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Toronto, Ont., July 11, 1915

Comm. of Conservation  
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### The Lewis Judgment in Alberta

THEMENNIS interest was created throughout the province of Canada by the news that the appellate division of the Supreme Court of Alberta, by a majority decision, from which the chief justice alone dissented, had found in favor of the application of R. B. Bennett for an order declaring that Norman Earl Lewis, a draftsman under the Military Service Act, whose trial occurred on a former had been cancelled by order-in-council, was illegally detained as a soldier in the First Alberta Depot Battalion and entitled to his release from the army. The main decision of the majority was delivered by Mr. Justice Beck, and supplementary judgments were given by Justice Stuart, Hyndman, and Simmons. The minority decision was that of Chief Justice Harvey.

Mr. Justice Beck reviewed all necessary clauses of the War Measures Act of 1914, the old Militia Act, and the Military Service Act to prove that at no time had parliament delegated power to the Governor-in-Council to change the statutes of Parliament itself. His concluding argument was as follows:

"It would be an astounding proposition that parliament, after having spent many weeks in a discussion on the M.S.A., which perhaps more than any other bill ever the subject of debate there, was the occasion of such fierce antagonisms both within and without parliament, deliberately enacted by the insertion of the commonplace clause 'nothing in this act shall limit the powers of the governor-in-council under the M.S.A., 1914, to leave it open to the governor-in-council to revoke in whole or in part, the act the passing of which had so stirred the whole people of Canada. Rather the inference to be drawn is that parliament never dreamed that it would be ever questioned that the powers of the governor-in-council under the W.M.A. were so extensive; but that parliament was assuming and intentionally declaring in effect the limitations: upon the order-making power which I have already indicated. Thus the claim in question is, it seems to me, confirmation of those limitations."

"This being my opinion upon the extent of the powers of the governor-in-council under the W.M.A., it follows as a necessity that I must hold that the order-in-council in question, inasmuch as it in effect repeals a primary and substantial provision of the M.S.A., is ineffective and invalid."

#### The Minority Report.

Chief Justice Harvey, who presented a minority report, contended that parliament had delegated authority to the Governor-in-Council to pass the Order-in-Council of the 23rd of April, 1918. He reported in part as follows:

"Parliament, then, having the power and the need to delegate some of its authority, what in the extent of such delegation under section 6 of the War Measures Act, 1914? The words of authorization are very wide but are of course restricted by the purpose specified: viz—anything that the governor-in-council may deem necessary or advisable for the security, defence, peace, order and welfare of Canada by reason of the existence of real or apprehended war, invasion or insurrection. It is clear that would not authorize any act that had no relation to the war nor any apprehended invasion or insurrection. In this present order-in-council is clearly one which has relation to the war and the security of Canada, and that the governor-in-council has possessed it, indicates that he considers it necessary or advisable."

Parliament has indicated in this section, as plainly as words can state it, that the enumeration of the special classes is not to restrict the generality of the preceding terms. The question then arises has any subsequent act of the parliament qualified the authority so granted? The Mil-

itary Service Act, 1917, is the only act that it is suggested has had that effect, but as already pointed out that act distinctly confirms the powers given to the council by the War Measures Act. After mentioning the fact that the order of April 23rd has been approved by resolution in Parliament, Justice Harvey concluded:

"It seems to me that the resolution passed by the two houses is a perfectly good declaration by parliament that the order-in-council is within the terms of the powers conferred on the governor-in-council by the W.M.A. under which it purports to be made, and that it is of value for that purpose at least, though without the resolution I see no reason to doubt that the order is within the terms of the act."

"For the reasons stated I am of the opinion that the order-in-council is intra vires and that the application should be refused."

The case will be appealed by the Crown to the Supreme Court of Canada. If the Alberta decision is sustained at Ottawa the result will affect some 40,000 men whose names are already overseas. It is worthy of note that the ground taken by the majority of the Supreme Court of Alberta—that such an assumption of power by the Council was unconstitutional—is the very ground taken by the United Farmers of Ontario, when they proposed to appeal to the Governor-General to dissolve parliament.

On July 13th the Government announced that it will take no heed to the Alberta finding, even if upheld by the Supreme Court. Probably in this case it will be necessary to call parliament to the passing of additional legislation. In the meantime two more applications for writs of habeas corpus have been filed in Alberta.

### Thrashing Gangs and Harvest Help

IT is now certain that the Trades and Labor Branch of the Ontario government will have a number of thrashing gangs operating throughout the province. While these gangs are being demonstrated to the farmers that this method of thrashing is most economical and by next year the scheme may be general throughout the province. The Ontario government sent out enquiries to thrashers and 30 owners of outfits have already filed in applications and asked to be furnished with men to form gangs. Practically all of these are in Western Ontario. An effort will be made to have one gang operating in each county by the time thrashing begins.

The government employment bureau is anxious to show the right crop of hay responsible for the small number of applications being received from farmers for help. Last year's experience, however, sends the officials of the bureau to believe that farmers will come with a rush and ask for help when harvesting begins. The bureau would like to have applications early in order that they may arrange for the men to be sent to the farm as the difficulty will be to know just when the crop will be ripe and when the men will be needed. So far as possible, however, the bureau should reserve the men for each crop of hay farmer as to what help will be available in the cities and towns of Canada. If the recent registration reports indicate the willingness of people to serve on the band, in the south Toronto district alone, it is stated that about 55 per cent of the curbs signed by men showed an ability or willingness to go farm work. Many men, including others, stated their willingness to go on farms for the whole year round.

Stiles of more than 100 tons capacity cost from \$2 to \$6 per ton, according to the type and material used in construction.

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

VOL. XXXVII

TORONTO, ONT., JULY 11, 1918

No. 28

## A Farm With Mechanical Equipment of the Best

Geo. R. Barrie & Son Have Many Devices, Some Home Made, Some Purchased, for Lightening their Work—By F. E. Ellis

Geo. R. BARRIE & SON, of Galt, have long been known to Ontario farmers as growers and exhibitors of seed grain. Operating under the regulations of the Canadian Seed Growers' Association, this farm has established a reputation and a profitable outlet for its selected seeds. It was W. L. Smith, farmer and journalist, however, who first told me of the mechanical devices employed by the Messrs. Barrie. "You will find more schemes for getting work done on that farm than on any other farm in the province of which I know," stated Mr. Smith with conviction. A little later on the same day (it was on the occasion of the Provincial Plowing Match at Paris last fall), I was talking with Mr. John Fixter, Agriculturist of the Commission of Conservation, and he, too, referred to the labor-saving devices to be found on the Barrie farm. With such recommendations as this, I went out to the Barrie place this spring expecting to find a good farm, well managed and extra well equipped.

I was not disappointed on either count. The rich clay loam, 200 acres of it, naturally lends itself to good cultivation and during the 50 years that it has been in the hands of the Barrie family, the soil has never been abused. A systematic rotation of crops and the carrying of a heavy stock has enabled the owners to constantly increase its productive capacity. But it is not of the farm, good as it is, that I wish to speak particularly at this time. The mechanical devices employed is the feature that impresses itself most strongly on all visitors. These devices which have greatly lightened the work of the big farm, are the product of many years of effort on the part of Mr. Barrie, Sr. They have been added one at a time as necessity dictated, or as the ideas developed, and as the son, like his father, is of a mechanical turn, the end is not yet. At least two of their home-made implements should be manufactured on a large scale for the use of farmers generally, as they appeal to us as being superior to anything now on the market. I refer to their potato planter, which is entirely a home product, and a force feed mangol seeder, which is a combination of an old seeder drill and Barrie invention.

### The Threshing Outfit.

The outstanding labor-saving device is the threshing outfit. Even Dr. Creel, man with the best organized threshing gang, will find it hard to improve on the Barrie method. The gang on this farm consists of three men. There is none of the hustle and bustle, the rush and the muss that characterize threshing day on the average farm. The grain is threshed as it is drawn from the field, and, when harvesting is finished, so is the threshing. There is no labor to be returned, because no outside assistance is required. It was just noon, however, when I arrived at the farm and a minute inspection of the equipment had to wait until after dinner in the home of the junior member of the firm, Mr. W. C. Barrie, who, by-the-way, is president of the Ontario Plowmen's Association. Then we all went out on a tour of inspection.

The barn floor runs along one side of the big barn, which is just 150 feet from one end to the other. At one side of the floor stands the separator, operated by a shaft from the 18 h.p. gasoline engine, which stands in the farm work shop some 50 feet from the barn. The grain separator, one of the old fashioned elevator types, was purchased at a sale a few years ago for just a few dollars. The

straw, when carried over the elevator, drops on to a sliding table which feeds it directly on to the apron tread of the straw cutter. The straw cutter is equipped with a blower, which delivers the straw into its proper place in the mows. In operating the outfit, one man is required on the load, another man to cut the bands and feed the separator, and a third man to operate the straw cutter and direct the blower. No help is required to handle the grain; it is elevated mechanically, as in a grist mill, to the bins above the granary, the gasoline engine supplying the power for this purpose also.

The procedure during harvest is as follows: The long barn floor affords standing room for eight loaded wagons and the farm equipment includes eight wagons with racks, the wagons, like the separator, being for the most part picked up cheaply at sales. In the afternoon all of these wagons are loaded and drawn on to the barn floor. Next morning, when the dew is still on the shocks and conditions are not favorable for drawing in, the eight loads drawn in the afternoon before are threshed.

bars to a straw cutting "bee." "The greatest advantage of our plan," said Mr. Barrie, senior, "is that we are going on with our fall plowing when otherwise we would be threshing our own grain and the grain of our neighbors. On farms of good size, such as this one, I expect the individual threshing outfit to become very popular."

The granary is so arranged as to economize labor in handling the grain itself. The bins into which the grain is elevated are six or eight feet above the level of the barn floor. In cleaning grain the fanning mill, which is also run from a pulley on the engine shafting, is placed directly under the bins and the grain runs through slides in the bottom right into the hopper of the fanning mill. A few years ago when much grain from this farm was loaded directly on to the cars, being transported from the farm in a big open grain box, the barn was so arranged that the grain wagon was backed directly under the fanning mill in the shed beneath and as the grain was pouring from the bins into the fanning mill, it was also pouring from the fanning mill into the wagon, a gravity process all the way through. "On one occasion," remarked Mr. W. C. Barrie, "we cleaned and loaded 190 bushels of grain in 45 minutes."

### A Home-Made Potato Planter.

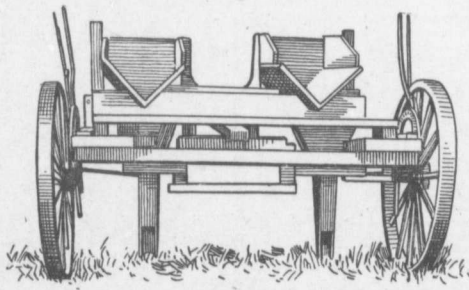
Two of the cash crops on this farm are potatoes and sugar beets. The handling of both of these crops is simplified by home-made planting machines invented by Mr. Geo. Barrie. An idea of the construction of the potato planter will be gained by a study of the diagram published in connection with this article. It is a two-row machine requiring three operators,—a man to handle the bags of seed and drive the team, and two boys to drop the seed. A recent bulletin from Ottawa describes Mr. Barrie's planter in detail as follows:—

"The main frame is three feet six inches by five feet, and made of hardwood planks two inches thick by 10 inches wide, bolted together at the corners. The spouts are made of heavy gas pipe, 14 inches long and 3 1/2 inches in diameter, tapered at the point, like a cultivator tooth, so that they will not drag the sod or manure. The upper end of the tooth has a thread on it and is screwed into a piece of hardwood scantling six inches by six inches and 23 inches long, bolted firmly to the frame. The balance of the spout attached to the hopper is made of heavy zinc and is wider at the top for convenience in dropping in the potatoes. The spouts are placed three feet apart and the wheels are centered 18 inches from them, so that the one wheel comes back into its own mark, thus making all the rows the same distance apart. Should it be desired to have the rows closer together, the machine can be made on the same principle to suit any distance.

"The wheels are the kind used on the old fashioned walking cultivators, with levers for raising and lowering. The catching on the levers should be small and close together, so that the wheels move up or down any desired distance. Gang-plow wheels with ratchets on the sides may also be used by elevating the frame to suit.

"The wheels are so placed that the machine will balance when two boys are sitting on the back. The boxes, holding one bushel of cut potatoes, are shaped like a mason's hod and held firmly in place

(Continued on page 8.)



A Home-Made Potato Planter Designed by Mr. Geo. R. Barrie.

With this implement four acres of potatoes are easily planted in a day. With the exception of the "shoes" it is entirely home-made, and is only one of several devices of home construction employed to lighten labor on the Barrie farm, the mechanical equipment of which is described in the article adjoining.

Throughout the day the loads are threshed as they are drawn in and in the latter part of the afternoon the eight wagons are again loaded up and drawn to the floor for the next morning's threshing.

### Advantages of Threshing Outfit.

The advantages of this system are numerous. The grain is handled only once from the wagon to the separator. In ordinary procedure on the average farm, the sheaves are first thrown from the wagon to the mow, where they must be carefully and systematically mowed away and, when the itinerant thresher comes along, a gang of men is required to handle the sheaves back from the mow to the separator, all of which work is avoided when a farmer owns his own outfit as Mr. Barrie does and threshes as he goes. An additional advantage of the method is that the straw is stored under cover, instead of being blown out into a stack. Farmers are generally agreed that there is a great advantage in cutting the straw, both for bedding and feed, an operation which on the Barrie farm involves practically no extra labor, but which under most circumstances calls for another gathering of neigh-

## Points of Interest at the Macdonald College

Mr. T. G. Raynor Tells of His Observations With Experimental Department

**S**HORTLY after the heavy frosts, followed by heavy rains in the third week in June, the writer made a trip to Macdonald College to look over the grain plots and other points of interest. It was noted on the way down, via the G. T. R. line, that the frost and the considerable damage to potatoes, beans and corn on the low lands of which there is considerable, until Montreal Island was reached. The hay crop, which is an important one in this region, was very light, more especially on the old meadows. On the hay crop, even with favorable weather for thickening in the bottom, promises to be a light crop all over Eastern Ontario. There are some very promising new meadows which will give a good cut. Red Clover, for the most part, meadows were very few in number.

Macdonald College reached, through the courtesy of Mr. Summery, a number of interesting things were noted. On the way to the experimental fields the path lay through the orchard and horticultural grounds. As elsewhere, the hard frosts of the past winter had seriously affected many of the fruit trees. Some few were dying, and the others were only partially leaved out and will doubtless die in a year or so. Quite a number of fair-sized plum trees, which had been used as fillers in an apple orchard, had been dug up with every care to preserve plants and roots, and replanted. The severity of the winter, however, had practically destroyed them. The replanting of them under ordinary conditions would have proved completely successful.

### Root Seed Production.

As one was passing along he could see small plots of beets, turnips, parsnips, onions and other vegetables being grown for seed. They were all doing well, and would result most satisfactorily from present indications.

The experimental plots were soon reached and at first sight they filled the eye with their good color, luxuriant growth and perfect stand. When the fall wheat plots were reached, it was found that here there was a change, as nearly all the varieties, except among them Dawson's and Turkey Red, were practically wiped out, except a Russian variety, Kharkov, which Dr. Zavits reports as weak in the straw at Guelph, but which at Macdonald was good in that respect.

The most of the oat plots looked well and there were some early strains bred at the college which were very promising; some crosses, for instance, between Alaska and Joannette, and some from the Early Ripe and other varieties. In a few plots, however, it was noticed that some of the oats were sickly looking, as though they had been blighted, and this, by the way, is quite common in a large number of oat fields in Eastern Ontario. You ask a farmer what he thinks is wrong and he says it was the frost. I can hardly think that this is true, however, because it is limited in area and occurs on high ground more than in the lower levels. It is either due to some insect ravages or it is a fungus disease in my opinion. In any case it is doing considerable damage. Recent good rains are stimulating the healthier plants, which is improving conditions even on the affected spots.

### Spring Wheat, Peas and Rye.

The barley plots all looked well, as did the spring wheats, which looked remarkably well this year. I notice that spring wheat generally has done well where it was put in early. The pea plots were not as good as those of spring wheat, and barley. While the pea plants looked healthy the stand was rather thin, which may be partly accounted for from the fact that they were broadcasted on the plots and wouldn't be well covered in seeding. The rye plots were simply splendid. They wanted to grow big and healthy, but the stand was good and the heads large. Mr. Summery says he believes that more rye should be sown in Eastern Ontario and Quebec for the grain, as they find that one year with another the rye does the best grain yield per acre of any of the cereals. The Petkus variety, which does well in Guelph, was as good as any here.

Only two varieties of corn are experimented with, Quebec Yellow No. 25, and The North Western Dent. While the plants were small yet they were comparatively healthy and a perfect stand.

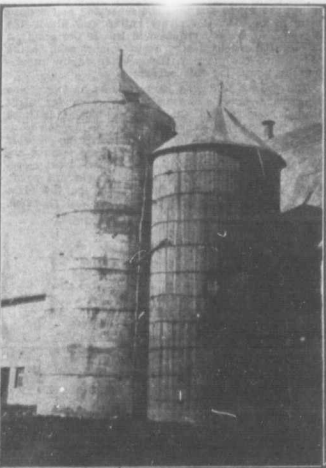
The mangel plots, which were numerous, had been thinned and were a perfect stand. This is partly due, no doubt, to the fact that they were the home-grown product for the most part. The beans were just appearing.

On the way to a second field of experiments we crossed a large meadow where the farm horses were holding high carnival. The cows had been pastured here but were now sent to the woods. The meadow was sequently the orchard grass was ready to cut and the timothy was well along. As the horses would

be unable to pasture it down, it would appear to be good economy to run the mow over the best parts at least and convert it into hay.

### A Result of Drainage.

The farm force of laborers were noticed in a field which was allowed to be probably the best paying field on the farm. It was once a beaver meadow, but is now well drained and frequently sown with roots in a short rotation. The force was thinking what appeared to be a perfect stand of mangels. In the second experimental field there are a large number of plots of different sizes. Here, for instance, were some Contenger plots, which may have one hundred plants or less in them, according to the number of seeds in the individual heads of grain which are being tried out. Then there were the "rod row" plots where the best strains from the contiguous plots were sown in plots one rod long and of four or five rows. Then there were some larger plots where the "rod row" plot seed was sown, and if after five years' trial these strains were pure and promising, being fixed pretty well in character, they were tried out on larger multiplying plots and some of these seeds were then tried in many localities by farmers. Here, too, were to be seen plots which demonstrated different dates of



Winter and Summer Feed for Ayrshires.

These two big silos were photographed by an editor of Farm and Dairy on the farm of C. G. Hawkins, Oxford Co., Ont. It was on this farm that the members of the Southern Ontario Ayrshire Breeders' Club recently held their annual field day. Two tons of the hay is quite the common thing in South-Western Ontario.

seeding, different quantities of grain used in seeding, and different mixtures.

A four-year rotation is carried out in another experiment, and comparatively large plots. First there is the pasture plot which is not really pastured but clipped at different times instead and the clippings left on the plot. This is followed by a hoe crop. Then grain, seeded out, and then hay meadow, which may be left one or more years extending the rotation from four to six or seven years.

A rather interesting fertilizer experiment was also in evidence; 20 tons of stable manure per acre on one plot was compared with 10 tons plus special fertilizers on a second plot, and a third plot of special fertilizers alone. The results so far indicate that the stable manure plus the special fertilizers gives slightly the best results over the stable manure alone, which is next.

### The Winter Killed Clovers.

The winter and spring had proved too severe a test for the acre alfalfa and red clover plots usually in evidence there. They were plowed up and re-seeded. The severity of the winter was further noted where the special work of crossing and selecting fodder plants is carried on. Where there was sufficient protection the plants came through very well, but where they were exposed the most, only

the very hardest strains remained, and they were hurt in places. Grimms alfalfa again showed its superiority, but some strains developed at the college were showing up well. Some good work was noted in the development of pure stands of orchard grass and timothy, which were most uniform and of superior quality of fodder.

There were other interesting features noted, but space will not permit of saying more than that I believe it would pay farmers to visit the Macdonald Experimental Station and note what is going on at least once a year.

The return trip to Ottawa was made via C. P. R., which runs through higher land than is traversed by the G. T. R., and here the crops looked more promising and there was less damage from frost.

## The One-Row Seeder

It Has a Field of Its Own

**T**HIS implement is something new. It has been used a few years in the United States, but is not yet common anywhere. It is due to become more common when the value of cover crops is fully appreciated. Here is an example of its worth.

A farmer friend of mine grows all of his corn on the field that surrounds the farm buildings. Year after year that land is in corn. Each year when the corn is about waist high, clover seed is sown with a cyclone seeder and irrigation ceases. When the land freezes in the fall it has a nice covering of clover. When plowed for corn fairly late the next spring, an excellent lot of humus is turned under. The one objection to the plan is that in order to get a reasonably even seeding, the clover has to be seeded before the corn attains its height and when the corn still needs more cultivation. The one-row seeder gets around this difficulty. It is pulled by a horse, guided by handles like a scrapper, drops the clover seed and covers it. With it clover seeding could be delayed until cultivation was completed and the land will be more evenly covered with seed. Rye, which is sometimes seeded for late fall and spring pasture, could be planted in the same way in the corn field. I am not sure but the fall wheat might be sown in the same way. Were it not such a small sized implement and of such small cost, the one-row seeder would probably be more popular.—A. W. N.

## Eradication of Twitch Grass

The Four Methods Tried and the Results

Arthur Christie, Dundas Co., Ont.

**U**NDER the direction of the Commission of conservation, we have carried out several experiments to determine the best methods for eradicating quack or twitch grass. Perhaps our results may be of interest to the Farm and Dairy. An eight-acre field which had become heavily solid with twitch roots, was chosen for the experiment. Two acres were plowed out of sod early in the spring, disc'd four times and harrowed. When the field again became green the stiff tooth cultivator was used, the roots brought to the surface, dried, raked and burned. On the 24th of May the field was planted with corn, checked in squares three feet, four inches each, and irrigation was practiced until the corn became too high to go through with the two-horse cultivator. No hand hoeing was used.

The balance of the field was pastured until July 1st. It was then plowed, rolled and the good seed bed worked up with the disc and smoothing harrow. Two acres were then sown to buckwheat, two acres to rape in drills 27 inches apart and the remaining two acres were summer fallowed. The whole field was again plowed late in the fall when the corn had eaten of the rape. This spring the entire field was planted to corn, checked three feet four inches each way.

We are now cultivating the corn and can see the result of the different methods. Where the corn was last year there is some twitch still left. Where buckwheat was sown there is also considerable twitch left, although somewhat weak. Corn nearly so vigorous as formerly. On the summer fallow and the rape ground, there is practically no twitch left, and I consider the land worth twice as much as formerly. Of the two latter methods, I consider the sowing of rape in 27-inch drills the better, as it produces an immense amount of green feed after everything else had become frozen.

"Records are made before the test work starts," says L. H. Lipsit, of Elgin County. "First you must have the cow with both the breeding and the identifying brands. Then you must conduct a test for the test." If the right cow is in the right condition the work is practically done."

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# Taking the Hard Work Out of Haying

Some Observations on a Motor Trip Through Western Ontario—By Tom Alfalfa

"HAYING ain't what it used to be," remarked the hired man when we drew in the final load of last season's big crop. He spoke appreciatively. The new order of things was evidently much to his liking. Just how largely the new order now prevails, I have had an excellent opportunity of observing during the past week. Our own alfalfa was already in the barn and our other hay, which unfortunately is mostly timothy this year, was not quite ready for cutting, and having a little breathing spell we cranked up our Ford, my wife and I, and started out on a cruise through some of the best country in Western Ontario. We found that farmers generally were busy with their haying, and it was a surprise to us to note the large number of farmers that had recently added side delivery rakes and hay loaders to their equipment. We were led to conclude from our observations that we, the soil tilling profession, are not so slow to adopt new methods as we are sometimes accused of being. Everywhere farmers seem to be more ready to ease the labor problem with new machinery than with inexperienced city help. In the occasional chats which we had over roadside fences, when we stopped to ask directions, universal appreciation was expressed of all hay making machinery, but more particularly the loader. Not a single farmer did we meet who would care to go back to the arm strong method of loading hay, although one or two questioned if the saving would pay the depreciation and interest on the extra equipment.

Our first call was on Mr. A. C. Hallman, near Breslau, well known as a breeder, exhibitor and judge of Holstein cattle, and a personal friend of several years' standing. With Mr. Hallman, the side delivery rake and hay loader have been doing the heavy work in the fields for so long that they are now just a part of the necessary equipment; the novelty has worn off, as it were. Mr. Hallman did think it worth while, however, to draw my attention to the wide, flat hay rack, a type seldom used in Ontario, but which, so my friend thinks, should be universally adopted. "This was one of the first two racks in the country," said he, "and there is just one improvement that we would like to make in it. It is perfect so far as it goes, but we are going to add a sliding rack attachment for this year's haying."

This rack I noted was mounted on two nine-inch basswood planks two and one-half inches thick, standing on their edge on the bolsters of an old truck. The flat, tight-floored rack was 17 or 18 feet long and seven and one-half feet wide. The floor was supported by five cross pieces of three and one-half by two and one-half inch hardwood. The side pieces were strong two by threes and it is on these pieces that Mr. Hallman proposes to run his sliding rack, which will make the hay loader a one-man device.

### Hay Making in its Perfection.

Later in our trip, we visited for a few hours with another old friend, Mr. W. W. Ballantyne, of Stratford, and here we found modern hay-making equipment in its perfection. Mr. Ballantyne has the distinction of being the first graduate of the Ontario Agricultural College to have a son graduate, and as both father and son are working on the old home farm of 200 acres, we expected to find things run in a very modern way, and we were not disappointed. Mr. Ballantyne, Jr., is somewhat of a mechanical genius and makes the farm equipment his first charge. A sudden shower having delayed hay-making, time was available to show over the place. We use the word "plant" advisedly; the Ballantyne farm is as fully equipped with machinery as an implement factory. I might mention, too, that their clover crop was good; almost a perfect stand, in fact.

and very thick on the ground, though not long. The good wintering of the clover, Mr. Ballantyne explained by the long stubble that had been left the previous fall, and which had held the snow.

"Haying is not a bit of trouble nowadays," he remarked later. "We used to dread it, but now we have the field equipment and the barn arrangement complete enough to take practically all the hard work out of haying." The procedure on the Ballantyne farm is somewhat as follows: The hay is cut and then tugged into in proper condition to go in the barn. A load is complete Mr. Ballantyne then starts the side delivery rake with one team and the hay loader follows immediately. When a load is complete Mr. Ballantyne unhitches from the rake and goes to the barn with a load to hitch out to the fork. When the hay is mowed away, both teams return to the field again. "We are making just as good hay in this way as we did in the old days when we put all of it up in cocks," said Mr. Ballantyne.

It was the interior arrangements of the barn that "took my eye." It is one of those big old fashioned barns, such as we have many of in our own county, with an end drive in the main barn and a big "cell" with the horse stable underneath. In the last couple of years, new tracks have been arranged in this barn, so that all of the hay can be moved away with little hand work. In the mow over the horse barn, for instance, which is over 40 feet wide, there are three tracks, one in the peak of the barn and another half way down on the rafters on either side. The hay fork can be arranged to lock at any distance desired above the floor and when the forkful runs into the mow, the man or boy in the mow (a high school boy in this case) can give it a push and trip it at any point desired. In the main barn the drive would have interfered with such an arrangement of tracks, so the Ballantynes have arranged their tracks cross wise of the barn and have built dormer roofs to carry the tracks well to the side. Here, too, the tracks are only about 20 feet apart and the hay can be directed anywhere and hard work in mow eliminated.

### The Travelling Rack.

"The travelling rack is one of the best things we ever struck for saving labor," was the way in which the senior member of the firm voiced his apprecia-



A Heavy Crop of Hay in Norfolk Co., Ont.

tion of the latest labor-saving device constructed by his son Norman. The principle of this rack is probably familiar to most of the readers of Farm and Dairy, though I must confess that I have never actually seen one myself until the wife and I visited the Ballantynes last week. Perhaps in case some are not acquainted with its principle of operation, I had better describe it. The attachment sits on top of a flat rack similar to that used by Mr. Hallman. It is just half the length of the rack proper and the same width. In front it has a tall, wide roller of the Western type. In loading, the travelling rack is pushed to the back of the wagon and the hay delivered from the loader directly on to it. There is then no need for more than one man on the load, and all that he has to do is spread the hay a little and tramp it; the work of passing the hay from the loader up to the fore part of the rack being eliminated. When a half a load has been built on the sliding rack, the attachment is then drawn to the front of the rack and another half load built on behind.

The rack on this farm I found to be entirely of home construction. Two grooves had been left in the floor of the rack by spacing the flooring boards one inch apart. The flange on the wheels of the sliding rack runs in this groove and the side of the groove that bears the weight of the rack has been strengthened by straightening out and bolting an old wagon tire to the flooring. These flanged wheels, by the way, were taken from the axle of an old grain separator. The wheels are connected by axles and the floor of the attachment is built on top of the two by fours which rest on these axles.

Were I an adept at drawing, I might be able to make this construction planter with a diagram, but perhaps my description will give a general idea. The windlass at the front, by which the sliding attachment, when full, is drawn forward, is just a two inch iron pipe with a rope around it and operated by a crank at the end. Even did the iron work all have to be purchased at the hardware store, the cost of such an attachment would not be great, and after examining the outfit, I was prepared to admit that it should go with every hay load.

On our return home we passed through Woodstock and a large section of the good county of Oxford. Our observations were the same as on our trip going, — everywhere the farmers were getting in their (Continued on p. 8.)



The Side Delivery Rake and the Hay Loader—A Labor-saving Combination.

The investment in a complete hay-making equipment is heavy one and many farmers argue that such an investment is not profitable unless 100 tons of hay or more are grown. With labor as scarce as it is, however, many farmers have side-delivered them. The illustrations on this page are from photos on the farm of Mr. W. W. Ballantyne, Stratford, Ont.



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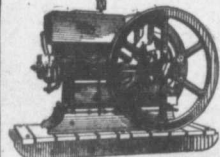
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## Disposal of Stock Early

AS soon as the breeding season is over, get rid of all male birds used in the breeding pens. When the egg yield drops in the early summer, or when the egg yield does not pay for the feed, sell off all hens over two years old and even the year-olds cut pretty well. Poultry at this time of the year will bring a better price than later and feed and space will be saved for the best of the year-olds and the growing chicks. Old hens as a rule, especially of the heavier varieties, do not pay for their feed in late summer eggs.

Sell the young cockerels whenever they are ready throughout the summer. Don't keep everything till the fall. Whenever the price is good, sell the cockerels as broilers or as small roasters.

In an experiment carried on at the Experimental Farm in the spring of 1917 with Leghorn chickens, the sale of the cockerels at the expense for incubation, brooding and feed for themselves and pullets up till the first of September. When the pullets went into winter quarters on November 1st, they had cost about twice what had been paid by the sale of the cockerels just 3.9 cents each. This experiment showed not only that it paid to sell the cockerels early, but it also demonstrated that pullets could be raised much cheaper than they could be bought in the fall.

## Hot Weather Treatment

HOT weather is very apt to place even the most energetic poultry keeper in a lousy mood. Who would not prefer getting under a cooling shade in preference to hustling when the thermometer is making its best endeavors to soar heavenward? But certain matters must be attended to, and it is well to make a little inconvenience than to allow the fowls to go wrong for want of proper attention.

As a rule, the hatching season is not continued after June 1st, as the weather is too severe during the three summer months to make it profitable. In many cases, however, hatching is again resumed in September to get out small market stock for the early winter trade.

Dry-feeding is especially preferable for chicks during the summer, as wet or moist mash, if not quickly eaten up, will sour and bowel troubles result.

Plenty of green stuff must also be supplied, and at night, upon closing up the house, a box of small grains should be placed in each house so that the chicks can help themselves at break of day. By this plan the chicks do not suffer for want of food, and are busy throughout the day.

The loose question is a serious problem during hot weather. But there need be very little trouble with lice if the proper methods are used the entire year. The plan adopted by the writer is to use tobacco stems for nest material for both the laying and the setting hens. The heat of the hen's body while on the nest will draw forth the best of the tobacco, and no insects can live under such conditions. The strictest cleanliness must be enforced—lice thrive in filth, and will forsake clean quarters if possible. Clean up the droppings daily. Kerosene the roosts, and whitewash the ceiling and walls. Keep up this treatment from January to January, and there will be very little trouble from lice in summer.

When the chicks droop, and are inactive. It is a pretty sure indication that lice are at work. If the chickens

are still in the care of the mother hen, it is best to dip a sponge in a vessel of kerosene oil, and then squeeze it until the oil ceases to drop. The oiliness will remain on the sponge, and if this is then thoroughly rubbed over the breast feathers of the hen, and also under the wings, the feathers will receive a good, greasy coating. As the young chicks nestle under the mother hen, their heads and backs come in contact with the coating of oil, and in consequence all vermin on the little ones will be quickly routed. The treatment should be repeated every other day, so long as there are any signs of the presence of lice.

The drinking vessels, too, must receive careful attention during warm weather. Disease germs lurk in filthy drinking vessels. These pans, fountains, or whatever they are, should be thoroughly cleaned once a week, rinsed every morning, and supplied with fresh water each and every day. The vessels should be kept out of the sun, in a place as cool as is possible to have it. Stale, warm water will cause bowel troubles. Rusty iron placed in the vessels during the hot months will act as a tonic.

Lastly, do not forget shade for both old and young stock. If there are no trees in the runs, provide artificial shade by means of canopies or tents. Green food is of special benefit during summer. The fowls should have a plentiful supply each day.

At night the houses should be open in front, the ends cut and doors protected by six-inch wire netting. This will allow fresh air to reach the fowls, and will be the best disinfectant that can be given.

In short, do everything possible to keep the fowls comfortable. Good care in summer will mean successful molting in fall and a good egg crop in winter.

## Poultry Parasites

POULTRY parasites must be exterminated in order that the hen may do her "bit."

At least 32 species of external parasites are known to exist on domestic fowls. It is not necessary, however, for one to be able to distinguish these 32 species and know their life cycle in order to successfully combat them.

One fact which poultrymen and farmers should know is this: Some parasites remain on the fowls all the time and can be destroyed only by treating the individual birds. Other parasites live in cracks and crevices of the poultry house and attack the birds while at roost or on the nest. Those of the latter class only be combated by a direct application of some good spray.

The treatment for those parasites which remain on the body of the hen consists primarily in the dusting of insect powder into the feathers of the individual. There are a great many insect powders on the market and some may be very good; however, it is nearly always cheaper to make our insect powder at home. A very effective louse powder for poultry can be made as follows: Take 3 parts of gasoline and add to this part of crude carbolic acid. (The crude acid must be 90-95 per cent strong.) Weaker acid is inefficient and when the strong acid is not available one part of cresol may be used instead. Mix these together and add while constantly stirring enough plaster of paris to just soak up the liquid. Usually it takes four quarts of plaster of paris to one quart of the liquid. When this is thoroughly dried it may be dusted into the fowl's feathers from a shaker can. Care should be taken to see that the powder reaches the skin.—P. F. S.

There may be good cow dogs, but we never saw one. Cows should never be hurried on the way to or from pasture and dogs are usually in a hurry.

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## FIELD NOTES

By "Mac."

THE biggest problem facing the Eastern Ontario farmer to-day is the question of farm help and possibly the most serious side of the question is that of its uncertainty. They are waiting with bated breath, as it were, wondering what new order-in-council will be passed making still further inroads upon the already small supply of farm help available. The attitude of the farmer is not so much that their help may be taken away but the fact that they do not know whether or not it will be taken away. If the average farmer, particularly if he be a dairyman, were assured of being without satisfactory help he would plan now to farm in this way during the coming year as would be most satisfactory for the amount of help at his disposal. On the other hand, if assured of satisfactory help, he would go ahead and carry out on his farm just as great a production campaign as he possibly could. But who can blame him if he argues this way—"What is the use of starting out to grow a splendid crop and then when harvest time comes be unable, as we were last year, to get the greater part of it into the barn in a satisfactory condition?" The average farmer, who is no longer able to do farm work and who has been depending on an able-bodied son of 20 to 22 years of age to keep things running smoothly, would find it very difficult indeed to find a satisfactory substitute. Recently I came across a case such as this on a large dairy farm in one of the most easterly counties. On this farm is a father, now an old man who should no longer be responsible for the management of the farm or heavy work, a son (a young man), and one additional man who was employed by the year. It would be difficult to find a farm where three men produce as much food for the nation in the course of a year as is done on this farm, and yet this son is at present only assured of five months' exemption. In talking to the old gentleman on the subject he said: "It is not by merely the proportion of one man to three that our production will be decreased if I—has to go. We have been accustomed to running a three-man outfit here—no more, and no less. If one of us is taken it breaks up our combination, disorganizes our operations, and will in spite of all we can do decrease our output by two-thirds rather than one-third." Then if the son, who is the one who has charge of the dairy cattle, should be taken it would mean that these cattle would have to be dispersed, with the result that a high class dairy farm would be lowered to the productive standard of the ordinary grain farm.

THE opinion of another progressive dairyman in the same county was this, that it would depend to a great extent on the class of men who will be sent to the farms to fill the places of the farm boys now being drafted. This farmer was not at all enthusiastic regarding city help. He said that there was a place where city help would fit in. It was an additional farm of practical experience already on the farm, that where the remaining son, who had had the responsibility for several years, and who had been doing the more particular part of the work, had been taken away, any number of city help, no matter how naturally clever they might be, could never fill the place. He said that few people unfamiliar with farm work have just how much loss of time an inexperienced man could cause in the course of a day's work or a season's opera-

tions. One serious cause of delay was in the case of breakages and he said that for farming operations to be held up for a day or so by some little breakages that need not have been was a matter of considerable concern to a busy farmer. In some cases this means a loss of a whole field of hay or some other loss almost equally serious.

The general opinion is that retired farmers who are so plentiful in many of our smaller towns are a much more satisfactory class of help than the men brought from cities. They would at least be accustomed to handling horses, would probably be able to milk cows and while not as strong of body or possibly not as swift of movement as younger men from the cities they would at least be able to go about

their work without having to be under constant supervision and without causing continual delays through breakages and time lost in other ways.

REGARDING the question of help from high school boys one farmer said that for his part he would prefer a boy from the public school. He said that when a boy gets to be from 16 to 18 years old, a person does not feel like telling him how to do things the same as they would with a smaller, younger boy. With a younger boy you would not be afraid of offending him by taking an implement from him for a time to show him how to operate it, or to take it from him entirely if you were afraid he was not capable of handling it, while with an older boy in many cases

he would be left alone possibly doing work that was not altogether satisfactory rather than to run the risk of getting at "loggers" regarding a small matter.

The general feeling, however, on the farms is that they are willing to go the limit in producing crops, and that they are even willing to take the risk of sowing crops without knowing just how they are to be harvested, and provided that sufficient experienced help is left on the farms to properly balance the inexperienced help which will be sent from the cities, they may be depended on once more to do their "bit" in feeding the world. However, if the farms are robbed of all the able-bodied young men there is bound to be a serious falling off in food production.



Keep in touch with the men who are fighting for you!

There's a hard campaign under way "over there" —the grimmest, deadliest yet—a campaign that will call for the last ounce of stamina and morale. Let them know you are thinking of them, and appreciate what they are doing!

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and once in a while, a few packages of Gillette Blades to replace those lost or given away.

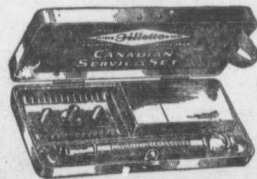
Clean shaving has from the first been a matter of pride and discipline, as well as a comfort with our boys. You can imagine how it refreshes and braces them up after a long dusty march or a day of hot and desperate fighting. Now it's a matter of life or death as well, for on none but a clean-shaven face can a gas-mask fit close enough for safety in these days of intensive gas-attacks.

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## Farm with Mechanical Equipment

(Continued from page 3.)

in front of the top end of the spouts. The distance apart for dropping the cut potatoes is regulated by blocks, bolted on the spouts, which come in contact with a piece of light steel spring, which makes a noise so that the boys know when to drop the sets into the ground. A seat is arranged directly behind the spouts for the comfort of those dropping the potatoes. "As soon as the potatoes are plaited it is advisable to harrow the land so that any that are not deep enough may be covered."

### The Mangel Seeder.

The mangel seeder, which is also used for sugar beets and turnips, is considered by both Mr. Barrie and his neighbors to be a superior machine to any now on the market. The turnip seeder of commerce lacks the force feed principle and is, therefore, not suitable for mangels. The force feed grain drill on the other hand, usually used for seeding mangels, can be used only on the level, and it is the experience of all farmers that roots are easier to single when the ground is ridged slightly before planting. In his home-made seeder Mr. Barrie has combined a ridger, seeder and roller. The seeder proper is a section cut from an old grain drill. There are two spouts and two rows seeded at once. On the front of the frame mould board fashioned in the machine shop on the farm are attached, which ridge up the land to just about the right height. Finally the soil is compacted by two small home-made rollers attached to the rear end of the implement. The wheels in this case are from an old seed drill. "Both of these implements are in great demand among the neighbors," said Mr. Barrie. "The potato planter is used for five miles up the road and almost the same distance down the road. Men will wait their planting in order to get a chance to use this machine. I wouldn't take \$200 for it if I couldn't make another."

### First Litter Carrier in Canada?

Mr. Barrie is anxious to know if he can lay claim to the distinction of having invented and constructed the first overhead feed carrier ever used in Canada. Just 26 years ago now, Mr. Barrie decided to simplify the problem of feeding his cattle by running a feed box on an overhead track. Factory-made litter carriers had not then even been thought of, and so far as Mr. Barrie has been able to discover, there was not a single overhead carrier then in operation in Canada. A wooden track was erected and a feeding box made by his own hands to carry the ensilage for 30 mature cattle. This box was equipped with a lifting and lowering device, very similar to that used on some of our patented devices to-day. The track was so arranged that this big feed box could be run right up alongside the feed room and filled and then run down between the two rows of cattle and out into the big loose-feeding pen. When I visited the Barrie farm this same feed carrier was still in operation and giving good satisfaction.

Probably no part of the establishment gives either Mr. Barrie or his son quite as much satisfaction as their farm workshop. Its equipment is complete enough to allow of making almost any repairs to farm implements or to construct new implements. In addition to small tools of every kind and description there is a forge and drill, making it possible to do almost anything with iron, an emery wheel and a turning lathe. The shop has been found very convenient for turning gate posts, fence posts and so forth. In the shop, too, is located the 18 h.p. engine, which does so much of the work of the farm. "That engine," said the elder Barrie, "has been standing there for 17 years and there was never an engine that gave less trouble." We

needed that to run the various machines around the farm."

I have here mentioned only the unusual equipment of the Barrie farm. In addition, there is the usual list of implements found on every up-to-date farm, and operated, so far as possible, by three and four horse teams. A tractor has not yet been purchased, but use has already been made, I understand, of the government tractor loaned by the county. Perhaps among the unusual equipment might be classed the power sprayer, the clover huller and the ensilage cutter. "Of the farm and the ensilage cutter," said Mr. Barrie, "I will have more to say at a later date. It is a big farm, run in a big way and on a partnership basis."

## FEEDERS CORNER

### Pasture for Work Horses

IS it advisable to pasture the work horses on the farm? We have already steady use for our, but there are subsequent periods when they are without the work for a few days or four days. Do you advise running them out every night? To what extent should work horses be fed grain on pasture? W., Wellington Co., Ont.

It is generally not advisable to pasture work horses on the farm if the periods of pasturing are very short and the animals do not become accustomed to this change of feed. However, I believe that if the work horses on the farm can be given pasture in addition to their stable feeding during the day they will be sufficiently accustomed to grass so that during idle days they may obtain all their feed from pasture and will be greatly improved in general condition and health. The quantity of graded feed to horses on pasture depends altogether on the amount of work required from them. If only on grass for three or four days and the animals are requested to again go back to their heavy work, they should, while on pasture, receive one small feed, say eight pounds, of their regular grain mixture, daily.—E. S. A.

### Pasture or Stall for Calves

I LIVE in Oxford County and right in the heart of the Holstein district but an myself rather new to dairying. This spring we had six fine heifer calves dropped from March to June. Would a advise keeping these calves in the barn all summer on padlock feeding? I find this is a disagreement among my neighbors on this question. Some keep their calves in the barn and others prefer to have them out at least a part of the time, and both classes number some very successful breeders. I would welcome your advice.—H. L., Oxford Co., Ont.

I would strongly advise that this party inquire into the practice of our best dairymen, namely, keep these spring born heifer calves in the barn both night and day until they are three months of age, after which time, if the nights are very warm, they should be allowed to run in a paddock during the nights, but taken into a darkened, cool stable during the day time. It is certainly unwise that very young calves be exposed to the sun and flies. In the same feeds calves kept in cool dark stables during the day time will make greater gains and will suffer less hardship than those unnecessarily exposed.—E. S. A.

### Ration for Bull

WILL you suggest a ration for a heifer bull, Holstein, weight 1600 lbs. I have seen told that silage in any quantity should not be fed. How about roots? What quantities of grain and hay will be required?—Farmer, Huron Co., Ont.

An excellent ration for a Holstein bull weighing 1,600 pounds, fed in a barn or in a paddock, is as follows: Green cut alfalfa or clover, or peas and on 50 lbs. daily, or the above green feed, 30 lbs. and silage 20 lbs. During this season of the year the bull should receive grain as needed, probably four to six lbs. of a mix-



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ture composed of bran three parts, oats two parts, or cake one part, would be satisfactory.  
The above feeds should be divided into two portions daily. The exact quantity of grain would depend altogether on the condition of the animal. If the green feeds are not available the ensilage might be increased to 30 lbs. daily and from eight to 10 pounds of hay given in addition.—E. S. A.

**HORTICULTURE**

**Orchard and Garden Notes**

**L**ATE cabbage and celery may be planted now.

Cucumbers may be planted near a rubbish heap and will cover it quickly.

Plow up the strawberry bed that has finished fruiting, and plant turnips, rutabagas, or set out celery.

Keep the dead flowers off sweet peas, geraniums, etc. The plants will bloom better and longer for this care. Liquid manure, made by soaking barryard manure in water until the water is well colored, is a good fertilizer for pansies and other flowering plants.

Don't shoot the birds because they eat some of your fruit, but plant more fruit for them. They earn their keep in ridding the garden of insects.

Plant lice may be kept off plants by using soap suds made from soap which contains no strong chemicals or by spraying with some of the tobacco preparations.

Fats green and lime, hellebore or arsenate of lead will rid the currant bushes of worms if put on now. The Paris green or arsenate of lead will also destroy the cabbage worm caterpillar.

**Fruit Crop Report No. 2**

**T**HE Dominion Fruit Commissioner has just issued Fruit Crop Report No. 2, reviewing conditions in the fruit growing sections of Canada. The condition of the apple crop is summarized as follows:

General conditions have changed very slightly since our June report, which was prepared just after the blossoming period. It is reasonable to expect a slight falling-off in prospects since that time, and this is now apparent in certain districts. Reports from Nova Scotia are not optimistic; it is doubtful if the yield will reach 400,000 barrels. The total production in 1917, including fruit used by evaporators and canning factories, was about 700,000 barrels, or 75 per cent. greater than the estimated crop for 1918. It is to be noted, however, that there is an almost complete absence of apple scab, and that the fruit is of a remarkably fine quality. In Ontario, the best prospects are in Prince Edward county, Georgian Bay, and in the western counties; in these districts the yield, while considerably below average, will be much greater than last year. Early varieties generally give better promise than later ones. Spys and Baldwins are very light in all districts. In eastern Ontario and Quebec the latest reports strongly emphasize the severe winter injury, which has wrought havoc in young orchards and seriously affected most of the old Pameuse orchards, of which these districts have long been proud. The injury is doubtless more severe than is generally supposed by those outside of the affected areas. In British Columbia no changes have taken place. The crop is still expected to be about equal that of a year ago, and would doubtless have been a very heavy one but for the frost injury of May 24.

Cherries will be only 50 to 60 per cent. of a crop in the Niagara district, with sweet varieties only 25 per cent.; in the Burlington-Oakville district 35

per cent., and in other districts of Ontario and Quebec there is practically no crop at all. British Columbia has a good average crop.

The Niagara pear crop will be about 40 to 50 per cent. of normal, the Burlington crop very light and in other parts of eastern Canada a failure. The British Columbia crop is heavy.

The Niagara peach crop is not likely to exceed 40 per cent. of normal. Early varieties give the best promise, though Elbertas are also fair. The crop is a complete failure in other parts of Ontario and in British Columbia the yield is not likely to exceed 60 per cent. of normal.

Grapes will be from 75 to 100 per cent. of a normal crop. Plums will be about 65 per cent. of normal. The supply of Ontario strawberries is quite light. Raspberries will be between 65 and 70 per cent. of a full crop, while blackberries are very light. Conditions in the United States are similar to those in Canada. Apples will be a better crop than last year, while the tenderer fruits have suffered from winter killing.

**Taking Hard Work Out of Haying**

(Continued from page 5.)

hay with modern equipment. We did not, however, see any sliding racks, although probably several were owned in the country through which we passed. My wife says that I have sliding racks on the brain, but, anyway, I consider that what I learned about rack making is ample compensation for the expense of our trip, to say nothing of the pleasure and inspiration of seeing good farms, visiting good farmers and freshening up on our own ideas of farm practice. And just as an after thought—will not all of this modern equipment, including the running rack, tend to make alfalfa a more popular crop; for there is no getting around it, the man who grows lots of alfalfa has more than his share of hayage.



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**HAY TOOLS INTO YOUR SERVICE THEY SAVE HALF THE LABOR**



**Louden Senior Hay Carrier**  
Guaranteed to handle 1000 lbs. of hay in one load. No binding on track.



**Louden Double Harrow**  
Guaranteed to handle 1000 lbs. of hay in one load. No binding on track.

Minutes mean money in haying time. In the present emergency, when labour is more difficult to obtain than ever before, Louden Hay Tools are indispensable. It makes no difference what kind of feed you handle—long timothy, dry short clover, prairie wool, fine straw, alfalfa or bound grain, a Louden Equipment will handle it to your entire satisfaction. The Louden Senior Fork Carrier with a Giant Bale, or a Grapple Fork or a Double Harrow Fork, can be depended on to unload your feed quickly and easily. If your feed is long, use a Harrow, if short and slippery a Giant Fork. For clean, quick work Louden Centre Trip Ridges and Sling Carriers have always led the way. A whole load in two lifts! Shows the time you save with Louden Sling Carrier equipment. Write for our New Illustrated Catalogue showing full line of Louden farm equipment, sent postpaid—no charge, no obligation.

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# Farm and Dairy

AND

## Rural Home

"The Farm Paper for the farmer who milks cows."  
Published every Thursday by  
The Rural Publishing Company, Limited  
Peterboro, Ontario.

47

SUBSCRIPTION PRICE, \$1.00 a year. Great Britain, \$1.20 a year. For all countries, except Canada and Great Britain, add 50c for postage.  
ADVERTISING RATES, 12 cents a line flat, \$1.68 an inch an insertion. One page 50 inches, one column 12 1/2 inches. Copy received up to Saturday preceding the following week's issue.

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### CIRCULATION STATEMENT.

The paid subscriptions to Farm and Dairy approximate 20,000. The actual circulation of each issue including copies of the paper sent to subscribers, who are but slightly in arrears, and sample copies, varies from 18,000 to 20,000 copies, and the figures are exceeded at least twice the full subscription rates.

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

### OUR GUARANTEE.

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are carefully edited as the reading columns, and because to protect our readers, we turn away all unscrupulous advertisers. Should any advertiser herein wish to transact any business with you as our paid-in-advance subscribers, we will make good the amount of your loss. However, such transactions must occur within one month from date of this issue, that it is reported to us within a week of its occurrence, and that you have signed a statement to this effect. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in Farm and Dairy and..."

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

## The Rural Publishing Company, Ltd. PETERBORO AND TORONTO

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

## A Campaign of Slander

THE following paragraph is taken from a letter published recently in a Toronto daily. It is just a sample of the misrepresentations and worse that appear almost constantly nowadays in the columns of a large section of the city press. The letter reads in part as follows:

"It seems most remarkable that just at the time when we are fighting for our very existence and our freedom is at stake, when our boys are battling against the Huns—sometimes, the papers tell us, eight or ten to one—that these men (the delegates to the Farmers' Convention), should be playing the 'Stalshavski game,' when their own property at stake. I cannot believe that they realize the war that they are in. They believe that in some way war will be won without their assistance, and it seems that they are not possessed of manliness enough to have any desire to do some portion of the work of defending that property which they possess.

"I simply ask why should my sons or some other man's sons be called upon to give their lives to defend that property? I say shame upon them. Let them prove themselves men and come forth and help in that great crisis, for their own sakes if not for the sake of humanity and their fellow-man."

Letters such as these are slander on the loyalty of a large section of the Canadian people. Their publication is not conducive to good feeling between the urban and rural people. The implication that the men who went to Ottawa or attended the great convention in Toronto were actuated solely by selfish motives is as unjust as it is untrue. Right from the beginning of the war the farmers of Canada have had it dinned in their ears that "food will win the war." They know that already more people have starved to death in Europe than have been killed in battle. When, therefore, the Government announced that the already limited supply of labor on the farms of Canada was to be reduced still further by a drastic conscription measure, and this, coupled with the statement that production must still be maintained, the farmers, who knew well that production could not be maintained if the proposed measure were carried out, considered it their duty to inform the

Government the sure results of their action. In many cases also the order was causing severe hardship and loss, and the delegation believed that proper representations would lead to amendment at least. And yet, because of their action, which was a credit to their good citizenship, they are called cowards and shirkers by men who are completely ignorant of the conditions under which the food of the world is now being maintained. The newspapers which lend their columns to such slander are not deserving of the respect which we would like to be able to accord to the powerful and influential city press.

## Two Positions Well Filled

**M**R. CRERAR, Dominion Minister of Agriculture, is to be congratulated on his choice of a deputy. No man in Canada could have been more acceptable to the agricultural interests than Mr. Griadale, and no one could be better qualified to satisfactorily fill that important post. In the new Deputy Minister of Agriculture we have, for the first time in many years a farmer as director of our official agricultural activities. Mr. O'Halloran, who is being transferred, along with the Copyrights Branch, to the Department of Trade and Commerce, was a conscientious and faithful deputy, but he was a lawyer by training and profession, and had only a second-hand knowledge of the problems of the Canadian farmer.

As the director of the Experimental Farms System, extending from ocean to ocean, Mr. Griadale was constantly in touch with the varied problems of every province in the Dominion.

The question now arises—who is to assume the direction of the Experimental Farms System. Farm and Dairy understands that, for the time being, Mr. Griadale will retain supervision of the Farms System with Mr. E. S. Archibald as acting director. Here, too, the post is well filled. Mr. Archibald is one of the best known live stock men in the Dominion, and under his direction, as Dominion Animal Husbandman, the herds and flocks on the experimental farms have improved materially in the last few years. Mr. Archibald has made a close study of agricultural problems generally, is thoroughly sympathetic with the farm viewpoint, and his appointment as director will be received with approval by all who know him and by the live stock men in particular. These two important positions have been well filled.

## Selling a Farm by Inches

**A**CERTAIN western farmer had, besides other crops, 200 acres in wheat about ready for cutting. After admiring it sufficiently and learning that it would run about twenty bushels to the acre, a city visitor innocently asked, "How much profit will there be in that crop?" "It will sell for close to six thousand dollars," replied the farmer. "The cost for plowing, seeding, harvesting, threshing and hauling to the elevator will be something between four and five dollars an acre, say five dollars. There will be nearly five thousand dollars' profit in it for me. That is what I call real independence."

That man is losing out because he is not figuring fertility in the cost of production. Fertility is the farmer's capital, and he cannot draw on it indefinitely without replacing it. That twenty-bushel crop on this western farmer's 200 acres yielded a total of 4,000 bushels. Experiments show us that the fertility extracted by that 4,000-bushel crop was as follows: Nitrogen 5,680 pounds; phosphorus 960 pounds; and potassium 1,040 pounds. At present prices, that nitrogen would be valued at \$860, phosphorus \$28, and potassium \$62, giving a total of \$948 worth of plant food used by that one crop—not taken into consideration by the farmer.

Grain farming is a method of selling a farm by inches. When we buy farm land what we pay for is soil fertility—that which makes crop production possible. In figuring on the relative profit from grain growing or dairying we too often neglect to charge up against the grain crop the depleted fertility of the soil that it represents, the inch that we are selling off the farm. Where this factor is given due consideration farmers are not being stampeded from live stock farming into crop farming by the high prices of grain. They are taking the permanent pro-

ducting power of their soils into consideration and "continuing to feed all of the live stock possible with the labor and feed available. And, in the long run, these are the men who will win out.

## Patent Medicine Publicity

**"H**ARPIS that prey on the public" would be a fair description of the rank and file of patent medicine manufacturers and vendors. Their wares are of little use for the purpose intended and are sold, not on merit, but on a knowledge of human nature and the universal desire of people to get something for nothing. In their advertising, patent medicine dealers do not hesitate to appeal to the lowest of human passions, and to the ungratified desires of people generally. Not the least of the evils of the trade is the taste that patent medicine frequently cultivates for alcoholic beverages. Frederick Paul, managing editor of Toronto Saturday Night, estimates that \$100,000,000 are spent annually in the United States for patent medicine, and that the annual "dope" bill in Canada is \$8,000,000; a lot of money to spend on what are, for the most part, useless nostrums.

The press of the country has it in its power to end the patent medicine business once and for all. It is a business that lives on advertising. Were it not for the entries accorded the patent medicine advertiser into the columns of practically every newspaper in the country, the volume of business done would soon drop to the vanishing point. A few journals here and there have become conscious of their obligation to the reading public and are now refusing to take patent medicine advertising of any kind. Of this number, Farm and Dairy was one of the pioneers, and for a decade now not a single patent medicine advertisement has appeared in our columns. Other respectable journals are falling into line, and we trust that the time is at hand when public sentiment against the patent medicine fakir will be strong enough that all other publications will be forced to debar the patent medicine advertisement from their columns.

## Yearly or Short Time Records

(Hoard's Dairyman.)

**D**OES it pay to make yearly records? Breeders are divided in opinion regarding the value of the yearly records of their cows. They ought not to be, but they are. Most breeders believe yearly records more nearly measure the value of the dairy cow than do the short time tests. But this is not all there is to the question. Every breeder, of course, desires to produce animals capable of high production and he is also anxious to breed those that will sell for the highest prices. Right here is where the shoe pinches and leads many to believe, among the breeders of Holsteins, that short time tests are more valuable for securing high prices than yearly records.

It is to be regretted that purchasers of dairy cattle do not give more credit, clearly and emphatically more credit, to the year's record than they do to the seven-day record, or, as is the case in many instances, to no record. Pedigree backed by large yearly production should be more cherished and sought than short time records.

It is encouraging to note that every breed is increasing in its number of yearly records and all purchasers of dairy blood should by their actions lead breeders to make a still larger number. It is not uncommon to see cows with large yearly records and of superior type and pedigree sell for less than cows with no records and inferior type, but fashionably and popularly bred. These things have a tendency to discourage the breeder from making yearly tests, even though he knows that such tests are the best measure of the capacity of the cow. The hundreds of cow testing associations are educating the dairy farmers as to the value of the yearly records and will ultimately make the long distance records more popular than the short time tests and will cause cows holding them to sell for higher prices than those holding short time records.

Breeders making yearly tests, under normal herd conditions, should keep everlastingly at it. They are right; and in the end right prevails.

### In Union There is Strength

Should Stand by Central

By L. H. Blatchford.

ONE of our great dangers comes from within the organization and these are perhaps the hardest to meet. It is difficult to know whether it is intentional disloyalty, or short sightedness, but it is unfortunate that any organization that was served by their central last season, and at a saving of many dollars, should lose their sense of loyalty to such an extent that (having through last year's bills of lading become acquainted with the name of our supplier) they ignore their central who made the connection, whereby they benefited, and try to do business direct. Fortunately our supplier in this case was a man of honor and wrote us about these clubs. We have had previous experiences where the supplier yielded to the temptation, did business direct and said nothing to central office.

What was the gain of these clubs? Did they really gain anything or would the loss in their honor and loyalty outweigh any money gain they may have made? Sometimes it seems as though clubs forget that this is a cooperative movement and that each club is a cog in the wheel. If you think you have a suggestion that we should have, send it in. If you know of any business connection that you think would be of benefit to the organization as a whole, why not submit it to the central or the directors? Any suggestion will receive careful consideration. Let me say on behalf of the staff, that we appreciate any suggestion that will help us serve you better. We also appreciate the many kind letters of commendation received. We have a loyal and heartily interested staff, who are all anxious to make the company a success.

### An Opinion on Clubs

"THIS farmers' movement in Ontario is a union of discontents and socialists. It isn't getting the sane, dependable class of farmers at all."

The speaker was one of Canada's "official" farmers, a man drawing a good salary from the government, regarded by city audiences as a spokesman for the farmers, but who never in his life was dependent on the farm for a livelihood. Like many others of this class he has no use for independent farmers' organizations, and when he made the speech quoted above, the United Farmers of Ontario were just getting nicely started. Just how far he was off the track as a prophet has been proven by the wonderful growth of the movement in the last two or three years. No one would care to contend now that the movement numbered only "miscontents and socialists." It is the membership of the U.F.O. are the finest class of farmers in the province, and the greater his success as a farmer, the more enthusiastic he is apt to be over the organization idea. Just recently an editor of Farm and Dairy dropped in for a chat with M. L. Haley, of Oxford County, well known from one end of Canada to the other as a breeder and exhibitor of Holstein cattle. It was not necessary to ask for Mr. Haley's opinion of the local club, which is a branch of the U.F.O. It was one of the first things of which he spoke.

"This farmer's club is a great idea," said Mr. Haley, enthusiastically. "I didn't miss a meeting all winter until I was unfortunately laid up with sickness. The social and educational features appeal to me most strongly. We discuss the problems of the day and the problems of the farm. Just from a practical agricultural standpoint, I

have gotten lots of ideas at the club. In fact, I believe that the social and educational features are of more value to us than the money that we save through cooperative buying."

Mr. Haley then told me of a rural improvement conference that was soon to be held under the auspices of the club with delegates present from all neighboring clubs and institutes. This is one of a series of conferences being held under the direction of A. MacLaren and the Rural Improvement League organized at Guelph last winter. He insisted on looking up the program which covered everything in rural community building, from the business of farming to the consolidation of rural schools with its keynote "pulling together for community progress." Mr. Haley's final word on Farmers' Club work was: "Farmers lose much by not being more sociable and not getting together more."

### Peterboro District Organizing

THE farmers' movement has been taking hold in Peterboro Co. and district very strongly of late. A considerable number of new clubs have been organized and others are likely to be organized soon. A county organization is now spoken of.

On June 26, a well attended picnic was held at Wallace's Point in Otonawa. It was arranged by the South Monaghan and Caven Clubs in Peterboro. Representatives were present also from the Fairmount, Stewart's Hill, and Falls Line Clubs. The speakers were Mr. Thornton, Pop. of East Durham, Mr. Jay Simpson, Exc. controller of the city of Toronto, Rev. Mr. MacCoshie and Mr. R. W. E. Burnaby, President of the United Farmers Cooperative Company, Limited, Toronto. The day was an ideal one and the event was a great success. The speeches lasted for some three hours and were followed with great interest.

On June 27 one of the largest picnics ever held in East Peterboro, was held at Indian River, where, it was estimated, some 2,000 people were present. The speakers were Mr. Burnaby of the United Farmers Cooperative Company, Limited, Toronto, and Mr. H. B. Cowan, Managing Director of Farm and Dairy. Again great interest was shown. A considerable sum of money was raised which it was announced will be used for the formation of a county organization. The committees in charge of both events deserve great credit for the success that attended these picnics, which are a splendid way of getting farmers together at this season of the year when meetings in halls cannot be held to advantage.

### Field Sports at Farmers' Picnic

EDITOR, Farm and Dairy:—In view of the fact that a picnic under the auspices of the Farmers' Club of South Dummer in Peterboro Co., Ont., was a new holiday, the one held recently at Indian River was quite a success. The sporting events aroused a great deal of interest among the spectators. Representatives from nearly all the clubs took part. The tug of war was keenly contested by Douro and Indian River, but was finally won by Westwood. While the score in baseball would tend to make the game look one sided, nevertheless credit was due both sides. The football match might have been said to have been a game between professional and amateur, and even so, Warsaw did not leave a very large score to indicate their superiority. The following are the results and names of winners: Baseball—Bethel vs. Douro, won by Bethel, 15-3.

(Continued on page 14.)

## IDEAL GREEN FEED SILOS

### Best, according to the verdict of Canada's leading dairymen

EXPERIENCE has proved to the satisfaction of the foremost dairymen of the Dominion that a properly constructed stave silo produces and preserves a class of silage which cannot be equalled in silos built of other materials.

Of all stave silos, the Ideal is the favorite with Canadian farmers.

Why?

Because the design, materials and workmanship of the Ideal are such as to insure the finest quality of green, juicy silage and the longest life of the silo.

An Ideal Green Feed Silo will pay its own cost on your farm the first year, and pile up splendid profits for you each year thereafter.

Just ask any Ideal user. There are thousands of them in Canada—many, probably, in your locality.

Write today for our illustrated silo catalogue, which explains the many superiorities of the Ideal and in addition contains much valuable information about silos and silage.

### THE DE LAVAL CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA

Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Butterworks. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



### Save All The Hay

You cut by using a PETER HAMILTON No. 4 RAKE. This machine has great capacity and will rake up all your hay, whether light or heavy, leaving a clean stubble. The teeth will pass smoothly over the ground without digging into it, and lift well over the windrow.



The automatic dump is very efficient and the extra guard teeth are provided to keep the hay from rolling or winding into the wheels. No worry, no trouble, no loss of time when working with this efficient rake. Write us today.

The Peter Hamilton Company, Limited  
Peterborough, Ontario (2)

## PEERLESS GATES



Down the road or far across the fields is often an "entrance," a mere hole in the fence, a constant source of danger to stock getting through. The best way to

### Keep Your Stock Where You Want Them

is to provide tight gates, strong and durable. All Peerless Farm Gates are of heavy open heart steel wire on strong tubular steel frames electrically welded in one solid piece, and braced like a steel bridge. No sag, no rust, no wearing out. Ask your dealer to show you Peerless Gates, also Peerless Perfection Farm and Poultry fencing with the famous Peerless lock at all intersections.

SEND TODAY FOR CATALOGUE. It tells you how to put up a fence in "star-pat".  
The Banwell-Hoxie Wire Fence Co., Ltd.  
Winnipeg, Manitoba Hamilton, Ontario



THINK that day lost whose low descending sun,  
Views from thy hard no noble action done.

## A City Lad's Delusion

By Mrs. J. G. Eastman.  
(From the Nebraska Farmer.)

(Continued from last week.)

"WORLD'S end," Elmer thought as he alighted at the tiny depot. Some half dozen men met his gaze; a wiry young operator with his official cap stuck on his thatch of sandy hair; the stockbroker, postmaster who had brought his wheel-barrow and was tossing the limp mail sack on top of his load of canned goods; and a box of plug tobacco; and a stalwart young farmer who had come to claim his returning cream can. These and several small-town loafers were there, but where was Cousin Elizabeth? Never had he imagined her to look like any of these.

Just then another young man appeared around the corner of the red box depot. He was a farmer, also, judging by his heavy rough coat, but he had a pleasant face and keen, sparkling blue eyes. He advanced with outstretched hand, exclaiming: "Farlon me, but aren't you Elmer Wade?"

Elmer was almost too surprised to stammer, "Yes, sir," and take the kindly extended hand.

"My name is John Linsey," explained the other, "and since our lady folks claim to be cousins, it's proper to say I'm your cousin John, isn't it?"

"Cousin Elizabeth?" gasped Elmer, who felt that she, and his mental picture of her, had deserted him.

"Is my wife, but I'm so busy I call her Beth mostly on week days. Are you ready? The team is restless, standing in the cold."

Born and reared since automobiles became a matter-of-course method of travel in Chicago, Elmer had never ridden behind horses before and as the well matched boys left the middle of houses behind, and swung out on the smooth country road, he experienced a novel sensation.

"My, but it's queer!" he cried, "Riding like this, and no houses hardly, and the sunsets! Why it spreads clear across the sky, and see those men cutting trees. Why do they cut them so high and leave one every little way?"

"That's hedge, Elmer. You see they leave a tree every few rods for a post; the hedge is a fence for the field. They are making posts and firewood of what is cut."

"Hedge makes good trees then, Cousin John, if they get all that and still leave it for a fence."

John Linsey laughed. "No, I don't like hedge very well. Years ago when all this country was wind-swept and bare, it must have been a relief to see the hedge-rows, but we find that it is a poor fence for pasture. It saps the moisture from fields and blocks the road with snow, and once started, it's next to impossible to get rid of it. We find that evergreens look better and make better shelter."

Elmer felt free to ask about everything they saw along the road, for his cousin answered all his questions fully and clearly and even pointed out things he hadn't noticed. So by

the time they had travelled the three miles, Elmer felt better acquainted with this clear-eyed young farmer he had never seen or heard before than he did with his own father.

"Here's home at last," said John as they turned down the lane that led to the house and farm building. "And I hope that you will feel at home here, Elmer."

The white farm house Elmer saw before him was not large, but he thought it must be very roomy for just one family to live in.

"We'll put the horses in the barn and hurry in, for I know you're tired and cold, too. That house will burst if it has to hold in much longer the welcome that's waiting for you."

In a few moments Elmer followed Cousin John up the walk. As they reached the porch the door swung open and Elmer found himself the dazed center of a greeting group that gradually dissolved into a curly headed two-year-old known as "Baby Jack," two little girls of eight and ten, with sparkling blue eyes like Cousin John's, and a plump brown-eyed little woman with pink cheeks and dimples, who hugged and patted Elmer, but respected the dignity of



The First Spring Day.

The little lad in the illustration has been adopted on a Durham County farm. This is his first year on the farm. The water was too cool for him to swim, but he was bound to have a ride anyway.

fourteen and didn't kiss him. And Cousin John, she was the much dreaded Cousin Elizabeth.

### CHAPTER II.

#### A Real Home Life.

"Supper's all ready! John, show Elmer where to wash, will you? Jean, dear, you can be Jackie's bib. Dorothy, come help mother get supper on the table." In a moment Cousin Elizabeth had the household machinery moving smoothly.

When they were all seated about the cheerful table, Elmer thought he had never enjoyed a meal so much in all his life and indeed one could

hardly have suited a boy better. There was fried chicken and lots of gravy and mashed potatoes, fluffy hot biscuits, butter and jelly, pumpkin pie and peaches-and cream—all raised and prepared on the farm. Yet such a feast Elmer had never known in all his fourteen years, and the fact that the rich cut glass and dresden to which he had been accustomed were replaced by plain white dishes and a cheerful red and white checkered cloth increased rather than diminished his pleasure in the meal.

Supper over, he accompanied John to the barnyard, for he was too shy to stay with Cousin John and the children, and although he had no idea of what chores meant or how they were done, he offered to help.

"Why, yes!" said his cousin. "You can feed the hogs. See, the corn is here in this crib; lift this board and the shelled corn runs down the spout into their trough."

Elmer lifted the board from the groove, but when the trough was half full, as Cousin Jack had directed, he couldn't replace the board, try as he would. The corn ran in a steady stream and at last Elmer had to call for help.

"My fault," comforted John when the board was in its proper place. "I told you only half of the job. I guess the pigs won't find fault with you. They'll be wanting you to feed them every time."

"I'll do it, too," said Elmer stoutly.

"Now what?"

"We'll let down the bars and drive in the cattle."

Elmer was puzzled again. What kind of bars could they have on a farm, and did Cousin John actually drive oxen? He supposed that practice had been ended years ago. He soon found that the bars were harmless and had no place in a saloon and that cattle and horses nowadays very much like a street car conductor hurries his passengers.

After having to be shown what the hay mow was, and making what he thought was an "awful mess" of tossing down some of the hay, he was a "perfect green" when it came to doing something that really helped, but Cousin John reassured him.

"You will pick up farm ways fast. I am sure," he said. "I keep hired men through the summer, but he is working with a saw mill over to Deer Creek and it keeps me busy to do all the chores about the place."

Back in the house the supper dishes were all put away, the lamp was burning brightly and the little girls were pulling a game board from behind the lounge. "Come play croquette with us," Cousin Elmer, cried Dorothy while Jean got the rings and arranged the chairs.

Elmer hadn't an idea how to play. There were no games in his city home and those he had played were learned from his street companions, but with Cousin Elizabeth to show him and merry Dorothy for a partner, he won enough to make it interesting for Jean and her father, and was surprised when Cousin Elizabeth exclaimed, "Nine o'clock! To bed with all of us! I know Elmer is tired and you girls won't feel like getting up in the morning. Go on daughters and mother'll come and tuck you in, soon as she shows Elmer his room."

The Linsey farmhouse was only a story and a half high so the ceiling of Elmer's room was sloping on one side and the furnishings were very plain; yet to the boy who had never had a real home of his own, it seemed the most complete in the world, for it was so clearly arranged for a boy and to suit boyish tastes. The windows were curtained with turkey red and the window seat, too. Under this was ample room to stow the belongings that every boy accumulates.

The dresser, really an old-fashioned bureau, wasn't littered with silver

toilet articles, but it and all of its plain furnishings were for his use, bookcase partly filled with the old John and Elizabeth wisely gathered would be new to Elmer. Two pictures, one a copy of Landseer's "Man Arch of the Glen," and the other a gaily colored hay-making scene, capriciously the furnishings save for a bright rag rug and a gay coverlet spread.

"This is to be your own room to do as you like in and to bring your friends here. We hope you will be very happy here, Elmer. Good-night!" and almost before he knew it Cousin Elizabeth had pressed a kiss upon his cheek, given him a kiss upon the forehead and had gone.

To the boy the years of sudden understanding seemed to melt in that kiss and the fire of ambition and



A Centre of Attraction.

The illustration herewith shows a well swung on the lawn of Mr. Geo. E. De Witt, Waterloo, Ont. This swing will hold a regular and goes around so swiftly that one has to make quite an effort to stick on. Mr. Barrie's large lawn is frequently the scene of the best meetings, garden parties, etc., and the swing is always a popular attraction.

self-reproach to kindly, but he was very tired and the fat feather bed was very inviting, so it was no time for musing.

It seemed not more than five minutes when he was awakened by a peal of girlish laughter floating up from the kitchen below. The sun was shining across his bed. Cousin John was turning out the cows and Cousin Beth with Jackie at her heels was feeding her large flock of yellow biddies. Hastily donning his oldest and heaviest clothes Elmer hurried down. It was Saturday morning so the girls held full sway in the cheerful kitchen.

"Come in," cried Betty Jean. "Will you play at a restaurant or I take your order and Dorothy'll be cook. You can order anything you want if it's what we've got."

With a sniff and a glance at the stove, Elmer ordered hot cakes and sausage and some kind of breakfast food, "oatmeal he guessed," and his delighted waitress filled the order in no time. To be in a home with other children was a pleasant novelty to lonely Elmer and he was more ready to enter into their play and game than boys of his age who were so accustomed to it and generally thought girls "bad boys."

"Who wants to help hand straw?" cried a gay voice above the clutter. An instant's hush, then a wild scramble and a race for the barn. After hauling the straw they helped Dorothy haul up fodder and in the afternoon Elmer and Cousin John got up wood. Mr. Linsey pointed out so many interesting things about the trees and the peculiarities, the squirrels whose winter nests they saw as they flock of noisy crows, as they ran home beneath the gray snow all threatening sky.

(Continued next week.)

July

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**THE UPWARD LOOK**

Power in Prayer

"I abide in me, and my words abide in you, ye shall ask what ye will, and it shall be done unto you." - John XV, 7.

Prayer is both one of the means and one of the fruits of union to Christ. As a means it is of unspeakable importance. All the actings of faith, all the pleadings of desire, all the yearnings after a fuller surrender, all the confessions of sin and of sin, all the exercises in which the soul gives up self and clings to Christ, find their utterance in prayer. In each meditation on Abiding in Christ, as some new feature of what Scripture teaches concerning this blessed life is apprehended, the first impulse of the Father is at once to look up to the believer and pour out the heart into His, and ask from Him the full understanding and the full possession of what He has been shown in the Word. And it is the believer, who is not content with this spontaneous expression of his hope, but who takes time in secret prayer to wait until he has received and laid hold of what he has seen, who will let God grow strong in Christ. However feeble the soul's first abiding, its prayer will be heard, and it will find prayer one of the great means of abiding more abundantly.

To the Christian who is not abiding wholly in Jesus, the realities connected with prayer are often so great as to rob him of the comfort and the strength it could bring. Under the guise of humility, he asks how one so unworthy could expect to have influence with the Holy One. He thinks of God's sovereignty, His perfect wisdom and love, and cannot see how his prayer could be heard. But what a blessed release from such notions and perplexities is given to the soul who is truly abiding in Christ! He realizes increasingly how it is in the real spiritual unity with Christ that we are accepted and heard. The union with the Son of God is a life union: we are in very deed one with Him - our prayer ascends as His prayer. It is because we abide in Him that we can ask what we will, and it is given to us.

There are many reasons why this must be so. One is, that abiding in Christ, and having His words abiding in us, teach us to pray in accordance with the will of God. With the abiding in Christ our self-will is kept down, the thoughts and wishes of nature are brought into captivity to the thoughts and wishes of Christ; like-mindedness to Christ grows upon us, our working and willing become transformed into harmony with His. There is deep and oft-renewed heart-searching to see whether our own desires are in the entire; fervent prayer to the searching Spirit that nothing may be kept back. Everything is yielded to the power of His life in us, that it may exercise its sanctifying influence even on ordinary wishes and desires. His Holy Spirit breathes through our whole being; and without our being conscious how, our desires, as the breathings of the Divine life, are in conformity with the Divine will, and are fulfilled. Abiding in Christ renews and sanctifies the will: we ask what we will, and it is given to us.

In close connection with this is the thought, that the abiding in Christ teaches the believer in prayer only to seek the glory of God. In promising to answer prayer, Christ says, "that He will glorify the Father." In His intercession on earth (John xvii), this was His one desire and plea, in His Intercession in heaven, it is still His one desire, that the believer abide in Christ, the Savior, breathes this desire into him and the

thought. Only the glory of God, becomes more and more the keynote of the life hid in Christ. At first this subdued, and quiet, and makes the soul almost afraid to dare entertain a wish, lest it should not be to the Father's glory. But when once its supremacy has been accepted, and everything yielded to it, it comes with mighty power to elevate and enlarge the heart, and open it to the vast field open to the glory of God.

Once more, abiding in Christ, we may fully avail ourselves of the name of Christ. Asking in the name of another means that that other authorized me and sent me to ask, and wants to be considered as asking himself: he wants the favor done to him. Believers often try to think of the name of Jesus and His merits, and to argue themselves into the faith that they will be heard, while they painfully fast how little they have of the faith of His name. They are not living wholly in Jesus' name; it is only when they begin to pray that they want to take heed that name and use it. This cannot be. The promise "whatsoever ye ask in my name," may not be severed from the command, "whatsoever ye do, do all in the name of the Lord Jesus." If the name of Christ is to be wholly at my disposal, so that I may have the full command of it for all I will, it must be because I first put myself wholly in His disposal, so that He has free and full command of me. It is the abiding in Christ that gives the right and power to use His name with confidence. To Christ the Father refuses nothing. Abiding in Christ, we come to the Father as one with Him. His righteousness is in me, His Spirit is in me; the Father sees the Son in me, and gives me my petition. It is not as so many think - by a sort of imputation that the Father looks upon us as if we were in Christ, though we are not in Him. No; the Father wants to see us living in Christ, so that our prayer really have power to prevail. Abiding in Christ not only renews the will to pray aright, but secures the full power of His merits to us.

Again, abiding in Christ also works in us the faith that alone can obtain an answer. "According to your faith be it unto you": this is one of the laws of the kingdom. "Believe that ye receive, and ye shall have." This faith rests upon, and is rooted in the Word; but is something infinitely higher than the mere logical conclusion: God has promised, I shall obtain. No; faith, as a spiritual act, rests upon the words abiding in us as living powers, and so upon the state of the whole inner life. Without fasting and prayer (Mark iv, 23) without humility and a spiritual mind (John vi, 45) without a whole-hearted obedience (1 John iii, 22), there cannot be this living faith. But as the soul abides in Christ, and grows into the consciousness of its union with Him, and asks how arightly it is He who makes it and its petition acceptable, it dares to claim an answer because it knows itself one with Him.

Abiding in Christ, further, keeps us in the place where the answer can be bestowed. Some believers pray earnestly for blessing; but when God comes and looks for them to bless them, they are not ready. They never thought that the blessing must not only be asked, but waited for, and received in prayer. Abiding in Christ is the place for receiving answers. Out of Him the answer would be dangerous, - we should construe it on our lusts (Jas. iv, 3). Many of the richest answers - say for spiritual grace, or for power to work and to bless - are obtained only in the shape of a larger experience of what God makes Christ to us. Believer, abide in Christ, for there is the school of prayer - mighty, effectual, answered prayer. Abide in Him, and thou shalt learn what to so many is a mystery: That the secret of the prayer of faith is the life of faith - the life that abides in Christ alone.

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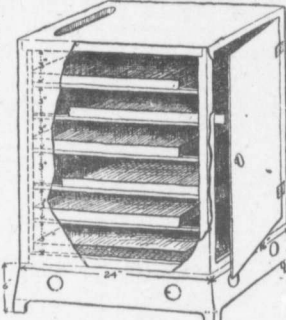
### A Drying Apparatus

In a recent issue of Farm and Dairy we published an article relating to the drying of fruits and vegetables. Since the publication of that article some of Our Women Folk have written us asking for more information concerning equipment for drying, etc. Probably it is wiser to can the most of our fruits and vegetables if one has an ample supply of jars, but no doubt many will have an extra supply this year, particularly of vegetables, and in order that none may be wasted, these may be dried. Drying may be accomplished in an oven, in trays or racks over the kitchen stove, or in a specially constructed drier. Any piece of homemade apparatus that provides means for free circulation of air and for regulating the temperature is likely to prove satisfactory. A device with metal sides that will confine the heated air in a given channel during its upward course through the trays of food, uses heat economically.

A drier that can be used on a wood or coal range or a coaloil stove, may be easily and cheaply made according to the following specifications from the United States Department of Agriculture, a diagram of which appears herewith:

The dimensions of the base are 24 by 16 inches; the height is 36 inches. A base six inches high is made of galvanized sheet iron. This base slightly flares toward the bottom and has two small openings for ventilation in each of the four sides. On the

base rests a box-like frame made of one or one-and one-half inch strips of wood. The two sides are braced with one and one-quarter inch strips which serve as cleats on which the trays in the drier rest. These are placed at intervals of three inches. The frame is covered with tin or galvanized sheet iron, which is tacked to the wooden strips of the frame. Thin strips of wood may be used instead of



A Homemade Drier.

tin or sheet iron. The door is fitted on small hinges and fastened with a thumb latch. It opens wide so that the trays can be easily removed. The bottom is the drier is made of a piece of perforated galvanized sheet iron. Two inches above the bottom is placed a solid sheet of galvanized iron, three inches less in length and width than the bottom. This sheet rests on two

wires fastened to the sides of the drier. This prevents the direct heat from coming in contact with the product and serves as a radiator to spread the heat more evenly.

The first tray is placed three inches above the radiator. The trays rest on the cleats three inches apart. A drier of the given dimensions will hold eight trays. The frame of the tray is made of one-inch strips on which is tacked galvanized screen wire, which forms the bottom of the tray. The tray is 21 by 15 inches, making it three inches less in depth than the drier. The lower tray when placed in the drier is pushed to the back, leaving the three-inch space in front. The next tray is placed even with the front, leaving a three-inch space in the back. The other trays alternate in the same way. A ventilator opening is left in the top of the drier through which the moist air may pass away.

The principle of construction is that currents of heated air pass over the product as well as up through it, gathering the moisture and passing away. The current of air induces a more rapid and uniform drying. The upper trays can be shifted to the lower part of the drier and the lower trays of the upper part as drying proceeds, so as to dry products uniformly throughout.

### Why Farm Women Should Organize

As a result of the recent gathering of farm women in Toronto to discuss the advisability of organizing a women's section of the W.F.O., a report of which appeared in a recent issue of Farm and Dairy, we have received an interesting contribution from one of our readers, signing herself "Justice." She states in brief and

practical form, several reasons why farm women should organize and become the Women's Section of the W.F.O. or the United Farm Women of Canada (or Ontario). The reasons are enumerated as follows:

First: To create greater interest in the work that we are engaged in, for as farm women we are not interested in all the operations of the farm in order to make it a success.

Second: Our U. F. O. Clubs will become very much stronger when the women attend the meetings with their husband, to discuss problems of interest and importance to the movement.

Third: That women feel most keenly the injustice of the position which the disorganized condition of the farming industry happens to be in at this time of world crisis; perhaps even more keenly (if possible) than the men do.

Fourth: That the movement to reorganize farm women is national, and the strength of the movement will depend upon two things: the number of its supporters, and the character and ability of those who are the supporters.

Fifth: Because farm women have to work harder and longer hours with less remuneration for their labor than any other women in the world. Manufacturers, as a class, (barring the farmers), have all organized for the benefit of their own homes, and the time is now ripe for the farmers and their wives to stand out for their own homes as well as for their own provinces. In unity there is strength, so let us all pull together in the sweet spirit of helpfulness, with the one great object in view, that of the betterment of farm conditions.

Sixth: With the promise of the franchise in view we must study a great deal more than we have ever done. We must study the present government and see for ourselves just where and how it can be made to serve us better.

We must read and remember everything that the Provisional or Dominion governments are doing, and also what the manufacturers and labor unions have done. Only by educating ourselves along these lines will we ever make the most of our organization. By organizing with our husbands and sons we can use our ballots to support the farmers' platform, and by our united effort throw off the yoke of slavery and raise the standard of farm life to a higher level. We do believe that agriculture is the greatest among the arts. It is first in supplying the necessities of life, it creates and maintains manufactures, gives employment to navigation and materials to commerce. It animates every species of industry and opens to us the surest channels of affluence. It is also the strongest basis of well-regulated society, the surest basis of internal peace, and the natural associate of good morals.—Justice.

The wild cucumber is the most rapid growing annual vine for covering a trellis or fence.

### Plagiarism

WHEN Mark Twain was living in Hartford, Conn., where Dr. Doane, an Episcopal church, he went to hear one of the clergyman's best sermons. After it was over, Mark approached the doctor and said politely:

"I have enjoyed your sermon this morning. I welcomed it as I would an old friend. I have a book at home in my library that contains every word of it."

"Why, that can't be, Mr. Clemens," replied the rector.

"All the same, it is so," said Twain. "Well, I certainly should like to see that book," rejoined the rector with dignity.

"All right," replied Mark: "you shall have it." And the next morning Dr. Doane was faced with Mark Twain's compliments' dictionary.



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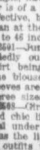
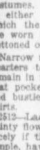
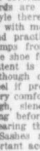
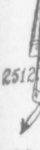
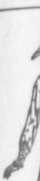
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Some Hints on Shoes and Girdles

Farm and Dairy patterns shown in these columns are especially prepared for our Women Folk. They can be relied upon to be the latest models and include the most modern features of the paper pattern. When sending your order please be careful to state bust or waist measure for adults, for children, and the number of the pattern described. Orders are filled within one week to 10 days after receipt. Price of all patterns to Our Women Folk, 10 cents each. Address orders to Pattern Dept., Farm and Dairy, Peterboro, Ont.



**N**EAT footwear is always an important part of the costume, and especially so in summer when wearing light dresses. Pumps have been very popular for several seasons, but this summer oxfords are receiving the preference. In style there's the oxford with a low heel or with modified Cuban heel for walking and occasional wear. Then the oxford jumps from the "for service" style to the shoe for more dressy occasions. All patent is very modish with high heels, although one can still secure the lower heel if preferred. The medium heel is very comfortable, much more so than the high, slender one, and it may not be long before the majority of us will be wearing this style of heel altogether.

Skirts and wide waives are an important accessory of many of the newest costumes. The wide crushed styles made of either ribbon or the material from which the dress has been constructed, are worn twisted around the waist and buttoned on either side.

Narrow skirts of about one and three-quarters to two yards in width are to remain in favor for summer and autumn. Flat pockets, inset pockets, loose panel and bustle draperies are shown on the skirts.

**2512—Lady's Dress**—One of the many dainty flared materials would make up nicely if this model was followed. It is simple, having an overskirt, and the collar is of a fichu effect. The skirt is also effective, being wider in the center front than at the back and sides. Seven sizes; 34 to 46 inches bust measure.

**2511—Junior's Dress**—This style is decidedly out of the ordinary, the overskirt being attached to a yoke effect. The blouse, too, is also unique. Short sleeves are loose and comfortable looking. This size: 12, 14 and 16 years.

**2501—Girl's Dress**—Is this not a quaint and little costume? If desired, several more blouses might be made, and thus the little lady would have a variety of outfits with the same skirt and over blouse. Four sizes; 4, 6, 8 and 10 years.

**2502—Dress for Misses and Young Wo-**

men.—Those of our Women Folk who are looking for a simple costume, and are small enough to use this style, will, no doubt, find it suitable for their needs. The trimming on this dress consist of lace and insertion. Three sizes: 16, 18 and 20 years.

**2505—Lady's Apron**—A cool, comfortable working outfit for the hot summer days is here shown. A pleasing feature of this apron is that it is not loose and flapping, but is drawn in to fit the waist line by the belt across sides and back. The way in which pockets and belt are connected is also unique. Four sizes: small, medium, large and extra large.

**2504—Lady's Sport or Cutting Blouse**—This blouse is very much after the style of the popular coat smock, which is receiving so much publicity this summer. The large collar, loose slash and pockets are the style features of this blouse. It fastens at the side front. Seven sizes; 34 to 46 inches bust measure.

**2143—Child's short Christmas Suit**—The mother who is looking for a number of patterns from which to make a set of short clothes for the baby, will be interested in this set of dress, petticoat and combination. Five sizes; 1, 2, 3, 4 and 5 years.

**2486—Boy's Suit**—A suit fashioned after this style will make the young lad in the home look like a real boy. Notice the smoothing on each side of the front to make a slight fulcrum. The trousers, too, are neat and well looking for summer. Four sizes; 2, 4, 5, and 6 years.

**2144—Lady's House Dress**—A house dress that opens front up to the neck makes the laundering of it a simple matter, especially when it comes to the ironing board. This dress has yoke in both back and front of waist portion and will therefore wear well. Four sizes; 34 to 46 inches bust measure.

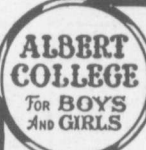
Do not forget when sending in your patterns, orders to take advantage of our catalogue offer. An additional 10 cents your order, 2, 4, and 6 years, entitles to the bonus of one of our Folks.

You may be deceived

some day by an imitation of



and possibly you will not detect this imitation until the tea-pot reveals it. Demand always the genuine "Salada" in the sealed aluminum packet, and see that you get it, if you want that unique flavour of fresh, clean leaves properly prepared and packed.



**ALBERT COLLEGE**  
FOR BOYS  
AND GIRLS

**ALBERT COLLEGE** is more than a school—it is a home, where men and women are educated, trained and prepared to make full use of their talents and fit themselves for successful futures.

Everything that a good college calls for is found in Albert; and added to all is the uplifting and refining influence which comes from association with **FULL COURSES UNDER COMPETENT TEACHERS** in Literature, Music, Art, Expression, Theology, Physical Culture, Stenography, and Commercial.

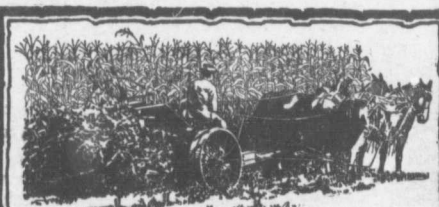
**\$100 Scholarship in Agriculture open to either sex**

Write for Information or College Calendar to **H. W. BAKER, M. A., D.D., Principal, Albert College, Belleville, Ont.**

**BRINGING IN THE CASH**

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

**Book Dept. FARM AND DAIRY Peterboro**



**Corn Harvest Help**

**WHEN** you are wondering where on earth you will get help to cut or husk your corn this fall, remember this:

A Deering corn binder, with one or two men to handle the job, will cut five to seven acres a day, bind the corn into neat, easily handled bundles, and load them on a wagon to be hauled to ensilage cutter or husker and shredder.

When you use a corn binder, you get all the crop. The same help that planted and cultivated your corn can harvest it, at the right time, and at the lowest possible expense.

Deering corn binders furnish the best kind of corn harvest help. There may be enough of them to go around this fall, but if you want to be sure of having your machine in time, place your order with the local dealer, or write to the nearest of the branch houses named below for full information, as soon as you can.

**International Harvester Company of Canada, Limited**

BRANCH HOUSES

**WEST**—Brandon, Man., Calgary, Alta., Edmonton, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

**EAST**—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

## It costs less to buy an ALPHA GAS ENGINE than to do without one

If you have no engine, you are obliged to hire one whenever you have work to do that requires power.

After you have paid for the use of the engine you have nothing to show for your money except the work that has been done.

The money you now have to pay for hiring a power outfit, and the much greater amount of work you could accomplish if you had an engine of your own, would soon pay for an Alpha.

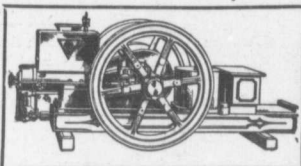
In other words, whether you purchase an Alpha or not you are actually paying the cost of one, and you might better have the engine.

The usefulness of the Alpha does not end with doing only work which absolutely requires power. You can use it to do a lot of things that now have to be done by hand, such as running the separator, churn or washing machine. An Alpha will save you and your wife a good many hours of hard work.

An Alpha would do quickly and economically a great number of things that are now costing you far too much in money, time and labor.

There are any number of good reasons why the Alpha is the most satisfactory engine you can use. Among these reasons are that it is always dependable, always ready; it is so simple your boy can operate it, and it requires a minimum of fuel—either gasoline or kerosene.

Write for our illustrated gas engine catalogue.



## THE DE LAVAL COMPANY, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Siles. Alpha Gas Engines, Alpha Churns and Butterworks. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER  
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Time is money. Save it using the Automatic Churn. One is used no other will appeal to you.

## Greatest Labor Saving Invention of the Age

For the Farm and Private Home

This wonderful Automatic Churn makes perfect butter in from one to three minutes.

Most sanitary churn in the world. Nothing but glass touches the cream. No dashers, paddles—whisks, etc. Self-cleaning in 10 seconds. No corners, cracks or crevices to scrub. Operates with a slight pressure of finger. No strength or power required—vibration of steel springs does the work. A child can operate this churn successfully.

You should investigate this marvellous time, trouble free and labor-saving churn. Write to-day for free descriptive literature. Don't wait—get posted NOW.

FREE THE HAMILTON AUTOMATIC CHURN CO.  
415 King William Street Hamilton, Ont.

## Protection and Profit

When money is in a Savings Account in The Merchants Bank, it is absolutely safe from loss, as far as you are concerned. All the time it is here, it is earning interest—so that the bank actually pays you to let it take care of your money. Don't carry unneeded sums on your person or hide them at home. Protect them against loss, theft and fire by opening a savings account.



## THE MERCHANTS BANK

Head Office: Montreal OF CANADA Established 1864.

with 163 Branches in Ontario, 31 Branches in Quebec, 19 Branches in Manitoba, 21 Branches in Saskatchewan, 21 Branches in Alberta, and 8 Branches in British Columbia serves Rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

## Field Sport at Farmers' Picnic

(Continued from page 11.)

Football—Westwood vs. Warsaw, 1-0 in favor Warsaw.  
Boys' race under 15 years—First, Ralph Knox; 2nd, Ray Killen.  
Girls' race under 15 years—1st, Gladys Quaker; 2nd, Laura Wood, 100 yards dash—John McCall, George Heffernan.  
220 yards dash—George Heffernan, Harold Darling.  
Tug of war—Westwood.  
Pole Vault—George Heffernan, Harry Reed.

Running Hop Stop—George Heffernan, 35' 11"; John McCall, 33' 10".  
Running Broad—George Heffernan, 17' 3"; John McCall, 17' 3".  
Standing Broad—George Heffernan, 8'; John McCall, 8' 9".  
Running High Jump—Fred Hall, 4' 6 1/2"; George Heffernan, 4' 6".  
—H. A. Knox, Peterboro Co., Ont.

At the convention of the United Farmers of Ontario in Toronto on June 7 and 8, the following resolution was unanimously carried: "That there shall be no amalgamation of Canadian Banks unless it is clearly shown by the Minister of Finance in Parliament that one of the banks is becoming insolvent and unable to carry on its business."

Mr. C. C. Chauvin, of Essex Co., Ont., reports that the U. F. O. meeting on June 26, in Sandwich East, held to hear the reports of the delegates to the great convention in Toronto on the seventh, was most encouraging, about 50 joining and paying their dues. "By the enthusiasm shown," said Mr. Chauvin, "I think the club is going to be a great success."

## Sunday Delivery of Milk

All of the condensing factories in south-western Ontario have been requiring their patrons to deliver milk on Sunday during the hot weather, except the Borden Company at Tintonburg. This factory has now notified its patrons that they too will require Sunday delivery. Dissatisfaction has been expressed by a few farmers who believe that the Sabbath day should be observed, but the big percentage will follow instructions.

## The Makers' Corner

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

## Ice Cream Manufacture

By Prof. H. M. Dean.

GREAT many inquiries have recently come to the Dairy Department of the O. A. College regarding the new regulations for the Canada Food Board with reference to the manufacture of ice-cream, and also, as to methods of testing ice-cream for fat.

Order No. 34, section 8, issued by the Canada Food Board reads: "On and after May 1st, 1911, no person in Canada shall use in the manufacture of ice-cream more than 10 per centum of fats, whether of animal or vegetable origin; or more than six pounds of cane sugar to eight gallons of ice-cream."

As a result of recent investigations made in the Dairy Department of the O. A. College, by Messrs. McMillan, Parritt, and Miss Millar of the Dairy Staff, we can recommend the following formula or recipe, for a batch of mix which will produce about eight gallons of plain ice-cream of good quality and which can come within the regulations as laid down by the Food Board: "Six and one-half lbs. (4 1/2 gallons) cream testing 13 per cent fat.

1 1/2 lbs. Bicarbonate powder.

6 lbs. cane sugar—1 1/2 lbs. sugar may be replaced with 2 lbs. corn syrup.  
4 ounces vanilla extract.  
5 ounces gelatin dissolved in 6 lbs. (4 1/2 gallons) skim milk.

The cost of the ingredients in this formula will range from 53 to 67 cents, buying in small quantities. If bought wholesale, the cost would be less.

If whole milk and cream are used, mixing equal quantities of these would produce an ice-cream testing not over 10 per cent fat, assuming that the milk and cream were of average fat content—3 and 18 to 20 per cent fat respectively.

## Methods of Testing for Fat

It is necessary for the ice-cream manufacturer to test his ice-cream occasionally to guard against any errors in standardizing methods. Ice-cream cannot be tested for fat in the same way as the ordinary cream, on account of the large percentage of sugar which it contains. The following methods will give satisfactory results if carefully carried out:

1. The Glacial Acetic Acid and Hydrochloric Acid Test: A representative sample of the ice-cream is taken and melted and thoroughly mixed; a nine-gram sample is weighed into a 18-gram Babcock cream test bottle. A mixture is prepared using equal parts of glacial acetic acid and concentrated hydrochloric acid. Twenty cubic centimeters of this acid mixture is added to the nine-gram sample of ice-cream in the test bottle and is then all well shaken. The bottle is placed in a water bath of 120 degrees F. to 126 degrees F. and shaken at intervals until a brown color appears. It is then placed in the Babcock centrifuge and the test completed in the same way as for testing cream in the same way as multiplied by two.

2. The Sulphuric Acid Test: To make the test with sulphuric acid, a nine-gram sample is weighed into a 18-gram test bottle. About nine cubic centimeters of lukewarm water is then added to dilute the sample. In order to have about the same percentage of mixture in the bottle. The sulphuric acid is then added slowly, a little at a time, at minute intervals, shaking well after each addition until a chocolate brown color appears in the bottle. A definite amount of acid can be stated as the quantity will vary with different ice-creams. As soon as the chocolate brown color appears in the ice-cream, a little cold water may be added to check the action of the acid. The bottle is then placed in the centrifuge and the test completed in the usual way. The reading is multiplied by two.

3. Acetic and Sulphuric Acid: Weigh a nine-gram sample of ice-cream that has been thoroughly mixed. About nine cubic centimeters of water is added to dilute the sample. Add five cubic centimeters of acetic acid, then add carefully six to eight cubic centimeters, sulphuric acid. Centrifuge and then add water the same as in other tests. If used in a 18-gram bottle, multiply the reading by two, to obtain the per cent. fat in the ice-cream. A nine-gram bottle which is graduated to give the percentage of fat directly needs no correction when reading.

One way of competing with oleomargarine is to improve the quality of butter.—Dr. G. L. McKay.

Pay for cream on grade and the quality of butter will improve immensely.—Dr. G. L. McKay.

An Irish soldier had just lost an eye in battle, but was allowed to continue in the service on consenting to have a glass eye in its place. One day, however, he appeared on parade without his artificial eye.

"Nolan," said the officer, "you are not properly dressed. Why is your artificial eye not in its place?" "Sure, sir, 'e rapped Nolan. 'I let it in me but 'e rapped an eye on me 'tille 'e was on parade."

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STERILIZING

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## What Causes Sterility in Cows?

How it May be Treated—By Dr. F. W. Caldwell, Missouri College of Agriculture

**S**TERILITY or barrenness is becoming alarmingly prevalent in dairy and beef cows and this is particularly true with the higher bred herds. When occurring in grade cows sterility does not necessarily represent a serious loss, but when it occurs in pure-bred animals that have been developed for breeding purposes it assumes more serious proportions.

Sterility may result from a variety of causes. Consideration will be given here only to the more common and more easily prevented or remedied conditions. Barrenness is most common to a diseased or inflamed condition of either the vagina, the neck of the womb, of the womb or its horns, or of the ovaries, or of several of these conditions combined. Discharge of the ovaries may take the form of inflammation or degeneration with the formation of cysts or retained bodies (sometimes called yellow bodies). When sterility occurs in a heifer that has never been pregnant the causes just mentioned may not be present. In these cases the causes are more often physiological rather than due to diseases.

### Bacteria are Responsible.

The causes that may operate to bring about the inflammation or diseased conditions mentioned may be various, but are essentially the same. Inflammation of the organs of generation is due to infection with bacteria or germs. These bacteria in almost all cases gain entrance to the organ or parts at the time the cow calves or aborts. They may be introduced by infected instruments or dirty hands, or more frequently as a result of the cow falling to "clean" and being decomposed in the retained afterbirth. It is commonly observed that sterility is more common in aborting herds than in healthy herds, and some have attributed this to the abortion disease. However, it is probable that the rather transient inflammation produced by the contagious abortion presents a very favorable channel of infection by other bacteria which in turn produce a more serious as well as a more persistent inflammation. Also, it is observed that in outbreaks of contagious abortion the retained afterbirth is of very much more frequent occurrence than in herds not infected with this disease. As has been mentioned, retained afterbirth is rapidly invaded with a great variety of bacteria which cause the afterbirth to decompose. This decomposing tissue in contact with the mucous membrane lining the womb exerts a very irritative action and presents the best possible condition for infecting that organ and producing a more or less persistent inflammation.

During a normal parturition or an abortion, the neck of the womb is widely dilated. In a short time after, however, this neck begins to close and after a few days it again quite tightly contracts. Should all or a part of the afterbirth still remain in the womb at that time, or should there be discharges present, these may be discharged in the water of the next calving, thus preventing the death of the animal at once will prevent a condition very unfavorable for conception.

### Prevention of Sterility.

It is notably due that sterility in cows is largely due to disease of the organs of reproduction, that these should be kept in the best condition of inflammation, that the inflammation is turned due to infection or "poisoning" with bacteria, and that the infecting bacteria make their appearance as a result of unclean or dirty conditions.

The problem then of preventing sterility is largely a matter of cleanliness, of sanitation and of general

way and also applied directly to the function of parturition, and of sexual hygiene. The same may be said as a part of the above we have also control of contagious abortion or the exclusion of the disease from our herd if not already present.

Farm sanitation is a subject that has not been given as much consideration as its importance demands, and this is particularly true in regard to the function of reproduction. Sterility is but one of a number of conditions which may result from unsanitary surroundings. Contagious scouring is spread largely as a result of this neglect. Infection of the navel with the accompanying peritonitis, joint-ill, and scours have the same origin.

Sanitary precautions that should be observed as related to the prevention of sterility consist in providing a clean, well lighted, well bedded stall where cows may calve, and one that will permit of freedom of circulation. It is next to impossible to disinfect some stables and the successful breeder is going to give this phase of his operations the most consideration in the future. All dead animal matter, such as dead animals and "calf beds," should be destroyed by burning.

### Assistance at Calving.

Should the cow require assistance in calving it will usually be found desirable to depend upon a veterinarian. Irreparable injury is often done at this time by misdirected efforts, and unless one has a wide and varied experience it very often proves very expensive in the end to call for assistance be offered without regard to cleanliness. The tail, vulva, and quarters should be thoroughly washed in the case of a cow about to calve or other disinfectant, the vagina should be washed out with a two per cent. solution of table salt, and the hands should be thoroughly washed in hot water. In the case of a cow about to calve, the vagina should be washed with lysol solution before making an examination. Disinfectant solution in abundance should be available to maintain clean in case they become contaminated. Only clean, bright instruments that have been sterilized should be used, and in no case should one use rusty instruments or ropes that have served a previous cow. New cotton rope is preferable to harsh sisal or hemp rope. Following parturition, either normal or when assistance is given, or following an abortion, the afterbirth should be removed as noted later and the womb thoroughly washed out with a solution, mild and strong, to 3,000 solution of permanganate of potash may be used or a two per cent. solution of table salt. This flushing of the womb should continue daily until all discharge has ceased and the womb has closed.

Objections may be raised to this procedure on the ground that it has not been followed in the past and in many cases the fact in the matter of case, no unfavorable conditions have resulted. While this fact is admitted attention is called to the loss of cows due to septic metritis, to the loss of flesh, and to the milk flow that often follows infection, to the cases of sterility, and to the fact that these conditions are largely due to the infection of the genital organs at this time, and the procedure as outlined above will do much to lessen the chances of infection and thus reduce the number of these cases.

In the same manner, however, we have the most frequent cause of infection of the womb with the resulting sterility. Its removal should properly be left to the veterinarian as he is specially trained in the matter of work and is able to make use of a wider, more varied experience and to adopt special methods with which the

farmer is not familiar. Also, an understanding of the anatomy of the parts involved is a great assistance and the importance of having the operation completely and thoroughly done as well as with the greatest care that may be indicated, can not be over emphasized. Likewise some common practices in connection with the removal of the afterbirth should be vigorously condemned.

### Treatment of Sterility.

It has been the common practice in the past in cases where cows fail to breed to simply sell the animal for beef. When the value of the animal or of the proceeds of the sale does not justify incurring considerable additional expense, this is probably the best practice. However, in cases of pure-bred animals kept for breeding purposes, such sacrifice should be made. Most cases of sterility are amenable to treatment and the earlier treatment is instituted the better are the chances for recovery. Since a thorough knowledge of the anatomy of the parts involved and the possession of a highly developed sense of observation are essential, a thorough knowledge of the possible pathology of the disease and its amenability to treatment, it is not wise to attempt treatment without the assistance of fully qualified veterinary aid. Attempted treatment otherwise usually means misdirected effort and a postponement of treatment under a qualified veterinarian, as has been said, treatment should be commenced early.

It is fully as important in this connection to have reliable professional advice in regard to the possibilities of treatment, in order to dispose of the animal if not amenable to treatment, as to have the animal treated.

## Live Stock at the Calgary Fair

The Greatest Showing Ever Staged in Alberta

**F**ROM a live stock standpoint, Calgary's 1918 exhibition surpasses anything ever attempted in this Western Province, and in some cases it is doubtful if a better showing has ever been made at an exhibition in Canada. The exhibitors, many of whom were well filled and uniform high quality throughout was remarkable. In the dairy classes three breeds, the Holstein-Ayrshires and Jerseys, were well represented, although there was nothing like the stiff competition that was characteristic of the beef classes.

In point of numbers the Shorthorns excelled, the exhibitors being as follows: J. J. Elliott, of Guelph; J. Chas. Yule, of Carstairs; A. W. Latimer, Bowden; Hon. Duncan Marshall, Olds; H. A. Bowes, Calgary; J. C. Ram Ralphs, Calgary; J. G. Barron, Carberry, Man.; W. C. Short, Gwynn; R. A. Wright, Drinkwater, Sask.; Chas. G. Beeching, Dewdney; George Wallace, Delacour; Dr. O. H. Patrick, Calgary and others. Mr. Yule's Craven Knight excelled in winning what was perhaps the most valuable prize of the whole show—the Shorthorn bull grand champion, Collynie Best, owned by Mr. Bowes, won the championship in a strong female field.

John G. Barrett's herd won him some notable successes, especially in the female classes. In a strong class of cows three years and over with Fairview Baroness Queen and Calga, and with senior yearling heifer and senior heifer calf. Finally, against strong competition, he secured junior championship for Shorthorn cow, owned by Oakland Baroness. In the herd of Mr. Yule was Craven Knight, a bull which won a first prize at a Shorthorn Congress at Chicago last year. He was the chief stock bull at Meadow Lawn Stock Farm, St. Cloud, Minn. This animal was wonderfully deep, thick and stout, and his dam, ever a winning consistently at leading state fairs across the west. The herd of Mr.

W. Latimer was headed by Galfinrod a son of Saskatoon, one of the famous Galfinrod Marcus. The herd of L. A. Bowes was also headed by another son of Galfinrod Marcus called Village Marquis.

Herefords have enjoyed a wonderful boom in Alberta, and some of the best representatives of the breed on the continent were shown at the fair. Classes in this breed were so strong that to get even close to the money was an honor. Frank Collicutt, of Okotoks, was the winner of the first prize. He has a fine herd of Herefords to be the largest herd of pure bred Herefords in America, had a strong showing. The Curtis Cattle Company had many splendid bred animals, among them a calf that won at the Chicago International last year. The aged bull class created a great deal of interest, there being five animals in this class and the value represented was \$55,000. In this class the top-ward was between Frank Collicutt, Gay Lead, B.H. and Beau Partion, owned by the Curtis Cattle Company, the red ribbon going to the Collicutt bull. This bull later won the grand champion championship, while Beau Partion won the junior championship. In Hereford females Collicutt won first, senior and grand champion, and also the top-ward Sally and first in the class for cows three years old, heifer two years old and senior heifer calf. L. O. Clifford, of Okotoks, Ont., won first and junior championship with Lady Armor of Fairfax. Other exhibitors were, A. B. Cook, Helena, Montana and Geo. E. Pallen.

The principal exhibitors of Aberdeen Angus cattle were J. D. McGregor, of Brandon; Jas. Bowman, A. E. and E. S. Clemons, S. C. Pritchard, and A. E. Wood, and with such herds as these coming up in competition, the interest was keen. J. D. McGregor's senior yearling, Blackcap McGregor, came first in his class, won the junior championship and finally was awarded the grand champion of the breed. This bull is regarded as good enough to go to the J. D. McGregor, also grand champion, Majesty Queen, also owned by J. D. McGregor, won first place in the aged cow class, being grand champion at Calgary last year.

### Dairy Division.

In the dairy division there was plenty to attract, Holsteins being the strongest in numbers. Several fine milking herds were in evidence, some of the best producing strains being represented. The chief exhibitors of Holsteins were: J. E. Laycock, Okotoks; P. Pallen, Calgary; Geo. Bevington, Winterton, and Clark & Sims, Stonewall, Man. in Ayrshires, Laycock and McDonald, Rowland, Ness, Dewdney, and W. L. Barker, Calgary, were the strongest exhibitors. In Jerseys, the chief exhibitors were the Western Stock Ranches of Cluny, Okotoks, and Calgary, coming from Washington, representing the breeding of Hood Farm, Massachusetts.

In Holsteins, J. H. Laycock won the grand champion ship with his Korydai Posch Pontiac, while Geo. Bevington's Colony Major Posch Teusen, was made reserve. First prize for Holstein herd bred recently imported from Washington, representing the breeding of Hood Farm, Massachusetts, was P. Pallen.

We have found partitions in managers a nuisance and have removed them from the stables of the Experimental. They make the managers difficult to clean, they obstruct light, and anything that obstructs light needlessly in the dairy stable should be removed.—Geo. W. H. Butler, Assistant Animal Husbandman, C.E.F.

"Remember, my son," said the father, "that politeness costs nothing."

"Oh, I don't know," returned his hopeful, "Do you ever see a 'putting very respectfully yours' at the end of a telegram?"



MARKET REVIEW AND FORECAST

TORONTO, July 31.—The international... The increase in acreage has just published a summary of world crop conditions on the first of May, 1918.

as well as in the larger centres. Some... by the large movement of beef provided from the prairie provinces to Montreal and Toronto.

Receipts of flour have increased during the week... The demand for butter at country points are 35c to 40 c; whole milk prices to the retail trade are 85c to 90c.

WHEAT.—To date no supplies of Western wheat have been arriving at the lake ports for distribution among the Ontario provinces.

COARSE GRAINS.—The feature of the grain market is the sharp advance on all prospects of a heavy demand in Canada because of the heavy demand in the United States.

POTATOES AND BEANS.—Quotations on early potatoes are high and there is an prospect of a reduction at present as land water in Virginia has reduced the expected crop of early potatoes very materially.

HIDES AND STRAW.—This market is very quiet. No 1 is quoted at \$1.25 to \$1.40; mixed, \$1 to \$1.10; No. 2, \$0.80 to \$1.00.

EGGS AND POLTRY.—The egg market has developed further strength during the past week and price advances are reported from all parts of Canada.

CHEESE BOARD SALES.—Peterborough, July 31.—At the Peterborough market 1,200 boxes were offered. All sold at 23-24c boxes.

Wool sales.—Stirling, Ont., July 4.—794 boxes of wool offered. Brockville, Ont., July 4.—4,306 boxes of wool offered.

Wool sales.—Victoria, Ont., July 5.—About 2,000 boxes of cheese sold here today at 23 1/2 cents.

Wool sales.—Toronto, Ont., July 5.—1,838 boxes offered; 174 boxes sold at 24 1/2 cents, balance refused.

Wool sales.—Barnaby, Ont., July 5.—1,600 boxes offered; all white. The cheese buyers were present. Prices 24 1/2 cents.

Hogs have been the biggest feature of the Toronto live stock market during the past week. The section of the market had been very strong during the latter part of the previous week, but no change has been noted.

LAKEVIEW HOLSTEINS

Every male or female offered by us is either sons or daughters of these wonderful cows. No other herd in Canada has such a record.

MAJOR E. F. OSLER, Prop. T. A. DAWSON, Manager Lakeview Farm, Bronte, Ont.

CLOVER BAR STOCK FARM OFFERS. A few choice young bulls for sale, from heavy producing dams, sired by a son of Francis 3rd. Write now for description, photo and price.

SUMMER HILL HOLSTEINS. Present offering.—Two bull calves for service, both show animals, with excellent breeding.

YEARING FEMALE FOR SALE. A pure-bred Holstein heifer, one year old in August, 1918. The dam is a fine young cow, a good young producer, and is bred from high testers.

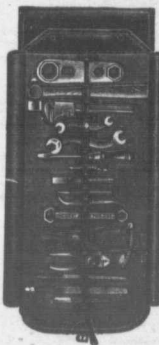
SUNNYSIDE STOCK FARM HOLSTEINS. HERO BISHOP FAYNE, our herd sire, is by a brother of the world's 60-cow, Segis Byron Johnson.

Mr. Breeder. To avoid inbreeding I am selling my herd sire, King Teake, 15292, born April 16th, 1913, mostly white, straight, pure and gentle, weight 1600 lbs.

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UNDECIDED. That's the way Messrs. R. J. Graham and E. B. Mallory, of Belleville, were when they paid me \$1,200 for one of four sons of Champion Sylvia Echo Pontine, out of daughters of King Segis Alcazar Spoford.

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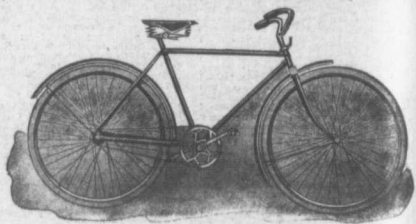


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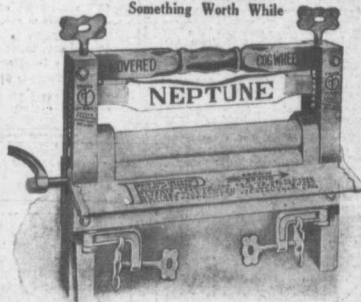
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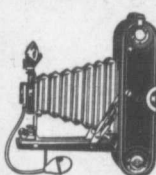
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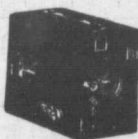


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