K. to try them on his place. Simply set the trap unbaited, down the hole as far as one can reach and drop the ring of a 2 or 3-foot chain attached to the trap over a short stake driven into the ground at one side of the mouth of the hole and you'll get them every time. Provide yourself with a short cudgel on your visit to the holes and dispose of Mr. ground hog by a whack or two over the head as you draw him to the surface.

I caught 53 of them in my third year on the farm, many of them with bright prospects of a family, and seldom see one now.

W. A. F.

Not a Runt in the Lot because they've been fed on GARDINER'S PIG MEAL

from the day they were weaned. Gardiner's Pig Meal with skim or separated milk is the best possible substitute for mothers' milk. It suits the digestion of the little pigs, and carries them over the weaning period and up to the fattening-off stage without a hitch in their growth.

That's what makes hogs profitable. Gardiner's Pig Meal is put up in 25, 50 and 100 lb. bags. If your dealer hasn't it, write us for prices—also for information about Gardiner's Calf Meal, Sac-a-Fat, Oyatum and Ontario Feeders' Cotton Seed Meal.

GARDINER BROS., Feed Specialists, SARNIA, Ont.



Spray Regularly

NOTHING is quite so vital to the success of your crops as regular spraying. Blight, bugs, etc., are never idle. Use an

OK CANADIAN

ONE-MAN SPRAYER (Wheelbarrow Type) and you will be certain of a bumper crop. Handy, easy to operate, nothing to get out of order, a thorough sprayer. Can be used for spraying trees, etc. 49-B Canadian Potato Machinery Co., Ltd. 491 Stone Rd., Galt, Ont.

Full particulars of this outfit, also useful information about spraying solutions, sent FREE. Write for it to-day.

H. ARKELL W. J. ARKELL F. S. ARKELL

Summer Hill Stock Farm

Largest and oldest importers and breeders of

OXFORDS

in Canada. Look up our show record, it will give you an idea of the kind of Oxfords we have for sale.

PETER ARKELL & SONS, Proprietors, Teeswater, Ont.
Customers, beware of imitations of this advertisement.

SUMMER HILL FARM

THE HOME OF THE FAMOUS OXFORD

We breed and import Registered Oxfords. Rams and ewes in any quantity for sale. All recorded. Positively no grades registered as pure-breds. Also no grades handled except by order.

PETER ARKELL & CO., Props. Box 454, Teeswater, Ontario

Duroc Jersey Swine, Jersey Cattle—In Duroc Jerseys we have either sex of any desired age, bred from winners and champions for generations back. In Jerseys we have young cows in calf, and young bulls, high in quality and high in producing blood.

MAC. CAMPBELL & SONS, Northwood, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES
From our recent importation of sows, together with the stock boar, Suddon Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer R. R. 1, Brantford, Ontario.
Langford Station on Brantford and Hamilton Radial.

OAK LODGE YORKSHIRES

We are in a position to supply boars and sows of different ages. We have an established type of Yorkshires that has been produced through many years of careful breeding and selection.
J. E. BRETHOUR & NEPHEWS Burford, Brant Co., Ontario

Lynnmore Stock Farm Our present offering is young breeding Berkshires, both sexes and any desired age, sire and dams imported, high class in type and quality and priced right. Also one 2-year-old imported dairy-bred Shorthorn bull with official backing for generations back.
F. W. COCKSHUTT, Brantford, Ont.

Maplehurst Herd of Tamworth Swine, S.-C. W. Leghorns, and White Rocks—This herd has won about 90 per cent. of the prizes offered in the last ten years at the Canadian National, Toronto, Ottawa London and the Guelph Winter Fair.
D. DOUGLAS & SONS, R.R. No. 4, Mitchell Ont.

BERKSHIRES My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. Highcleres and Sallys, the best strain of the breed, both sexes, any age.
ADAM THOMPSON R. R. No. 1, Stratford, Ontario
Shakespeare Station, G. T. R.

QUALITY IN YORKSHIRES For sale—we have a number of choice sows bred and others of breeding age; also a limited number of young boars.
RICHARDSON BROS., COLUMBUS, ONT.

Cloverdale Large English Berkshires!

Sows bred, others ready to breed; boars ready for service; younger stock, both sexes, pairs not akin. All breeding stock imp. or from imp. stock. Prices reasonable.
C. J. Lang, Burketon, Ont. R.R. 3

YORKSHIRES Our offering never better. Champion hog winner of 12 firsts, 5 championships, 2 years showing, still at the head. Boars and sows, all ages same breeding as winners of export bacon in keen competition at Toronto in 1915.
WM. MANNING & SONS WOODVILLE, ONTARIO

Newcastle Tamworths and Shorthorns Boars ready for service. Sows bred to farrow in May, June and July, others ready to breed; both sexes ready to wean. All descendants of Imp. and Championship stock. Several extra choice young bull and heifer calves, recently dropped, grand milking strain; 2 bulls, six and seven months old, several extra choice young cows with calves at foot, also heifers all ages. Prices reasonable.
A. A. COLWILL, Newcastle, Ont.

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Every Tuesday

Tickets valid t months inclus

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Proportionately points in Mani and

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Ship your cream to

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GRAND TRUNK RAILWAY SYSTEM

The Grand Trunk Railway System Will Run

Homeseekers' Excursions

Every Tuesday until October 31st

Tickets valid to return within two months inclusive of date of sale.

WINNIPEG and return \$36.50
EDMONTON and return \$44.50

Proportionately low rates to other points in Manitoba, Saskatchewan and Alberta

Full particulars and tickets on application to agents.

CREAM WANTED

We think we have the longest experience. We try to give the best service. We need your cream and will make it "worth your while" to ship to us. A card brings particulars.

Toronto Creamery Co., Ltd. TORONTO

CREAM

Where are you shipping now? And what are you getting for your cream? We want more individual shippers and more men to gather cream for us. Write for our proposition.

Silverwoods Limited LONDON, ONTARIO

Sweet Milk WANTED

Delivered daily to Union Station, Toronto. Write for particulars to

PRICE'S DAIRY TORONTO

Brant Creamery

Brantford, Ontario

Guarantees to you a high-priced market for cream every day of the year. Write for our book.

Reference: Bank of Nova Scotia

CREAM

We are prepared to pay the best price for cream at all seasons of the year. We pay express charges and furnish cans. Write for particulars.

WESTERN DAIRY, LIMITED ST. THOMAS, ONTARIO

CREAM WANTED

Ship your cream to us. We pay all express charges. We supply cans. We remit weekly. We guarantee highest market price.

Ontario Creameries Limited London, Ont.

Eighty-five thousand satisfied owners against unproved claims and rosy promises

You judge a man by what he's done—not by what he says he intends to do. Judge a motor car the same way.

Eighty-five thousand and more Canadian built Fords have "made good" in actual service. Since 1904 this sturdy, economical car has stood the test—not only in Canada, but throughout the British possessions.

Every passing year has seen Canadian Ford sales mount by thousands of cars—because, under almost every conceivable condition, the car has proved itself a splendid all-around utility.

It has sold on its record for dependable and economical performance—not on the rosy promises of its makers.

The man who selects a Ford is backed in his judgment by more than eighty-five thousand satisfied motorists in the Empire.

Has this a significance for you?

Ford Motor Company
OF CANADA, LIMITED.

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Ford Runabout \$480
Ford Touring - 530
Ford Coupelet - 730
Ford Sedan - 890
Ford Town Car 780
f. o. b. Ford, Ontario



All cars completely equipped, including electric headlights. Equipment does not include speedometer.

20

CANADIAN NORTHERN RAILWAY SYSTEM

HOMESEEKERS' FARES FROM TORONTO

To Winnipeg and Return.....	\$35.00
To Regina and Return.....	\$38.75
To Saskatoon and Return.....	\$39.75
To Edmonton and Calgary and Return.....	\$43.00

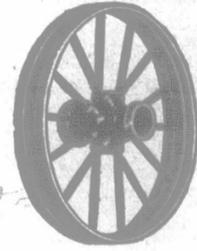
EVERY MONDAY TO OCTOBER 30TH
Proportionate Fares from and to other Points.

ELECTRIC LIGHTED TOURIST CARS

For our Booklet, "Homeseekers' and Settlers' Guide", tickets and information, apply to nearest Canadian Northern Agent, or write to

R. L. Fairbairn, General Passenger Agent, 68 King Street, E., Toronto, Ont.

THE ROAD TO OPPORTUNITY



An extra Set of Wheels

will make your wagon as good as two wagons

You need a regular high-wheeled wagon
You also need a low-wheeled truck.

PAGE STEEL WHEELS

enable you to convert the one into the other, in a very few minutes.

A splendid, strong wheel is the "Page." Farmers tell us there's nothing on the market to compare with it.

Price list on application, accompanied by chart showing how to take measurements for ordering correct size to fit your wagon.

THE PAGE WIRE FENCE COMPANY, LIMITED,

1143 King Street West, TORONTO

WANTED

Young Men to Learn Shoemaking

Good wages paid at start. Guaranteed steady employment all the year round. The shoe trade gives employment twelve months in the year. Think it over, and make your application in person or in writing to

J.W. Hewetson Co.Ltd. Brampton, Ont.

Harab-Davies Fertilizers Yield Big Results

Write for Booklet.

THE ONTARIO FERTILIZERS, LTD. West Toronto

You can assure your family a Monthly Income for Life

or assure yourself an income during your old age, by means of an

Imperial Monthly Income Policy

Write for particulars now and mention the Farmer's Advocate. Address:—

Imperial Life Assurance Co. of Canada. Head Office, Toronto

Economy in management accounts for the big dividends that you get if you insure with The Mutual Life of Canada

Prospects are good for a bumper hay crop—Be prepared with the proper implements.

The Massey-Harris Haying Bulletin

Massey-Harris Hay Tools Save Time Save Money Save Worry Save the Hay

Head Offices

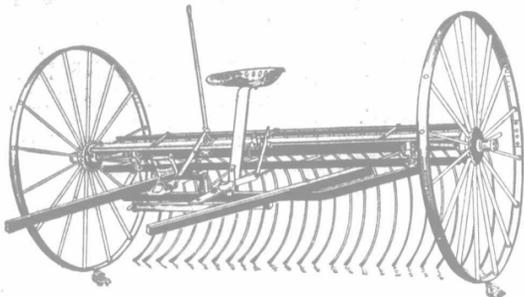
TORONTO

June 15, 1916

"Make Hay While the Sun Shines"

THIS advice is alright providing the sun shines, but the sun does not always shine. However, in showery weather the need of time- and labor-saving implements is most keenly felt.

Then, too, the advantage of drying the hay quickly is now well recognized. Hay which has been "air-cured" in the shortest possible time has a much higher food value than that which has been bleached and burned by long exposure to the sun. There is no waste to properly cured hay—all of it is nutritious and palatable.



Massey-Harris Rake

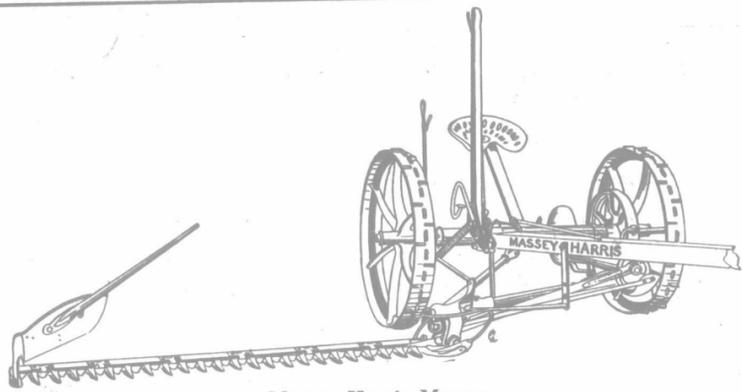
IN order to secure the best results both as regards saving of time and labor, and securing hay of the highest grade, it is necessary to use implements best adapted for the work they are to do, and just here it pays to get the best—even if the first cost should happen to be higher than some other.



Massey-Harris Mowers, Dump Rakes, Tedders, Side Rake and Tedders and Hay Loaders are, one and all, recognized as the very best it is possible to buy, on account of their effective work, convenience of operation and durability.

THE Massey-Harris Mowers have ample power for cutting the heaviest hay; the cutter-bar is free to follow uneven ground, and the lift spring may be adjusted to carry as much or as little of the weight of the cutter-bar as conditions demand. Raised ledger-plates given extra long cutting edges, and the edges are serrated. No "riving start" is required—the knife begins to cut the instant the horses start. The easily-operated foot-lift enables the driver to quickly raise the bar over any obstructions. By simply removing the pins the pole may be removed without affecting the operation.

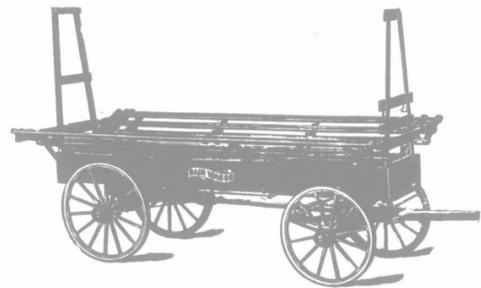
The Massey-Harris Tedder will break up any mat of grass, causing the hay to be scathed by the sun.



Massey-Harris Mower

ONE of the most practical and satisfactory combined implements ever designed is the Massey-Harris Side-Rake and Tedder. It is thoroughly practical as a Tedder for loosening up the hay so as to dry quickly, and can be changed in an instant to a Side-Rake which gathers the hay into convenient windrows for loading. It gives you two implements at practically the cost of one, it saves time of hitching and unhitching and storage space of one machine when the hay season is over.

FOR loading the hay on to a wagon, the Massey-Harris Hay-loader will be found most efficient. It handles the crop without beating or threshing, delivering it well on to the load in as good shape as if loaded by hand. It is simple, well constructed, and yields automatically to any obstruction or unusual volume of hay.



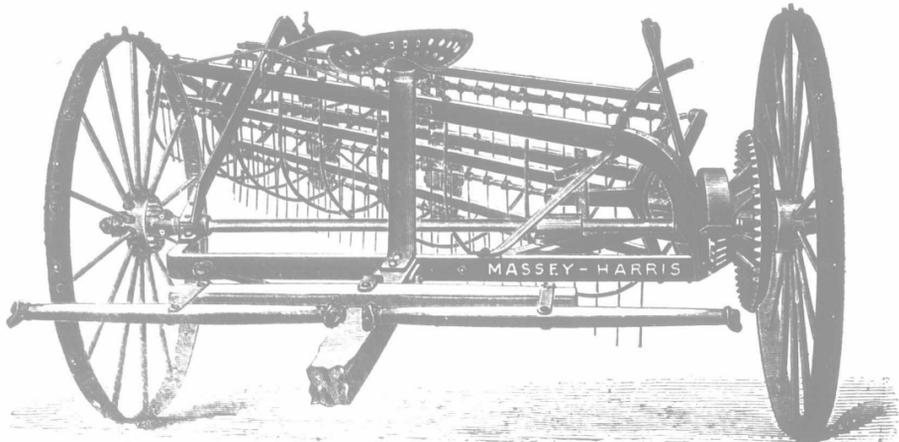
Bain Hay or Stock Wagon

WHEN it comes to hauling the hay crop, you can't do better than to use a Bain Wagon with a combined hay and stock rack. The gear is light running and long lasting, and the rack is most convenient not only for handling the hay crop, but also for hauling stock, grain, etc.

Speed's The Thing

TOO much emphasis cannot be placed on speed in handling the hay crop. Better quality of hay, less chance of being caught by a passing shower, saving of time, labor and money—all these follow as a result of using the proper implements—in other words, Massey-Harris time and labor saving haying machines.

A Word To The Wise Is Sufficient



MASSEY-HARRIS COMPANY, Limited, HEAD OFFICES: TORONTO

Branches in: MONTREAL, MONCTON, WINNIPEG, REGINA, SASKATOON, YORKEVILLE, CALGARY, EDMONTON

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