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VOL. L.

LONDON, ONTARIO, JANUARY 21, 1915.

No. 1165



Light on the Fence Question

Or Shall We Say, Real Facts About Wire Fence

Frost Fence has nothing to conceal, and for that reason it has been our policy always to tell the real facts, and not claim a thing for Frost Fence that the fence, when in use, will not measure up to.

Prices on Frost Fence, or any good fence, have only advanced $\frac{1}{2}$ c. per rod during the last two years. Why, therefore, should cheap fences keep going up at the rate of 2c. per rod each January? The advance in raw material has only been slight. Proceeds of whirl-wind campaigns in January are needed by some firms to enable them to pay their indebtedness or buy stock, and this is possibly their reason for coaxing you again to buy now, even though you won't need the fence for some months, on the pretext that prices will go up soon. They've got to go up, that's sure, not because wire has advanced, but because the government's action in compelling the use of full No. 9 wire has considerably increased the weight of cheap fences.

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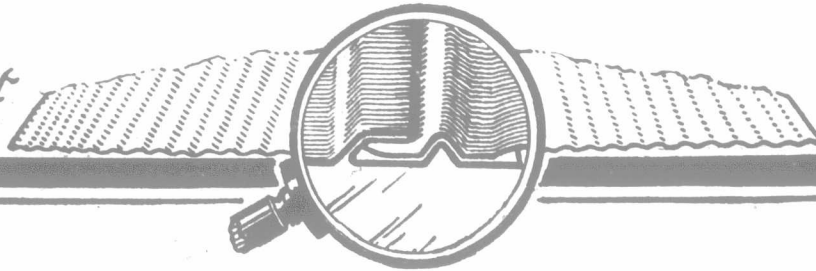
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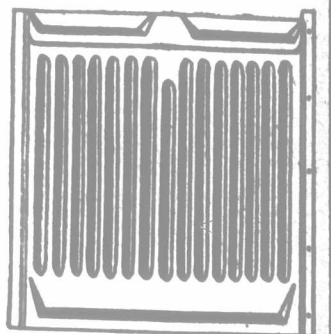
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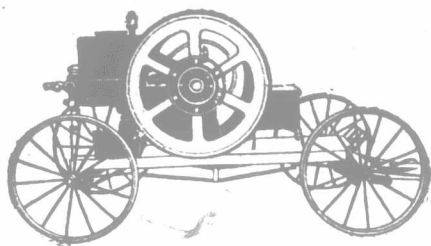
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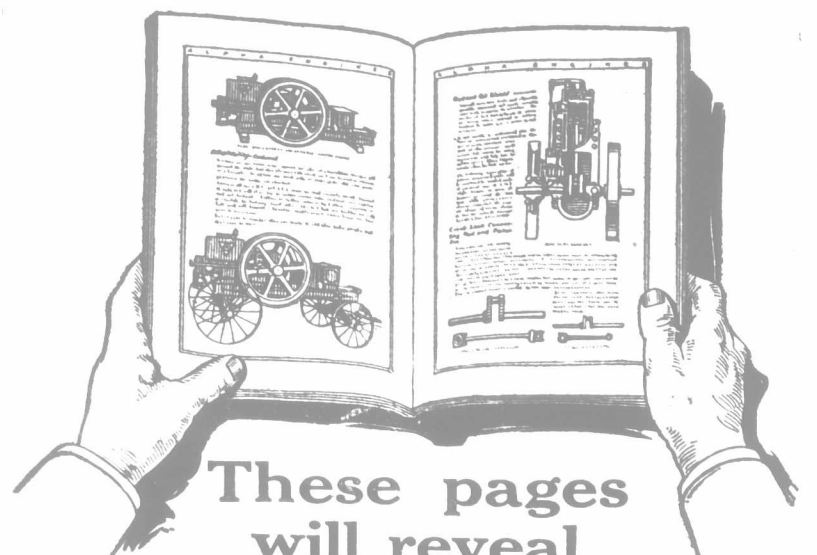
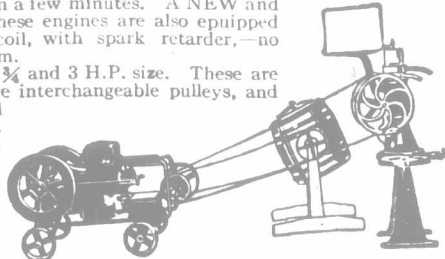
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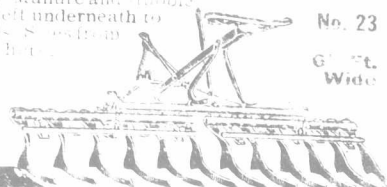
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The Farmer's Advocate and Home Magazine

PERSEVERE AND SUCCEED

ESTABLISHED 1866

REPRINTED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1879

Vol. L.

LONDON, ONTARIO, JANUARY 21, 1915.

No. 1165

EDITORIAL.

Put in some ice.

Get the posts ready for next spring's fencing.

Pork, which is made rapidly, nets the most profit to the feeder.

Remember the dates of the Live Stock Association meetings and attend.

System in farming is just as important as system in any other business and yet it is almost altogether neglected.

Increase production first by increasing yield per acre which means better cultivation and improved farming practice.

The scales and the Babcock test are the best measure of the dairy cow. Her appearance may deceive but her production never.

Even though January has given a thaw there is no excuse this year for a lack of ice, which was made early in the season and of great quality.

A young pig requires a warm pen, but the rest of the flock enjoy the open air even in winter, with shelter only from storms and inclement weather.

It is marvellous what happens to some so-called poor land when the right kind of farmer gets hold of it, often it is not the land which is at fault but the land holder.

Kitchener believes that a steady advance with strength to continue is better than a rush which dies out from sheer exhaustion plus short of the goal, and so it is in everything.

A successful farmer, who is also interested in a number of other business propositions, calls his farm his "pet". Truly a farm properly managed, scratched, nursed and smoothed out is a very fine pet and one which, unless just neglected, is irreplaceable.

Do not discard a cow until her worth and her condition is known. We recently saw a heifer which, with a five-pound a day milk production, had been condemned and yet under new management and a change was then giving over thirty pounds per day.

It is a much easier matter to stammer a plot of land to all the producers to increase production, than it is for these men already overworked to attempt the increase in any one crop or branch of their operations without detriment to the "other" branches of their farm work.

The "Increase Production" campaign should be confined to the town lots which land agents and the estate exaggerators have sold to the gullible and the town lots being located anywhere from the city to ten miles from the last suburban street in the village or town which was supposed to be the locality of the very near future. These lots should be far more valuable growing wheat or potatoes than words and rubbish.

"More Than Usual"; How?

The slogans "Patriotism and Production" and "More Than Usual" are being spread throughout the length and breadth of the land. As one would naturally expect, the farmer is the man specially invited to be present at meetings where the campaign is elaborated, and specially exhorted to act upon what the campaigners outline. This special Governmental undertaking realizes, and is endeavoring to drive the realization home to the farming population, that there is in this country a grave need of an increased production owing to the unprecedented demoralization in Europe. Granted there is such a need, the over-worked farmer although willing to put forth an earnest endeavor to meet it would like to know how he can do so when his hired men are enlisting for active service and he has no labor supply to draw upon. How can he grow more wheat, more oats, more flax and produce more milk, more beef and more of almost everything else? This is what he wants to know. We believe that he is already fairly well convinced that he should. It remains for those pushing the "Increase Production" propaganda to tell him how. He is told that there are many unemployed in the cities and that a certain percentage of them, possibly one-third, have had farming experience but he is not told how he can get these men out on the farm to help him increase production. He is told that there are thousands of inexperienced men available, but no one seems to know how to induce these men to go on a farm or how to get them to increase production very much if they were there. They are not really available until on the farm and earning a profit for their employer. No farmer cares to, and it would not be profitable to any one in the end if he did, increase his output at a cost greater than the value of the increase. The campaign is on, and as being pushed vigorously, the farmer must farm better than ever before but how? Farmers want some practical suggestions from the statesmen sent out by the Government as to how they are going to do it. If they are to give better cultivation and to plan their work so that grain, fruit or live stock will be produced more economically they want the suggestions of the experts. Farmers generally are already over-worked. If they put forth an extra endeavor in one direction it must be done at the expense of some other, perhaps equally important, end of their business. If they grow more wheat they must grow less other grain and reduce feed and thus keep less stock. If they plow up the old pasture they want to know how to combat white grubs and wire worms to make the new crop more profitable than pasturing. If they increase milk at once a mighty effort is necessary and more help absolutely essential. Give them the help and no special meetings other than those arranged for in the ordinary course of events would be needed. It is easy to formulate schemes, it is more difficult to evolve practical schemes, and it requires still more foresight to carry out even the most practical plans. The Government has started a worthy enterprise but each one of the leaders sent out to spread the gospel of "Increased Production" to waiting farmers can tell these people how they can greatly increase production under present conditions of the farm labor market? Which one of them can forecast the price of the increased products two months after the war is over and tell the farmer how he can produce these extras at a profit at the prices which will obtain then? Which one of

them can give any light on practical methods of marketing when large quantities are produced and thrown on the market? Who can estimate the loss to the live stock industry which would result from a rush to grain growing? These are questions which are hithering the producer. Will there be a campaign to help him sell his increased products if they should, by any reason, become a drug on the market in the future? Anyone can cry "produce" but few can show the way. Some may produce more but all need help in marketing. Governments have a way of formulating schemes to effect certain things but not often do they tell explicitly how to work these out. It is time for a right-about-face. The farmer demands to be shown how as well as told what. There could be no better time as right now. At the very next meeting let it be explained how this increased production may be accomplished and then all hands together and it will be done. "More Than Usual," How?

"Its Time for a Change"

There is something puzzling about the attitude of the present day farmer. He is either getting his fill of agricultural information from his farm journal or he has so fortified his mind with learning and wisdom at Institute Meetings that any further knowledge would be superfluous, for he no longer fills the hall or schoolhouse in the country on occasions of an educational complexion. There are exceptions to this statement, it is true, but generally speaking farmers do not embrace all their opportunities for the acquisition of information vital to their business and their success. Choices have become an exacting duty and the busy man with no help must needs stalk pretty closely at home. However, we are remunerating men to investigate and experiment along agricultural lines, we employ men to oversee, as it were, the entire business of which we are only one member of the company and yet farmers can not get away from home once a year to hear what is new and get in touch with these men. Farm journals report the thoughts of the speaker but space will not permit of a detailed or verbatim reproduction of their remarks and the farmer who cannot leave home to attend a dairyman's convention, which is the last word in the dissemination of knowledge valuable to a dairyman, is a prisoner in the most vital sense of the word. A prisoner within walls he builds himself by the habit of staying at home, and lack of companionship with men. Farming is not the "profession" or "noble occupation" we read about if its devotee is chained straight to the plow or dairy stable. Man and man must telegraph back and forth their thoughts and what farmer and investigator meet on common ground there is an interchange of ideas beneficial to both.

It is not indeed that Canada's husbandmen and dairymen are bound at home or else so enveloped in a cloak of self-satisfaction and content that they cannot meet occasionally to worship together at the shrine of the dairy cow. Both practical and scientific men gave their experiences at the Eastern Dairyman's Convention, at Perthborough, a city located in the centre of a dairy district, yet the meeting did not draw the men out. The weather was bad, the farmers were busy, they had the mores to do and everything combined to depreciate the effect and benefit of the convention. Whatever the cause may be there is not the enthusiasm among farmers that these trying times demand. There is need for a revival in

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The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

Published weekly by
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Journal,"
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farming circles and a Wesley, a Moody or a Spurgeon to instil some enthusiasm into the rural people and kindle anew their agricultural faith.

Only the most desperate circumstances have in the past brought about great changes in agriculture. The majority of changes have been gradual and permanent and now that some degree of perfection is attained there is no excuse for a brazen indifference to all things that might add little by little to our products and their quality. It is separation, not contact, that leads to all the troubles between monopolists, combines, trusts and the farmer. They see each other as strangers and always will until the Canadian farmer gets it into his mind that he must meet and unite with his brother farmer in order to elevate his profession to the plane of such a noble occupation that non-agriculturists preach as belonging to the farmer. Let there be more rousing meetings than ever before and if the delegates or speakers do not preach an acceptable gospel then it is the farmer's duty to banish them and have their places filled with men who are modern and fitted to go about doing good.

Efficiency in dairying is shown by the man who can make a herd of cows which were a losing proposition into a paying herd the first month after he took them over. It requires more than just cows and feed to make milk at a profit. The dairyman must be efficient, or, in other words must pay attention to the things which count.

A corn grower planted some of his best corn on one side of his field and some of a poorer grade of seed on the other side of the same field and results showed him, according to his own statement "that if I had paid \$32 per bushel for the good seed it would still have been \$8 per bushel cheaper than the poor seed at its market price." The best is where the money is.

Duplicating Addresses to Dairymen.

The dairy industry is one of the biggest branches of farming in Ontario and two lively conventions of dairymen are held in this Province early in January each year. As a rule the Eastern Ontario Dairymen's Association Convention comes a week previous to the Western and as a result not as much attention is paid by the Farm Press to the latter for the reason that several of the addresses are duplicates of those given at the convention first held. The speakers chosen are, for obvious reasons, men connected in some way with Departmental work and the addresses given are always good and contain much of value to dairymen the country over. Comparatively speaking, only a mere handful of these interested in dairying are privileged to attend the meetings while thousands read the reports of the addresses in the Agricultural Press to each individual who is privileged to be present when the address is delivered. Full reports are given of these good meetings because they will help the reader but, while a speaker may duplicate his address a newspaper cannot duplicate a report and for the uplift of the dairy industry speakers who are privileged to address both conventions could do a great deal more good by giving two entirely different addresses and by so doing give the dairymen who read and, these are far larger in numbers than those who attend the meetings, twice as much information as they would get from one address delivered twice and reported once. Besides, such a change would add interest, especially to the convention held last. Get the same speakers if desired but get different addresses and see if it will not prove more popular and more helpful.

Greater Crops With Fewer Men.

In nearly all parts of the country a critical situation confronts the farmer. Forecasting a continuance of the war and a consequent enormous shrinkage in European food supplies, the Governments, Federal and Provincial, are appealing for a great increase in 1915 of field crops and animal products and the Dominion is being plastered with "Patriotism and Production" posters. There are signs of substantial response but everywhere farms are under-manned because of policies and tendencies at work for scores of years. These will not be reversed in a day or a year. Thousands going into military service makes the trouble more acute and the result will add to cost of production on the farm; so the problem of the hour is how to make the best of the situation.—Greater crops with fewer men.

First: The question is asked: In what direction can I safely aim to increase the production of my farm and secondly how can labor and methods be best economized to profit?

Suggestions will vary from different sections and from different farms and with different classes of farming such as grain growing, dairying, orcharding, canning factory crop production, and sugar beet culture, stock rearing, fattening cattle, horse raising, poultry and egg production, or what is called "mixed farming" embracing usually some dairying, hog raising and other lines but relatively little sowing of grain or hay.

The experience of nearly every reader will disclose some special means, which might help someone else, of profitable labor saving or accomplishing equal results with less manual labor. Cite examples. It may have been in the use of implements doing more work with fewer horses and men, a re-arrangement of farm fields or cropping; a greater pasture area; in marketing; in the care and feeding or watering of stock, stabling and fixtures; replacing other stock with sheep; handling manure; in some handy contrivance about the kitchen garden or yard to lessen domestic drudgery; joint ownership of silo filling or threshing outfits or the old-fashioned neighborhood co-operation in work.

We invite readers to send us for publication a short account of some plans or methods such as these above referred to or others proven specially useful and likely to be helpful to farmers similarly situated. Though familiar to you it may be entirely new to some one else. While there is yet

winter leisure make "The Farmer's Advocate" a clearing house for suggestions as to how production may be increased to profit by means of efficient labor saving during the coming season. In some cases it might be put upon a post card, in others, a few hundred words in a letter would do the business and prove a real contribution tending to ameliorate one result of the tragedy of war.

During the year thousands of questions are asked "The Farmer's Advocate." Turn about is said to be fair play. It is therefore in order to ask a few questions of its readers and afford them an opportunity to respond.

The Stockman's Salesmanship.

The live stock man after a period of phenomenal demand is forced by conditions over which he has no control to meet new circumstances which will surely test his ability as a salesman. The average live stock man is fairly successful at breeding and fitting stock, in fact many are eminently successful, but not all meet with the same success at the selling end of the business. This is no surprise for is it not a fact that the great weakness with producers is disposing of their products? Good salesmanship means good business. It does not mean taking advantage of buyers, but it does mean getting in touch with prospective buyers, letting them know what is on hand, making out a good case for the stock for sale, ensuring them of straightforward, fair and square dealing and soliciting a continuance of their trade. How may this be accomplished? By exhibiting stock, by personal letter, by advertising. Everything that is done to sell stock is advertising. Most of the exhibitions are over and the best way to get an opening for the personal letter is by advertising in the farm and stock papers. This leads to enquiries which give an excellent opportunity for the personal letter which should be business from start to finish, couched in selling terms, courteous, written plainly and the stock favorably yet truly described. Inspire confidence by uprightness and in the prospective buyer to see the stock. Above all answer letters promptly. Do not leave them on the window sill for a week or two or until the prospective buyer has closed with some better salesman. There are thousands of men desirous of getting good stock and who will buy if they know where to go. Tell them.

Nature's Diary.

A. B. Klugh, M.A.

The out-standing feature of the flora of the higher slopes of the Rocky Mountains is the characteristic appearance of the trees. They are all very slender-spined conifers and form very thick stands. There is undoubtedly an ecological reason for these characteristics. Trees in these situations are exposed to wind and heavy snowfall—the short branches shed the snow easily and also permit of dense stands so that mutual protection against wind is afforded. So close together do these trees stand that at a distance they look more like a field of wheat than a forest.

Three species make up most of the forest of these slopes, Lodge-pole Pine, Alpine Fir and Engelmann's Spruce. The proportion of these three species varies in different places in the vicinity of Lake Louise, Alpine Fir leads with Engelmann's Spruce second. In regions which have been burnt over the Lodge-pole Pine is found in practically pure stands, because of the habit of this tree of retaining its cones, which the seeds sealed up in them, for years. After a fire the twigs become brittle and the cones falling to the ground release the seeds. Bare ground, such as is left by a fire is also the best seed-bed for the seeds of this species, while the seeds of the Spruce, and the Fir need more humus for development.

Another marked characteristic of our Rocky Mountain flora is the carpeting of the ground beneath the trees by three little Heaths. These Heaths are often referred to as Heathers, from the resemblance they bear to the old-world plant of that name, but we have no true Heather on this side of the water, except a few small patches where it has been introduced. The White Heath (*Cassiope mertensiana*) is a low plant whose branches appear four-sided from the manner in which the leaves grow on them. The flowers are white nodding bells and are borne on the ends of slender stalks. The Red False Heather has leaves which stand out from the stem and are strongly revolute (that is, the margins are rolled backward). The flowers are bell-shaped and deep rose-red in color. The third species is the Crow-

berry (*Empetrum nigrum*) in which the leaves much resemble those of the last species. The flowers are inconspicuous and purplish, and the berries are large, round and of a dull black. These berries are much sought as food by various species of birds. These three Heaths occur in different proportions at different places.

A plant of the Rockies which is attractive both in flower and fruit is the Western Anemone. The flowers are large, cup-shaped, white inside and purple-shaded outside. The fruiting heads are like large fluffy balls.

There are hosts of other beautiful and interesting plants in the Rockies, but one of the most interesting features of all Alpine botanical work is watching the different times at which the same species bloom at different altitudes. Thus a plant which you find in flower in early spring in the valleys is a mid-summer plant at timber-line.

There is a bird which every ramble in the Rockies is sure to make the acquaintance of—and it is more like a real acquaintance than that which we are able to make with most birds, for it comes up and looks at you and if you make no sudden motions it goes about its daily affairs of life just as unconcernedly as if you were a stump. It is consequently called the "fool-bird"—not at all a nice appellation for so friendly a bird. Its proper name is Franklin's Grouse, and it is a handsome bird, the male being glossy black with white markings beneath, wavy-barred with black and gray above and having a black tail narrowly tipped with white. The hen is white and tawny beneath with wavy black lines, and barred with black and gray above. Over the eye, in both sexes there is an orange-red comb. This species feeds on buds, leaves and berries of various kinds, eating quantities of the needles of the Lodge-pole Pine. In summer it also eats grasshoppers. The eggs are from nine to sixteen in number, rather pointed, buff-colored, spotted and splashed with rich chestnut and dark brown.

A mammal which is common in the "rock-slides" of the Rockies is the Hoary Marmot. It looks much like a giant Groundhog with a good many gray hairs in its coat. It utters a peculiar loud, off-beat squeak. Like the Grouse it is far tamer than the animals of more frequented places, and one can approach quite close before it dives into its den.

THE HORSE.

Stimulating Hackney Breeding.

After a period of decline the Hackney horse seems to be coming into prominence again as a result of the war. The horse has demonstrated in this war that for military purposes he is indispensable and the mount which is of most use is the one with plenty of stamina and substance. Usually the Thoroughbred is brimful of the former, and the latter, it is held by those in touch with the situation, can be best obtained from the use of the Hackney. Some hint at crossing the Hackney and Thoroughbred in order to get the best type of mounts. These horses are also said to be very good-tempered and are heavy enough to carry great weight or draw a heavy load. In fact, it is now stated that there are many pure-bred Hackneys which possess all the requirements of the army and farmers in the Old Land are said to be taking up Hackney breeding much more favorably than in the past. Remount work in England was almost at a standstill before the war broke out and it is hinted that the country will not be caught napping again. The horse that is wanted is the big useful animal and the one which is likely to be in limited demand is the extravagant mover. The war may stimulate the breeding of light horses especially the use of Hackney blood to a very considerable extent.

Belgian Horses in Britain.

Reports from the Old Country indicate that the Belgian horse trade is ruined and it will take years before Belgian horse breeding again reaches its former stage. A large number of these horses have already reached England, there being no work for them in their own country. They are reported as doing well on English oats and hay and no doubt they will be used to good advantage in increasing production in the British Isles.

An American writer who claims to have figured out results from practical experience is responsible for the statement that draft horses and hogs are the most profitable live stock on the farm. A comparison was made among draft horses, hogs, sheep and beef cattle, and the results were such that the breeder was sure that the colts furnished from draft mares were decidedly the most profitable line of live stock kept on the average farm. It was found that for every dollar charged for service, feed, pasture, etc.; there was a three-dollar return. Pigs were also quite profitable but the brood sow could not support herself by work done like the mare, leaving the brood mare an easy winner.

LIVE STOCK.

The Shepherd and His Charge.

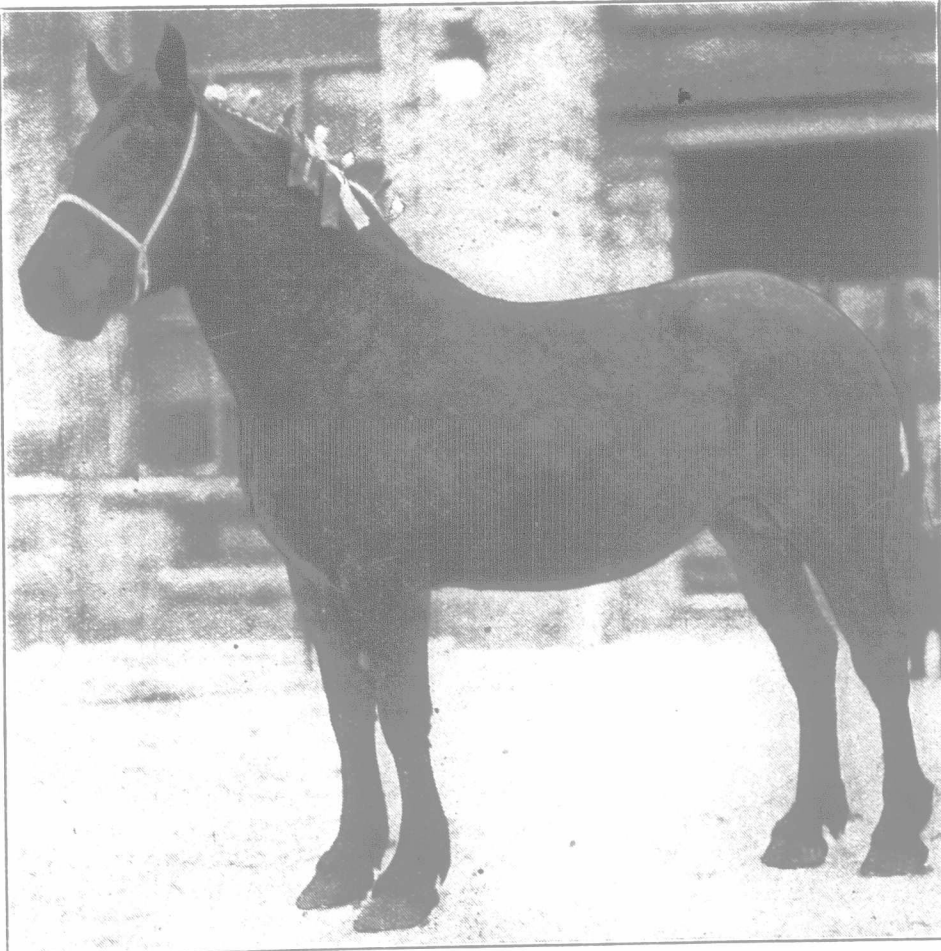
To the novice there is considerable anxiety with the breeding flock at this season of the year, and even for the experienced sheep breeder this is a time when he should be on the alert to keep the breeding ewes in the best possible condition to avoid difficulties at yearning, and to insure a large crop of strong, healthy lambs. It may be a little early but the time is nevertheless drawing near when young lambs will begin to arrive, and unless the ewes are already in fair condition a little extra feed should be given to put them into that condition where there will be no danger that lambs will arrive without any nurse to feed them. Experienced sheep breeders generally claim that the in-lamb ewe should not be fed very heavily on roots. While this is true, it is nevertheless a fact that a few roots, preferably pulped turnips, aid very materially in keeping the flock in good condition throughout the winter and in stimulating milk flow at lambing time. We have often seen a flock of from twenty-five to thirty ewes eating three bushel baskets of cut roots per day with no ill effects. It must be remembered, however, that these ewes were allowed comparatively free range and got an abundance of exercise, something which is of vital importance to a ewe which is advancing in gestation. With these turnips was fed a small

keep a close watch on the ewes. This is one time when the shepherd must be on his job, and the success or failure with the lamb crop depends largely upon his vigilance during the yearning season. Every sheep pen should be divided into several compartments. This may be done by portable partitions to good advantage. Preparation for lambing time should be made a few weeks before this is expected. The ewe about to bring forth progeny should be placed in one of the separate pens and kept there for several days after the lambs arrive. When the lambs are from four or five days to a week old several ewes with lambs this age or over may be safely placed in a pen together. This separation of the ewes at lambing time saves many lambs which would otherwise be lost, and also prevents much trouble with ewes disowning their lambs.

Very often when lambs are dropped in the large pen with all the other ewes they wander away from their mothers, and, especially where twins are born, one of them may get away and be disowned. Separation avoids this unnecessary trouble. After the lambs are safely on their feet increase the feed to the ewe. There is very little danger of over-feeding the ewe that is suckling one or two lambs, and if she is a good milker she will, even with the best of feed, go down in flesh. It is always good practice to make a small creep for the lamb. Arrange this in one corner of the pen, and make the opening by which access is obtained to it so small that the ewe cannot get in. Keep in this, in a rack,

a little fresh clover hay, and in a trough some fresh pulped roots with a little meal spread thereon. It is surprising how soon the youngsters will learn to eat, and this means a great deal in their progress.

The yearning pen should be fairly warm, and any lamb which becomes chilled or weak from the cold should be taken in by the stove and warmed up. As soon as it can be induced to take a little of its mother's first milk it should be given, and, provided the lamb has any chance whatever for life, it will soon be on its feet. We have known lambs to be saved by giving a teaspoonful of good liquor in a little warm milk. This warms them inside, and holding in front of the oven will warm them thoroughly, and they will soon be ready to be returned to the dam. A little care from now until the lambs are a week old will insure success in the average flock.



Lacune.

Champion Percheron female at Guelph, 1914. Owned by J. B. Hogate, Weston, Ontario.

quantity of grain, generally whole oats, and the remainder of the ration was made of up well-cured clover hay, all the sheep would eat.

Care must be taken that the ewes in going in and out of the pen do not crowd too much, and it is always well with sheep-pen doors to have them, when open, securely fastened so that no swinging is possible. We have seen ewes badly injured by being caught between the swinging door and the door jam, and in an excited effort to get through so squeezed that abortion followed.

Unless the ewes are being very heavily fed on roots, which is dangerous because it causes large, weak lambs, it is surprising how much water they will drink. Some farmers water all the rest of their stock and allow the sheep to shift for themselves, believing that they require very little water in winter. It is a fact, however, that a flock of twenty or twenty-five ewes will drink several pails of good, clean, fresh water daily. Especially is this true as lambing time approaches, and even more so after the young lambs are born and being suckled. Water is essential to good success.

While we would advise a little extra feed it is not good practice to over-feed. Large quantities of grain, especially of such grains as peas or corn, are liable to produce too much fat, and the consequent parturition troubles which accompany this overdone condition. Small, weakly lambs usually follow over-feeding as well as under-feeding. As yearning time approaches it is well to

The Value of the Pure Bred.

The most impressive spectacle for a breeder of any nationality is the parade of pure-bred stock at the Royal Show of Great Britain. To watch the champions of the different breeds file into the ring is in itself a liberal education, and unless this parade has been witnessed the effect upon one's mind cannot be realized. It causes an inexpressible sensation of pride and love for the land of our fathers. These selected winners represent the work of centuries of isolated, and for the most part unobserved, labor. It has not been given to every breeder to come under the public eye like the Squire of Kirklevington, or the Quaker of Sittyton; nevertheless, his work is not lost, and, though dead, he still liveth, for he is represented in this incomparable review of British pure-bred stock.

Without any disparagement of the power of diplomacy or the sword, there is no single agency that has added so much towards the true wealth of the world, or has done more to cement the abiding goodwill of breeders in foreign lands, than British pure-bred stock. Who can begin to gauge the value resulting from the advent of pedigree cattle into the States of America from Great Britain? Who can measure the wealth

accumulated and accumulating upon the estancias of South America from the introduction of pedigree stock from these Islands?

The owners of the estancias realize it, hence the high prices they are paying for the best bulls, and, as a further example, their insistence that no Shorthorn shall be eligible for the Argentine herd book unless the pedigree of the sire and the dam goes back in unbroken sequence to 1850. Happily South Africa has begun to taste the fruits arising from the use of British pedigree sires as opposed to mongrels, and friendships and pleasant business relations are springing up which otherwise must have remained dormant. Dealing with our position at home, I question if there was ever a more opportune moment to "take stock." We are now relying mainly upon the importation of beef from one country, and a matter of national urgency is, how far we can improve and increase our home supplies?

Although Great Britain can justly claim to be the pioneer of pure-bred stock among the nations, yet, if a cattle census were taken, the first and second grade cattle would be found in relatively small numbers, compared with the third and fourth grade cattle. If a national live-stock balance-sheet could be prepared, showing clearly the difference in value to the State between first and second grade, as opposed to third and fourth grade cattle, the day of the mongrel sire would be doomed. Why is it that Scotch beef has gained its present reputation on the London market? Because of pedigree sires.

Why is it that non-pedigree cows have made nearly £100 each in Penrith market? Because pedigree sires have been used in this zone for over a century. Why is it that the cows of Cheshire are famous for big frames and milking capacity, and their bull calves in such demand? Because Cheshire farmers have attended and made purchases at the Birmingham Pedigree Bull sales ever since their inauguration.

It applies also to the grand type of cow to be found in the Vale of Aylesbury, and wherever pedigree sires have been used consistently over a series of years. The live-stock officers have a great work before them. The hosts of slow-growing, unthrifty, slack-backed, wedge-shaped, wire-haired, narrow-ribbed cattle, which cannot pay for keep and attendance, must disappear in the best interests of British agriculture.

How often have I heard the late Mr. John Thornton implore the young farmers, at a sale of pedigree cattle, to open their hearts and buy a pedigree sire, and how often was his eloquent appeal in vain! He had his revenge one day. A yearling bull came into the ring, whereupon a young man of very limited education began to handle the animal roughly, and with no idea of purchase. Down went John Thornton's sand-glass, and those who were present will never forget the withering shot of the greatest of salesmen, "Eh, man, one beast in the ring at a time, please."

The Value of British pedigree stock is gaugeless. It is a gold mine without any alloy.—R. H. Green, in the Live Stock Journal Almanac.

The Live-stock Situation in England.

Editor "The Farmer's Advocate":

The Aberdeen-Angus breed of cattle has enjoyed a remarkable run of victories at the late round of live-stock shows held in Britain. Equally striking, also, has been the number of class victories gained by first crosses of the Angus. At the London Smithfield Show, there were eight different classes for cross-bred cattle, and in these twenty out of a possible twenty-three money prizes were taken by animals in which Aberdeen-Angus blood appeared, leaving only three of the prize-winners in the breeding of which that blood did not figure. Not only was this the case, but both the best animals in those eight classes of cross-breds, and the second best, were got by Aberdeen-Angus sires.

Even more notable were the wins achieved by pure-bred Angus cattle. It provided the supreme champion, the female champion, the best heifer, the best animal bred by the exhibitor, the best yearling and so on, while in the carcass competitions the champion carcass was that of a two-year-old cross-bred Aberdeen-Angus steer, while reserve was a pure-bred Aberdeen-Angus heifer.

At the Edinburgh Fat Stock Show Colonel McInroy, of The Burn, won champion honors for the second time, and here during the past 18 years the championship, has been won eight times by pure-bred Aberdeen-Angus cattle, and nine times by crosses representing the Aberdeen-Angus and Shorthorn lines of crossing, and but once by a pure-bred Shorthorn. It is to be noted that

the championship here has gone four times to animals under two years of age.

At Ipswich Fat Stock Show J. J. Cridlan wound up a big round of successes with his Aberdeen-Angus heifer Estelle of Maisemore which scaled 14 cwts. 3qrs., 8 lbs., being only 10 lbs. less than at Smithfield Show, where she was supreme champion. All told Estelle has won for Cridlan £505 worth of prizes at summer and fat-stock shows in the 1913-1914 seasons. Cridlan now lifts the Ipswich championship cup for ever, as he did the King's Cup at London's Smithfield Show. It is worth noting that Mr. Cridlan was the first winner of the champion prize at the Suffolk Fat Cattle Show, and that was in 1890; but it was not till 1911 that he again repeated his success. Then he favored Shorthorns, and it was with an animal of that breed, scaling 18½ cwts. that he won chief honors of the day. Since then only three times has the champion beast reached 18 cwts or over, but none have quite scaled as much as Mr. Cridlan's champion of the year under notice. His champion of 1914 was nearly 4 cwts. less.

Despite the war it has been a wonderful year for stock prices in the Old Country. Berkshire boars have sold under the hammer at prices up to 70 guineas; large white sows up to 45 guineas; large black sows up to 46 guineas; Kent rams up to 150 guineas; Shropshires at 40 guineas; Suffolks at 43 guineas; Cheviots at 100 guineas; Lincolns at 60 guineas; Southdowns at 56 guineas; and Hampshires at 45 guineas. One Hampshire Down ram was let for the season at 220 guineas.

In Britain in 1914 71 auction sales of Shorthorns were held, and 5,272 animals were disposed of at an average of £38 9s. 7d., realizing a total of £202,857 18s. Last year the average was £40 15s. 6d. for 6,031, but the record of



A Great Steer.

Winner at Birmingham and Smithfield.

1914 is better than that of any of the four years previous to 1913. The highest average was £131 3s. for fifty-three animals belonging to W. Duthie and J. W. Webster, the second place being taken by J. Ellis Potters dairy Shorthorns, forty-seven of which averaged £88 10s. 2d. in July.

Shires have made up to 850 guineas for stallions, and 340 guineas for two-year-old fillies. Suffolks have reached 145 guineas for three-year-old fillies. Hackneys have been in quiet demand with stallions at 330 guineas and 310 guineas, and brood mares at 200 guineas. Harness horses have gone at 220 guineas for geldings. Polo ponies have fetched 400 guineas, and show Hackney ponies even up to 1,150 guineas. Hunters have sold up to 660 guineas, and over 200, ere the war broke out, realized above 220 guineas apiece. They went into the melting pot on mobilization at £40 apiece—perhaps £60 or £70 for some lucky sellers—but no more.

Appropos my "Horse in War" article in your remarkably good Christmas Number, the war has reached that stage where the horse, for the moment, cannot be used; not because he is not valuable, but because circumstances do not permit of his use. The fighting going on just at the moment is trench against trench. The horse will have his opportunity again in spring-time. If I could, I would tell you more, but the Censor is looking! The Canadian horses now kicking their heels about in Essex and in Cheshire, where I have seen mobs of them, will then smell powder for the first time and secure a nodding acquaintance with the "Jack Johnstons" that come along.

There will be horses of all nations munching their rations at Berlin on the Spree—Some day! London, Eng. G. T. BURROWS.

THE FARM.

The Red Clover Seed Situation.

Editor "The Farmer's Advocate":

A provision for the future, entirely outside of any war demands, has to be made by Canada before next spring. The majority of seed producing districts in the Dominion are left without any supply of red clover seed for the necessary sowing, not so very far distant now, with the New Year here.

Where is this seed to be obtained? Hamburg, one of the leading seed markets of the world, is closed, and it does not seem possible for any German red clover to be available, or any of the supplies of left-over seed moved from that seed centre. Does it not look probable that the supply of Russian red clover may be prevented from drifting into any of the usual channels of commerce this coming season? France offers some new seed. Here again one cannot overlook that in the bulk of the north of France seed has been lost through the operations of the armies operating through that district. South of France seed is quite unadapted to conditions in Canada. England is said to have a useful crop of fine seed, but although the sea is open to that country, the usual distributing centres for German and Russian seed are closed. Chili may have seed to export, the bulk of which will have to go to Liverpool, with the other places closed, a source of supply for Canada exists here. Chilean seed, although as a rule very fine, is always more or less contaminated with "dodder," this weed sooner or later will get a foothold in the North American Continent.

A careful analysis of the present situation leaves the strong impression that Canada will have to rely more or less upon American red clover. Has the U. S. any quantity to spare? The course of Toledo markets during the past four or five months has indicated a divided feeling as to the United States crop this season, as a considerable range in values has occurred from time to time. Before war was declared Chicago quoted top values for red clover at 18 cents; Toledo has been over 19 cents, compared with about 15 cents and 16 cents respectively at the present time. It is difficult to recognize such a decrease in values as caused by war disturbances, otherwise than by being adversely affected by financial matters, in relation to the seed trade. The most optimistic trader could hardly have looked for any considerable export movement of red clover from United States to Europe this season. The decline in values seemingly can be determined, as only from want of backbone in the seed trade at the present time. Canadian reports and statistics, not that same are partly reliable or worth very little to guide dealer's forecasts of trade, report and point to an increase in the acreage devoted to the production of fall wheat for 1915, ranging from 17 per cent. to 125 per cent. Taking the increase at about 20 per cent. may cover the situation. As it cannot be overlooked that war was not declared until after Canadian farmers had completed arrangements for the acreage of fall wheat they intended to sow. Although some considerable increase in acreage has occurred, farmers were not in a position to add largely to such increased acreage.

With this increase, whatever it may be, will come an increased demand for red clover to sow on the wheat fields, not only by farmers, following their usual course of seeding operations, but such increase in demand will be largely augmented by the facts that a considerable proportion of the seeds sown in Ontario last spring are entirely lost, many districts reporting that the catch of young seeds amounts virtually to nothing. Some attempt has been made to overcome this loss.

Is it not reasonable to look for a strong advance in values for red clover seed taking place even if we have to deal from Canada's point alone? Finances in Canada, especially in the seed trade will hardly admit of purchases long in advance of requirements, unless farmers make purchases now, enquiries are becoming rather numerous from Canadian country retailers, which undoubtedly point to inquiries from farmers. It is true such inquiries at present are directed mostly to endeavor to locate sources of supply.

and so far same would seem to point to England and United States. Anyway good times would seem to be in front of seed merchants in United States.

Haldimand Co., Ont. J. S. TITCHMARSH.

The winter is passing quickly and spring with all its hustle and bustle will soon be here, yet there are a good many evenings that can well be spent in preparing for the busy operations of the coming season. Farmers like to rest from the thoughts and labors of the exacting toil upon

them during the summer months and if the mind requires rest the deeper and more technical works might be substituted by good fiction and literature which makes better reading than the cyclonic language of whirlwind politicians.

A Three-unit Farm---100 per cent. Seed, Cows and Hogs

"My gracious Sarah can't you stop a pig." Sitting on the rickety old verandah of the village grocery store with a number of the gallants from the surrounding country who were wont to make the big board shutters, which, during business hours, stood on edge against the wall and the old verandah railing a pronounced hummer's roost these words came sharply through the stillness of the summer night. The villager's wife, heavy with the weight of years, had failed to stop the pig. It takes some conning to stop a stubborn hog. Drivers have said that nothing but a sharp stick or a fork would do it but our man was forced to use a new plan.

One sunny summer afternoon some men attempted to move a drove of pigs from one part of a large farm to another. This farm is situated about fourteen miles south of Windsor on the Detroit river and bordering on the highway which parallels that river. Out past the oat farm house and down the lane they came, grunting and snuffling at the cooling breeze being wafted over from the river. Essex County is noted for its hogs and its corn, and plenty of corn makes fat hogs. Hog men in Canada, however, have been pinning their faith to the long, lean, trim, bacon hog, different in type from the fat hog of the corn belt of the country beyond the river mentioned. The herd pushed, shoved and shuffled along through the gate and onto the road, when suddenly one old sow sniffed a whiff of air from the home of the lard pig over the river and with a "whoof!" "whoof!" and a rush riverward bade farewell to Canadian bacon and struck out for a two-mile swim to American land.

Authorities still differ as to whether it was a desire to become an American hog or to escape the bad shooting of the Canadian hog cholera inspectors that decided the old sow to determine on smuggling herself into the United States; or she may have been afraid that the Governmental regulations on this side were inadequate to abate the dread disease and had decided that an injection of serum either alone or simultaneously with the virus would be preferable to conditions on this side. Whatever the reason for her prompt action she was on her way. The man long and lean but none the less resolute, was by no means willing to give the old matron such a chance. He would return her and take a chance against the cholera and its carriers. Rushing down the slope to the marshy bank he discovered a boat, jumped in, and then began, to the amusement of those on the bank, the only great water race between a man and a pig ever staged. On, on they went! Now the pig was lost to view and again she seemed to fairly rise up out of the water in her immense effort. He quickened his stroke to forty-two to the minute. In mid stream with the pig a nose in the lead they struck the wash of a big passenger steamer loaded with merrymakers and the pig for a time was lost to view. But the man pulled on and when she came up he was in the lead and succeeded in turning her around and safely landing her on shore. Although both were almost exhausted the pig had made a world's swimming record while the sculler established his right to challenge for the Diamond Sculls.

A. McKenney is Superintendent of this farm, the Essex County Seed Farms, Ltd., a closed corporation with G.R. Cottrelle as Pres. and Managing Director, Mr. McKenney and one other party. The farm comprises one thousand and sixty acres all told and is part of the first land ceded by the Indians to the Crown in old Upper Canada. This farm is to be developed into not only a great seed farm with corn as a leader, but dairying and hog raising are to be pushed, making a three-unit farm which will permit of an excellent three-year rotation and one branch will work into the others to good advantage. The land, before being taken over by these men about two years ago, had not been farmed to the limit. It was in only fair condition and it requires time to clear away unnecessary fences, clean out weeds and trees here and there, re-arrange old and build new buildings, make new drives, and in short remodel the whole place.

This is to be first a seed farm where nothing but the very best is sent out and where the goods will be of such a class that the name of the grower and his guarantee will go into every bushel. A good start has already been made and this year three hundred acres of corn were grown all told and from it will be sold 5,000 bushels of seed corn, 2,500 bushels of which is "kiln-dried" and handled in the best possible manner as has already been proven by tests made. This kiln-dried corn is subjected to no artificial heat what-

ever, is housed each ear separately, is grown from selected seed, is husked from the stook in the field and goes to its individual nail each day as husked, never touching the ground.

One barn, and a barn of the approved type, in which it is stored is one hundred feet long and sixteen feet wide. On sections hanging from the girts with nails protruding on each side are hung the ears of corn. No ear touches any other ear each nail being so placed as to keep the ears

red clover per acre. Good catches of clover cannot be obtained without a fairly heavy seeding. Alfalfa was also a good catch with barley, the latter being sown at nearly two bushels per acre, it being found that with only one bushel of barley no crop of grain was obtained and weeds gained a foothold whereas with the usual seeding the alfalfa held and the barley turned forty bushels per acre. Good catches of red clover were obtained when sown with oats at two bushels per acre and the one field of the latter crop which was not damaged by the ravages of the army worm so prevalent in 1914, turned sixty bushels per acre. The worm damaged the remainder of the oat crop to the extent of ten or twelve bushels per acre. About 6,000 bushels of oats and 1,000 bushels of barley were threshed last year, the oats being Banner and the barley Mandscheuri.

Let us return to the corn. Of this the varieties grown will be limited to Bailey, White Cap, Golden Glow and Longfellow. Climatic conditions where this farm is located are such that the corn may be planted early and the season is a long one so that the crop is thoroughly matured fairly early in the autumn. Some corn was noticed, for example, which was sown on the eighth of May, not considered early in the district and this was cut and in stook, thoroughly ripe, by September first. No specially dried seed corn will be sent out that does not test above 94 per cent. germination.

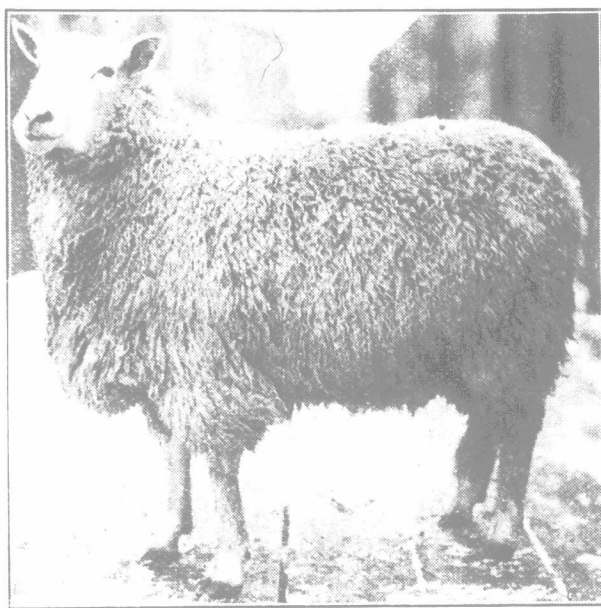
Clover sod is used for corn. Manure is applied after the hay is removed and is plowed down in the fall. Fall plowing for corn is preferred on this farm it holding the moisture better and does not leave so much plowing to be done in the spring. The land is well cultivated before planting and the corn is planted in hills three feet eight inches apart each way and three stalks are allowed to grow in each hill. By planting nothing but 100 per cent. corn the check-row planter may be regulated to drop three kernels to a hill and where three kernels are dropped three vigorous stalks grow. The corn is harrowed several times before it is up and cultivation continues at frequent intervals until the corn is so large as to preclude further working.

Husking is all done by hand and the corn is sorted as it is husked, the best, as stated, going directly to the kiln-drying barn, the second grade to the seed cribs and the feed corn to the feed storage. A man who knows good corn when he sees it looks after this work. About thirty huskers were on the job last fall at five cents per bushel and the work was all completed in good time. Even the crib corn is excellent, no cull corn being left therein.

Among the new buildings we noticed a closed implement shed 120 feet by 24 feet with an open part 30 feet by 90 feet. This was a simple, inexpensive, frame building but suitable to keep everything under cover. A repair shop and a blacksmith shop are operated in connection, with a handy man in charge, and, as at the Lynddale Farms, under the same management and previously described in these columns, each machine or implement comes each day to

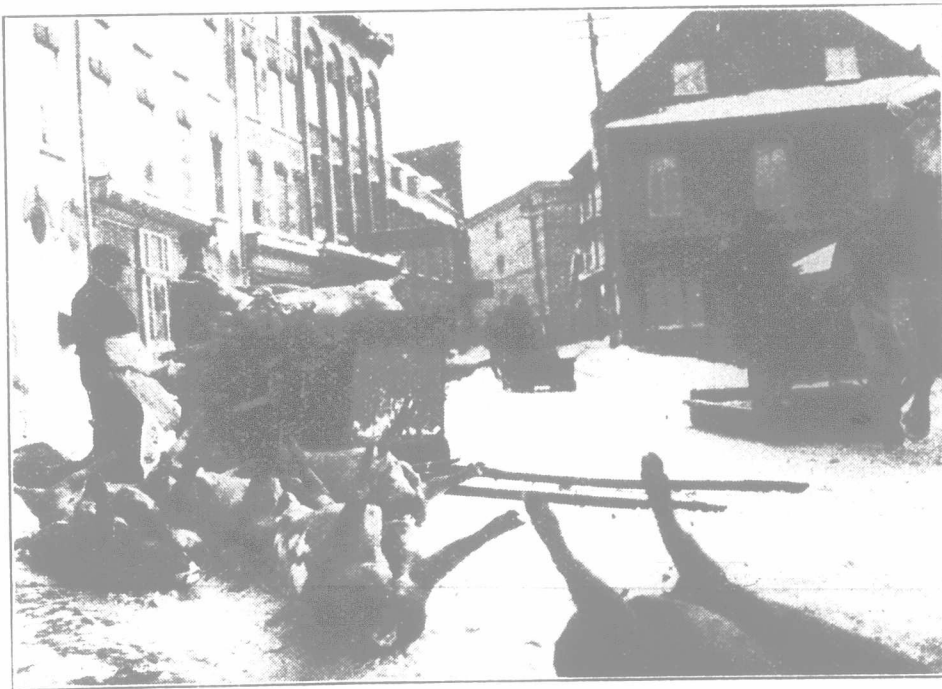
this shed and is looked over and placed in perfect order by the mechanic. This system saved \$600 at Lynddale Farms last year not counting the saving of time.

The buildings at present have not been arranged but it is purposed to put in on the north three hundred acres an up-to-date piggery and keep about forty brood sows of the Yorkshire breed and for pork, cross these with pure-bred Berkshire or Duroc Jersey boars. Both sows and boars are to be pure-bred. There is danger of failure if crossing is carried further so Mr.



Champion Long-wool Wether at Guelph. Exhibited by Jos. Linden, Denfield, Ont.

separate and for air circulation there is a double row of drop doors on either side. This corn will be shipped in wooden crates 70 lbs. (1 bushel) to the crate 24 1/2 inches by 19 1/2 inches by 9 1/2 inches. These crates have an air space all around and the whole ensures good seed to the grower. Mr. Biggar, manager of the Walker Farms, stated that he had tested 20,000 ears of corn housed in this way and only one ear in the lot did not germinate 100 per cent. What it is worth to get 100 per cent. corn is difficult for the grower to realize and yet it is possible.



How the Habitant Markets Pork. Selling pigs on the street in old Quebec.

Eventually this farm will be worked as a seed corn, seed barley and seed oats farm. The rotation followed is corn, small grain and clover or alfalfa. Right here it may be said that great success has been had on the farm from alfalfa which does extremely well and may be used in place of some of the clover in part of the rotation and some may be sown for seed. In 1913, 285 acres were sown and in 1914, 325 acres, and so far all has been a wonderfully good catch owing partly no doubt to the liberal seeding, 20 lbs. of alfalfa per acre and 12 lbs.

Cottrelle believes. A sow to make a place in the breeding herd must produce at least eight pigs her first litter. Yorkshires are chosen because they are prolific and the Berkshire or Duroc sire because the cross produces easy feeders which make rapid gains.

As a part of the plan one hundred Holstein dairy cows are to be put in. The by-product of this herd and the cull corn will feed the pigs and the corn stalks, cull corn, cull oats and cull barley together with clover and alfalfa hay will feed the cows. Then, with all this will work in the pure-bred seed grain, corn, oats and barley.

Is it not a great three-unit system? At present the dairy herd consists of thirty-eight cows with twenty-seven milking. The milk is weighed and a record kept of the weight at each milking. In the number already on hand are at least six 10,000-lb. cows or better. The standard of production for the dairy herd is at least 7,000 l.s. each. Sixteen nice heifers and a number of bulls are coming on. The sire in the herd is a four-year-old and he is being kept until his daughters become of producing age to see how they do. If they justify it he will be kept on as the owners believe an old bull with heavy-producing daughters to be much more valuable than a question-mark of a youngster.

Twenty-four clean-legged, 1,400-lb. horses are kept to do the work and from eight to ten men on the average are required. Eventually a tractor will be installed in the place of some of the horses. New dairy and horse barns are to be erected and we hope to be able to describe them when they are completed. A stable man looks after the horses, the teamster having nothing to do with the feeding. Two saddle horses are kept for the Superintendent and foreman, the oversight of operations being accomplished from the saddle. Eight workman's cottages, simple, yet comfortable are already on the place and it is intended to keep married men as far as possible and thus solve the labor problem.

Gasoline engines are to be installed, one at the repair shop and a larger one in a shed next the granary and all the grinding is to be done at home. Also all straw is to be cut, this to facilitate working the manure into the soil and to aid in absorbing liquid manure. The grain and all feed will then be weighed out to each ranch and that branch debited with it. It will thus be easy to determine where the profit or loss lies. It is the purpose to feed the cattle all the year around and the only fences on the place will be around the outside and a calf paddock.

Up to the present the work has been rather of a cleaning-up nature. Twelve miles of four-inch tile have been put in at a total cost of sixty-eight cents per rod. The drains are laid one hundred feet apart, this with a four-inch tile being considered better than a three-inch tile at four rods apart. The entire farm is to be so under-drained.

All the men are paid by the hour and a complete system of book-keeping is followed. There is room for such farms. They are an object lesson to others. This is ordinary fairly strong clay and clay loam soil no better than plenty of other farms. Business methods are injected into its operation. There is something to be learned from it. It is a system. It will accomplish good. Think what the good seed produced will be worth to the people who buy. Mr. Biggar, previously mentioned, tried an experiment with some of the specially cured corn against some of inferior grade and he said: "If I had paid \$32 per bushel for the good seed it would still have been \$8 cheaper than the inferior stuff at market price." It was ready to cultivate four days ahead of the inferior seed which came up weakly and was behind all season and the good corn was a much better crop and matured a great deal earlier." Mr. Biggar and the Essex County Seed Farms Ltd., are the only producers on a large scale in this country of kiln-dried seed corn—kiln-dried without heat by nature's own simple, yet best method. When the buildings are all up and the drives laid out it will be a treat to drive over this farm overlooking the great river and within easy distance of great cities by an electric road which passes, cars stopping hourly at the gate. It is a great three-unit farm—pure-bred seed, pure-bred dairy cows and pure-bred pigs—a three-year rotation on the farm and an inseparable, three-handed disposition of the products.

POULTRY.

Record Price for a Goose.

A goose given for sale for the benefit of the Belgian Relief Fund by Mr. Denver, of Newbury, Ireland, fetched altogether £78 at Newbury Cattle Market. It was sold several times, each buyer returning it for re-sale, until Mr. Leach, of Newbury, paid an additional 50s. to retain it as a record priced goose.

THE DAIRY.

Changing Creamery to Cheesery.

Editor "The Farmer's Advocate":

A few weeks ago we called attention to the fact that some parties are thinking seriously of changing their cheese factories into creameries, but the writer thought it an inopportune time to make such a change.

Since then we have had several communications from other persons saying, the writers thought of changing back again to cheese. The reasons given were that patrons were tired of turning separators, there was more money in cheese than in butter, and it took less time to care for the milk going to a cheese factory than it did to separate and cool the cream.

All these parties mentioned one drawback when patronising the cheesery, namely, the difficulty of rearing calves, which is undoubtedly a great obstacle in live-stock districts, or where a farmer desires to raise his own cows, as is becoming more necessary each year in order to renew and improve the dairy herd.

We have been asked a number of times regarding the value of pasteurized whey for calves; and whether this by-product of the cheesery can be satisfactorily substituted for skim-milk. While we do not know of any experiments having been conducted on this point, it is very doubtful if young calves especially, can be fed successfully on whey, whether pasteurized or not. Several farmers report good results from feeding pasteurized whey to calves after receiving a start on whole milk, but the farmers making enquiry wish to start the calves right off on whey.

One man says the practice in his locality has been to feed on whole milk for a few weeks, then change to water and grass, but the calves, he says, do not take kindly to the "water wagon," and he thinks they would do better if continued on the same feed throughout the summer season.

If any readers of "The Farmer's Advocate" have had good results from feeding whey to calves, no doubt the Editor would gladly give space for such, as the year 1915 is likely to see a boom for cheesemaking, but many farmers are puzzled to know how to raise their calves.

Theoretically what whey lacks is proteid or muscle-forming material as compared with skim-milk. In the process of cheesemaking, the rennet acts on the casein throwing it out of solution or changes its colloidal (jelly-like) form, to that of a solid, incorporating with it most of the fat of milk, some sugar and ash material, and a good deal of moisture.

The percentage composition of skim-milk and whey, as given by Dr. Van Slyke, is:

	Water	Fat	Casein and Albumen	Sugar	Ash
Skim-milk.....	90.30	.10	3.55	5.25	.8
Whey.....	93.12	.27	0.81	5.80	

From this table of compositions we see that whey and skim-milk are similar in chemical composition except in casein and albumen, or what chemists call the protein material. The whey has more fat than has the skim-milk from a separator and about the same percentage of sugar and ash, which are given combined for the whey instead of separately as in the case of skim-milk. An important point in connection with the sugar of whey is to prevent it changing to lactic or milk acid, which can be done by pasteurization, as the heat destroys the bacteria which feed on the milk sugar, leaving an acid behind, causing what is known as souring of the whey. For grown pigs, the whey acid seems to do no harm, but rather tends to aid digestion. Some recent experiments indicate that sour milk for calves is equal to sweet milk. It is possible we may have to raise our estimates of the relative values of sweet and sour dairy by-products for live-stock. In the meantime we should advise feeding these sweet to young stock at least wherever possible.

Other points raised by our correspondents are: the method and cost of pasteurizing whey, the cost of returning whey from factory to farm, the best method of keeping the whey on its return to the farm, and how long the pasteurized whey would remain sweet after reaching the farm.

Bulletin No. 183 from the Ontario Department of Agriculture, Toronto, deals with methods of heating whey and cost of same. Illustrations are given of five systems of heating whey, and to those who contemplate putting in a system of pasteurizing whey, we recommend them to get a copy of this bulletin.

The authors say, "We believe the average cost for heating will be about 75 cents per ton of cheese (20,000 lbs. whey). In no case have we known the cost of heating to be greater than \$1.00 per ton of cheese."

As to who should pay the cost of pasteurizing whey at the factory, this bulletin says: "As the patrons receive the greatest benefit from proper

pasteurization of whey, they should in all cases pay the cost, which is very small considering the benefit derived. Makers should in every case use their best efforts to see that the very best possible results are obtained, and the work properly performed."

As to cost of returning whey to patrons, this would depend upon the distance which the driver has to haul the by-product, condition of roads, etc. The rule, in some localities, used to be, one dollar per cow for the season. However, everything has advanced in price, as measured by the dollar standard, so it may be worth more today.

A clean galvanized or tin vessel is probably the best in which to keep the whey on the farm, but if the whey is left in until it sours, then the acid "eats" the tin or galvanizing, the vessel soon becomes rusty, and it is difficult to keep clean. Wooden vessels are not affected by the acid, but owing to their nature they are very difficult to keep sweet and clean, although many farmers use a barrel in preference to anything else for containing dairy by-products.

If the vessel containing the whey is kept clean and the by-product cooled on reaching the farm, the whey should keep reasonably sweet for 24 hours, which is as long as needed, except for over Sunday. For Sunday night and Monday morning feeds, probably some whole milk would be necessary, hay-tea, or a cheap substitute for milk. However, we need to bear in mind that calves, as a rule, do not take kindly to changes in diet, and such changes frequently result in scouring, indigestion, etc.

There are a number of problems relating to the cheese-factory and live-stock interests that will need careful consideration between now and the opening of the cheese factories in the spring of 1915. Cheese is likely to be a paying proposition for the coming year, but we cannot afford to sacrifice our live stock, for which skim-milk seems to be almost a necessity, especially for calves when they are young. Any light on this question will be gladly received by patrons of cheeseries for the year 1915.

O. A. C.

H. H. DEAN.

About Holstein Bulls.

Editor "The Farmer's Advocate":

In "The Farmer's Advocate" of Dec. 24th, a man from Wentworth County, Ontario, discusses the Holstein situation unfavorably because some American has bought a bull for \$10,000 and has since sold a half interest in him for \$25,000, enabling him to value his bull at \$50,000. Bulls from other breeds of cattle have been sold from \$10,000 to \$40,000 each, and people have been lucky to secure one of their sons; but our friend from Wentworth says, "It will be in order for suckers in Canada, one of whom is born every minute, to secure sons of this \$50,000 bull." Unfortunately there will not be enough to go around. We are lucky in having already secured one.

Nearly all the best Canadian breeders have sons or grandsons from bulls bred by our American friends. The Wentworth man takes about half of his letter in describing dishonest methods of some hog breeders. Well, we are not hog breeders, and must admit that he knows more about hog breeding and hog boosting than we do. He finishes his letter by saying, "The ultimate effect on the breed is bound to be disastrous." Now, if it is it will be because people listen to the misrepresentations of this man and do not secure some of the blood of this valuable bull.

Prince Edward Co., Ont. B. R. LEAVENS.

FARM BULLETIN.

Mending Bags and Other Things.

By Peter McArthur.

It seems that when answering correspondents and telling how to mend bags I did not cover the subject fully. There are other ways of doing the trick and readers of the Advocate are trying to set me right. This suits me entirely for the only way to get the ripest thought on a subject is to hear from all the people. I welcome these pointers, both grave and gay, and try to profit by them myself and to let other people profit. Regarding ragged bags a good-natured correspondent writes:

"At different times we have used all the well-known methods you have mentioned with varying success, but I think there is one stunt you have missed and I am going to give it to you. I believe you are always ready for new hints so prepare yourself."

"When the holes in the bags become so bad that straw will not stay in them and when if you puckered up the hole and tied a string about it there would be so little of the bag left that it would be almost useless, take two bags and put them one inside the other so that the holes are not opposite each other and you will have a

bag almost as good as new. While this method has its advantages it also has its disadvantages, and one of the drawbacks is that it takes two bags to make one. But I believe that in case of an emergency trifles like that would be overlooked."

Another reader of the Advocate of a more practical turn has advised me of a method of mending bags that is entirely sensible and not shiftless like the ways I gave.

"Trim the edges of the hole so that there will be no ravelled threads. Then cut a piece of bagging considerably larger than the hole and coat it, except a space the size of the hole, with fresh flour paste or fish-glue. Place it inside the bag and go over it carefully with a hot smoothing iron." This is said to be a practical patch that will last as long as the rest of the bag. So you see our foolishness was not all in vain. We brought out one method of mending bags that is really worth knowing.

Parliament will be open in a short time and there are indications that the truce that has existed since that declaration of war may prove to be only "a scrap of paper" or something equally worthless. It is quite true that the leaders of both parties who seemed anxious for an election some time ago have apparently decided to be good but the danger threatens from another quarter. There is a storm brewing in High Fin-

ance that may cause trouble. Some expedients that have been resorted to by the Minister of Finance are disapproved of by a certain group of capitalists and an issue may be forced that would have disastrous results. Although it may not be forced to the point of bringing on an election it may be forced to a point that will enable certain interests to gratify their greed and revenge. As a rule these rows in the domain of High Finance do not concern the public greatly for so long as we are being fleeced and do not mind being fleeced it does not matter greatly who handles the shears but if an attempt is made to make political capital out of the present situation it will work wide injury to the public and work good only to a small number of powerful interests. Although existing conditions are the logical outcome of the banking system which the Advocate has criticised for some years past this is no time for criticism. The financial systems of all nations are being tried by the war and it will do no good to embarrass them by suggestions or objections. I believe that those in authority realize the gravity of the situation and are trying to do their best in a perplexing situation. But when the war is over we can take up the fight again and perhaps accomplish something. It is to be hoped that the financiers will show themselves to be at least as public spirited as our politicians, but—

I am told that Sir Jingo McBoe Will soon make a horrible roar,

For the Currency Tango
Will sure make a gang o'
Big pirates exceedingly sore.
* * * *

It is certainly very gratifying to the farmers to have the cry going up that they "Must save the country." They must save it by producing food for the warring Empire and by increasing exportable products that will save the credit of the nation. Very well, they will save it. But surely no one will object if they ask with due humility whom they are to save it for. Are they to save it for the Trusts and Mergers and Privileged classes or has the time come when they can expect some measure of justice themselves? There has never been a time in the history of Canada when farmers had so good a chance to have their problems of marketing and transportation solved as the present. The power is in their hands if they will only exercise it. They should get plenty of farmers into parliament, but not farmers of the kind that will always heed the crack of the party whip and vote according to the orders of leaders who take their orders from the interests that supply the campaign funds. A few up-to-date farmers with the interests of the farmers at heart might work wonders in parliament during the next few years. Men of this type have already done wonders in the West and it is high time that they were being discovered and brought forward in Ontario.

The Experimental Union and Its Efficient Service.

Only those who are intimately connected with the organization can form a conception of the real significance of the Agricultural and Experimental Union that has been conducted in Ontario for thirty-six years. Its headquarters are at the O. A. C., and the farmers of Ontario are its members. Perhaps an occasional farmer has never heard of the Experimental Union, yet the probabilities are that the farmer in question is growing some variety of grain that has been introduced into Ontario agriculture through the good offices of the Union. The co-operative work of the Experimental Union has been conducted for twenty-nine years, during which time there have been 76,888 distinct tests made throughout the Province. Last year nearly 5,000 experimenters engaged in the work which is encouraging indeed when it is considered that they do so without remuneration of any kind. Such a widely-spread clientele insures for the organization efficient work and profitable service. The addresses were earnest and to the point at the annual meeting, held at Guelph, on January 11, 12 and 13, 1915. The steady earnestness of the people during these trying times has imbued each and every one with a desire for efficiency and service, and the sentiment found expression at the Union meetings.

The office of president for 1914 was occupied by T. H. Mason, Department of Agriculture, Ottawa, and he presided at the annual meeting. Mr. Mason considered that many men were drawn from the farm by the liberal way which money was borrowed and expended in the towns and cities. Such an outlay of money created a demand for labor, the farm hand responded, and the farmer was left with the inexperienced immigrant. Under such a condition Mr. Mason regarded it as a wonder that the volume of production is as great as it is. However, it was thought by the speaker that changing economic conditions will rectify these matters in due time.

Great stress was laid on the significance of Marquis wheat and O. A. C. No. 21 barley. "We have passed the day of chance selection," said Mr. Mason, "for we now have trained investigators to determine which kinds are most profitable to grow."

FIELD RESULTS.

The report of the Secretary, Professor C. A. Zavitz, is always a complete resume of the season's work of the Experimental Union. With his long and valuable experience, coupled with the efforts of an efficient staff, he is able to bring into the crucible of experimentation the varieties that will likely be of value to Ontario farmers. In their early youth these varieties give promise of worth on the plots at the College, which have been the birth place of many grains that are likely to be the chief varieties grown in Ontario. Prominent among these may be mentioned O. A. C. No. 21 barley, and O. A. C. No. 72 oats. When the farmer corroborates the opinion of the staff of the Field Husbandry Department then these varieties are recommended for general use. During 1914 there were no less than thirty-seven distinct experiments in agriculture conducted under the auspices of the Experimental Union. The Ontario Agricultural and Experimental Union conducts experiments with those classes of crops which are grown on about nine-tenths of the cultivated land of Ontario. Oats occupy 2,776,883 acres, and their market value annually amounts to nearly \$40,000,000 in Ontario. This

is a large sum for one single crop, and anything which is done to increase or decrease the value of the oat crop in Ontario to the extent of 1 per cent. in one year would make a difference of approximately \$400,000, or a change of 10 per cent. would make a difference of about \$4,000,000. An increase or decrease of 1 bushel of oats per acre per annum would make a difference in the value of Ontario's oat crop of approximately \$1,000,000. Thus readers will see that any experimental work conducted along the lines of this single crop alone might be of inestimable value to grain growers of Ontario.

In the spring of 1914 three varieties of oats were used for the co-operative tests, namely, the O. A. C. No. 72, the O. A. C. No. 3, and the Alaska. The aim of the Union is to introduce as few varieties as possible, and only use in the co-operative work those which have proven to be highly worthy.

Varieties.	Comparative value	Yield per acre.		
		Straw (Tons)	Grain (Bus.)	Grain (Lbs.)
O. A. C. No. 72-100	1.52	52.38	1.781	
O. A. C. No. 3.....	73	1.26	48.96	1.665
Alaska	60	1.26	43.64	1.484

The accompanying table illustrates the relative value of these different varieties. As has been mentioned in these columns before the O. A. C. No. 72 and the O. A. C. No. 3 are products of the Experimental plots at Guelph. The O. A. C. No. 72 was chosen for its thinness of hull, strength of straw, and general desirable characteristics. The O. A. C. No. 3 is an early oat, and in the annual test has proven itself superior to other varieties in yield and quality of grain. The O. A. C. No. 3 was distributed in 1913 for the first time, when it also occupied second place in yield per acre. The Alaska, which has been largely recognized as one of the best varieties of oats, was surpassed in each of the past two years by the O. A. C. No. 3, which is a thinner hulled variety and one which is likely to take the place of both the Alaska and the Daubeny in general cultivation throughout Ontario.

In barley the famous O. A. C. No. 21 led again. In this case, which was a test between common emmer and barley, in eighteen different localities the O. A. C. No. 21 barley took the lead, with an average of 35.7 bushels per acre. The heads of this particular barley are six-rowed, fairly compact and of good size. "We know of no other variety," said Prof. Zavitz, "in the Province equal to the O. A. C. No. 21, which is probably grown more extensively than all varieties combined, even including the Mandscheuri."

Two-rowed barleys have exerted but little influence in the Province, and unless some better varieties can be found the attention of Ontario farmers will probably be directed almost entirely to the two six-rowed varieties. With tests this past year the Hanna, a two-rowed barley, did particularly well, yielding even a little more than the O. A. C. No. 21. This is very exceptional, however, as in a series of years the O. A. C. No. 21 considerably surpassed any variety of two-rowed barley which has been grown by the College authorities.

Winter wheat is still quite largely grown, and in consideration of the agitation now on foot to increase Canada's food crop, experiments with these varieties of winter wheat will be of interest

to farmers. Five varieties were given a trial, and the accompanying table of results will demonstrate their relative merits

Varieties.	Comparative values	Yield per acre.		
		Straw (Tons)	Grain (Bus.)	Grain (Lbs.)
Imperial Amber...	98	1.63	31.69	1.901
American Banner...	87	1.40	30.80	1.848
Crimean Red	100	1.34	30.40	1.824
Banatka	72	1.28	28.83	1.730
Yaroslaw	80	1.57	28.27	1.696

The Imperial Amber occupied highest place in yield per acre. The American Banner, which closely resembles the Dawson's Golden Chaff, occupied second place. Particular attention was drawn to the Crimean Red, which, as a popular variety in Ontario, gave a good yield per acre, and is a superior wheat for bread production. Unfortunately, Crimean Red is much weaker in the straw than either the Dawson's Golden Chaff or the American Banner.

According to the Ontario Bureau of Industries the average yield of field peas per acre was 14.7 bushels in 1914. An average result of 21 bushels per acre for the Canadian Beauty variety grown on twenty-five Ontario farms shows that this pea has made a very fair record. The last three or four seasons have been particularly unfavorable for pea growing in this Province. However, it is hoped with the introduction of improved varieties and the recurrence of more suitable seasons that the tendency will be to increase the area used for this important crop in Ontario. Out of twenty-five tests the Canadian Beauty averaged 21.07 bushels per acre, while the early Britain averaged 20.67.

The aspect of the bean market for the succeeding year or two looks favorable to the growers of beans in Ontario, and there will probably be some increase in the production of this field crop. The result of seven tests shows that of three varieties tried this year, namely the Marrowfat, Pearce's Improved Tree and Common Pea, that the former led with an average yield of 24.28 bushels per acre. The others ran 24 and 20.15 bushels respectively. It will be seen by the adjoining table that the Pearce's Improved Tree variety gave an average yield of only 17 pounds per acre less than the Marrowfat in the results for 1914. In 1913 this result was reversed, as the Marrowfat fell 66 lbs. per acre below the yield of Pearce's Improved Tree.

Varieties.	Comparative values	Yield per acre.		
		Straw (Tons)	Grain (Bus.)	Grain (Lbs.)
Marrowfat	83	1.08	24.28	1.457
Pearce's Improved Tree	100	1.18	24.00	1.440
Common Pea	75	.87	20.15	1.209

A large amount of systematic experimental work has been conducted relative to the growing of grains in combination. The results of five years' experiments show that throughout Ontario 1 bushel of the Daubeny oat and 1 bushel of the Mandscheuri barley gave a higher yield of grain per acre than any of the other mixtures used in these experiments. However, during the two years just past it has been found that 1½ bushels each of these grains have given best results, but

this is probably due to the fact that the seasons of 1913 and 1914 being comparatively dry the heavier seeding was favored. It will be interesting to observe the results of this experiment over a longer period of time.

There were 26,717,587 bushels of potatoes produced in Ontario in 1914. This was fully seven million bushels more than in 1913, and eight million bushels more than the average of the past thirty-three years. The four counties in Ontario which produced the largest yields of potatoes in the past year were Simcoe, Middlesex, York and Grey. The question of numerous varieties still is before the Ontario people, and they have not solved the problem sufficiently to eliminate the necessity of importing car loads of potatoes from other provinces. In the enquiries made in 1914 it was found that fifty-one varieties were mentioned one or more times as being the most extensively grown in the different counties. The accompanying table gives the average results of the co-operative experiments with two varieties of potatoes successfully tested on 293 farms in 1914. The Davies' Warrior variety of potatoes made a high record at the College previous to the last two years. In 1913 and 1914 it did not give quite as good results in the experiments at Guelph as it did previously. This was probably due, however, to unfavorable climatic conditions. In 1914 it will be seen from the table that the average yield per acre of the Davies' Warrior throughout Ontario was 153.2 bushels, and of the Extra Early Eureka 95.9 bushels per acre. The latter variety is an early potato of excellent quality, but owing to the lack of yield was not quite as popular as the Davies' Warrior variety.

Varieties	Comparative value	Per cent. of small tubers	Mealiness when cooked	Bushels of whole crop per acre
Davies' Warrior	100	10	92	153.22
Extra Early Eureka	86	15	100	95.86

BEAN GROWING IN ONTARIO.

The production of beans in Ontario was fully discussed by J. O. Laird, of Blenheim, Ont. In his remarks regarding the production of beans he stated that the outlook for the bean market in the coming year or two was particularly favorable and that growers could increase the crop with confidence of a fair price. In the preparation of the land the speaker said light soil was better plowed in the spring and heavy soil was better plowed in the fall. The spring-plowed land is rolled down and disced thoroughly before seeding. The seed is sown from a drill, leaving only three tubes open, thus making the rows 28 inches apart. They are harrowed before they appear through the ground, but as they germinate and come above the ground in from four to six days this is sometimes omitted, but the weeder is used frequently after they are up. It is hard on the nerves of the owner to see them gone over in this way, but if he can control his passions for the time and allow the weeder to do its work, the crop will ultimately result in a better production than that operation had been omitted. The cultivator is then brought into use, and used frequently up till the time the plants bloom. Implements and horses will knock the blossoms from the plants quite easily, so cultivation should be suspended at that time. The harvesting is done with a set of knives attached to a cultivator, and after they have lain on the ground for a little time they are raked in bunches with the side-delivery rake. After about four days in this position they are turned either by hand or with the rake and allowed to remain one or two days further on the ground. In drawing in it has been found that where they are dropped into the mow with slings or fork they fall quite heavily and lie compact in the mow. Mr. Laird said that to overcome this he had put a stout pole across beneath the fork or slings and in dropping over this they are broken up, and it is much easier to mow them away properly.

The threshing of beans is a difficult proposition in a country where bean-growing is not the general crop grown. However, in large bean-growing centres the bean thresher does away with this difficulty, and makes the operation quite easy. In discussion led by W. R. Reek following Mr. Laird's address it was mentioned that in some places threshers had taken the concave out of their machines and replaced it with one made of wood. However, Mr. Reek's objection to this was that it was too slow and that it was hard on the machine, and altogether unsatisfactory when used on a large scale. It was furthermore brought out in discussion that the dealers now have machinery for cleaning the small beans, and beans colored by inclement weather, from the good grain, but they have no machinery yet to separate the diseased beans from the healthy ones.

Prof. Howitt, from the Ontario Agricultural College expressed the opinion that seed selection

must take a more important place than it has in the past, yet a bean seed may have the disease in it and it will not be noticed. For plot work, the most efficient way is to select the seed while in the pod, as the disease is noticeable there. This is impracticable, of course, in field culture, but unless something is done in the way of purifying seed and exterminating the disease called anthracnose the crop production per acre will be very much lessened.

FINDINGS IN BEE CULTURE.

The operations in the apiaries during the summer of 1914 were unencouraging indeed. Morley Pettit, Provincial Apiarist, opined that unfavorable climatic conditions were responsible for the low production of honey. The co-operative experiments in this work included seven experiments.

Number one had to do with the prevention of natural swarming in extracted honey production by holding the colony together. By this method, swarming was reduced from thirty-five to five per cent., the honey crop per colony being increased. Experiments regarding the prevention of natural swarming in comb-honey production demonstrated that comb honey can be produced without natural swarming.

The prevention of natural swarming by manipulation of hives instead of combs has been carried on, and the results indicate that it is of great advantage to give the queen an extra brood chamber of combs for a week or two before the opening of the clover flow, provided the colony is strong enough to need the extra space.

Results of experiment number four demonstrated that it pays to give hives extra protection when they are taken out of the cellar early in the spring. The extra warmth so obtained is of great value to them in early brood rearing.

Experiment number seven concerned a problem which is very much before apiarists in Ontario, being that of the smoke method of introducing a queen to a full colony, and the results proved entirely satisfactory with two-thirds of the experimenters.

ERADICATING BAD WEEDS.

A committee of the Experimental Union was organized a few years ago to make experiments in the eradication of weeds, the results of which might furnish data from which definite statements might be made regarding the best methods of controlling the various bad weeds. It is recognized that at the present time we have very little reliable information concerning the best methods of dealing with our various bad weeds on different kinds of soils and under various conditions of cultivation and cropping. The weeds selected for the experiments in 1912 and 1913 were Perennial Sow Thistle, Twitch Grass, Bladder Campion and Wild Mustard. Ox-Eye Daisy was added to this list in 1914 and there were in all seven experiments, but no satisfactory results have been obtained from two experiments of the list, Prof. J. E. Howitt, of the O.A.C., has been conducting this work and gave the following report:—

During the past three years, forty-five men co-operated in this work, including eight District Representatives of the Ontario Department of Agriculture. Thirty-six of these carried out the directions for the experiments and reported the results obtained. Summarizing the reports received it is found that seven men tried experiment number one, "The use of rape in the destruction of Perennial Sow Thistle." Three reported the method entirely successful, three only partially successful and one reported it a failure owing to exceedingly dry weather preventing the rape growing properly. One of the men who obtained only partial success did not carry out the directions completely.

Five men tried experiment No. 3, "The use of rape in the destruction of Twitch Grass." Four reported the method a complete success and one reported it a partial success. This man however, did not carry out the direction for the experiment in detail, he sowed the rape broadcast instead of in drills.

Five men tried experiment No. 4, "A method of cultivation and cropping for the destruction of Twitch Grass." The experiment requires two seasons to complete. One man completed the experiment and reports success with the method. At the end of one year one man reported success as far as the experiment had progressed, two men partial success and one man reported it a failure.

Three men tried experiment No. 5, "A method of cultivation and cropping for the eradication of Bladder Campion." All reported that they found the method a complete success.

Fifteen men tried experiment No. 6, "Spraying with iron sulphate to destroy Mustard in cereal crops." Fourteen reported the method a success and one reported but partial success.

In conclusion it may be said that the reports received of these co-operative experiments indicate: First, that good cultivation followed by rape sown in drills provides a means of eradicating both Perennial Sow Thistle and Twitch

Grass. Second; That rape is a more satisfactory crop to use in the destruction of Twitch Grass than Buckwheat. Third, That rape gives better results in the eradication of Twitch Grass and Perennial Sow Thistle when sown in drills and cultivated than it does when sown broadcast. Fourth, That thorough, deep cultivation in fall and spring followed by a well-cared-for hoed crop will destroy Bladder Campion. Fifth, That Mustard may be prevented from seeding in oats, wheat and barley by spraying with a twenty percent solution of iron sulphate without any serious injury to the standing crop or to fresh seedlings of clover.

Points of interest brought out by the experiments in spraying with iron sulphate to destroy Mustard were:

1. The necessity of spraying early, just when the plants are coming into bloom. If the spraying is left too late, the older plants will not be destroyed by the solution, and will form seed, and hence the experiment will not be entirely satisfactory.

2. To spray thoroughly, and with a good pressure. In order to spray thoroughly with an ordinary broadcast attachment, it is necessary to keep the horses walking very slowly. If an attempt is made to cover the ground quickly, some of the plants will be missed, and the results will not be satisfactory.

3. In regard to the cost of spraying with iron sulphate it was found that the cost of material per acre varied from \$1.00 to \$2.40. If the iron sulphate is bought wholesale, it can be purchased at \$1.00 per cwt., so that \$1.50 to \$2.50 per acre should cover the entire cost of spraying.

At the annual Convention of the Experimental Union in 1914, a committee was appointed to make a study of the present weed acts of the different provinces of Canada, and if thought advisable to make suggestions as to how eradication of weeds in Ontario could be made more effectual. A notice was sent out to the various townships of the Province asking in all six questions, and prominently on the front of the sheet this notice appeared, "If this form is not returned it will be taken for granted that your township council has done nothing to carry out the provision of the Ontario Act to prevent the spread of noxious weeds." Of 600 townships circularized in this way only 168 replied. Ninety-two said some attempts had been made to enforce the Act, 49 townships had no inspectors, in 17 townships the work of the inspector was satisfactory, whereas in the majority of cases the Ontario Act regarding the eradication of noxious weeds was not put into force.

Complaints and suggestions accompanied these letters, in which some stated that the inspector should be an employee of the Government with residence outside the townships so he would not be brought under local influence. It was found that an effective inspector loses his job if he is active, because his operations militate against the success of those in power at election time. It was furthermore suggested that sheep be pastured on the roadside, and that it be made compulsory to cut all noxious weeds. Another suggestion submitted recommended that it be made compulsory for every municipality to appoint an inspector.

The committee in question from their considerations submitted the following suggestions: First, by organized effort the Ontario Department of Agriculture, through Institutes, District Representatives and all its various offices should acquaint farmers with the Act, and with the nature and significance of certain noxious weeds.

Second, that an amendment should be made to the present Act to enforce every township council to appoint an inspector, whose duty it would be to enforce said Act.

Third, that the Ontario Government should appoint a county or district inspector, whose duty would be to oversee the work of certain township inspectors in his district.

Fourth, that the present Act should be extended to include other weeds not now mentioned in its list.

It was mentioned in discussion that legislation depends largely upon sentiment and public opinion, and that no legislation is effective until the people, for whom it is enacted, desire that legislation or understand its significance, and owing to the fact that the farmers of Ontario do not now understand the Act, generally speaking, and are not acquainted with the significance and seriousness of the noxious weeds, and their way of reproducing it would be advantageous through a campaign of education to bring the present Act more prominently before them and to be understood and before any alterations are made.

As Chairman of this committee, Prof. J. E. Howitt, of the O. A. C., has done efficient service, and the committee was advised to go on and make a further study of conditions relative to this Act.

THE FUTURE OF HORSE BREEDING.

The future of horse breeding has engaged the attention of a good many farmers, and at the

Union meetings Dr. F. C. Grenside, Guelph, developed the proposition very thoroughly. It was pointed out in his remarks that the business has had its "ups and downs" for the last forty years, and that these fluctuations were in periods of approximately ten years each. During the seventies trade in horses was slow. In the eighties there was an improvement. In the nineties again trade declined, and from 1900 to 1910 prices were better than ever before, and higher probably than they will be for some time to come. In the years between 1870 and 1880 good draft horses sold for \$140 to \$150 each, and up to that time the United States had been using light horses to execute their work. In the eighties they began to use a heavier horse, and turned to Canada to supply this demand. Geldings increased in price on an average about \$25 and mares \$50. This price was maintained up to about 1893, when on the other side prices dropped as much as \$100 per horse in one night. The depression extended into Canada, and poor prices resulted until 1900. During the nineties Canada developed a trade with Europe. Horses commanded an increasing price until the business began to develop in the Canadian West, and the foreign business was dropped. This exportation of horses from Eastern Canada to the West prospered between 1900 and 1910, and breeders saw the highest prices ever paid on this continent.

At the present time the speaker declared we were going through a decline period, and the factors for this condition were obvious. In the first place trade makes a big difference in the demand for horses. According to the fluctuations in trade the business prospers or declines. Construction has had much to do with the previous high prices of horses, but when this work was suspended the demand for horses decreased and prices dropped. Business in the Northwest was an important factor in horse breeding, and they got many animals from Eastern Canada, mostly from Ontario. But that is a thing of the past, for Dr. Grenside was of the opinion that Western breeders can now look after the business as they have excellent opportunities in some of the Western Provinces. Business will revive again, of course, but the speaker opined that prices would not go back again to their old level. Dr. Grenside considered that the decline during this period of slowness in the horse business amounted to from \$50 to \$75 apiece. He furthermore considered that the motor did not have any great effect on draft horse quotations.

In the nineties breeders were not prepared for the upward trend of prices, and they did not reap the advantages which ultimately accrued to the business. Dr. Grenside recommended breeding still, but using considerable caution for "every down has its up," and if breeding is followed along sane and cautious lines there will be business still for the horsemen in Canada.

FERTILIZER EXPERIMENTS.

In addition to the report of the Secretary it might be added that experiments were conducted with fertilizers throughout the season of 1914. Space will not permit of detailed accounts of the results but a few summaries may be interesting with regard to these investigations.

Complete fertilizer with oats gave an increase of 9.8 bushels of oats at a cost of 42 cents per bushel.

Nitrate of soda with mangels gave an increase of 5.9 tons of roots per acre at a cost of 81.4 cents per ton or 2.5 cents per bushel.

Complete fertilizer with Swede turnips gave an increase of 5.4 tons per acre at a cost of 78.5 cents per ton or 2.4 cents per bushel.

Complete fertilizer with potatoes gave an increase of 39 bushels per acre at a cost of 10.9 cents per bushel.

Complete fertilizer with winter wheat gave an increase of 5.2 bushels per acre at a cost of 82 cents per bushel when applied in the autumn and an increase of 8.3 bushels per acre at a cost of 51 cents per bushel when applied in the spring.

No account was taken in these results of the after effect of this fertilizer, that is, what effect it might have upon subsequent crops on the same soil.

Prof. Harcourt, of the Ontario Agricultural College mentioned with regard to the scarcity of commercial potash that some soils contain as high as 12,000 pounds of potash per acre to plow depth. A crop of mangels will take about 300 pounds of potash and oats about 40 pounds of potash to effect maturity. Sufficient lime and organic matter in the soil will have a tendency to bring into availability this potash already in the land and farmers should look to it that these necessary attributes are present in order to derive the required amount of potash.

EXPERIMENTS RE INOCULATION.

The report of the Bacteriological Department, relative to the success of Nitro Culture upon legume crops was successful again last year to the extent of 79.7 per cent. of cases. The total number of farmers to whom cultures were sent was 1,418 of whom 1,162 received cultures for alfalfa. It is interesting also to know that 430 cultures

were sent to the Department of Agriculture Victoria, B.C., for distribution to the farmers of British Columbia with samples of alfalfa seed. Results are being waited for regarding these tests. From 1905 to 1914 samples of Nitro Culture for inoculating clover and alfalfa had been distributed by the Bacteriological Department. The results are averaged at the expiration of each year and the percentages reported. The lowest in that period has been 51 per cent. and the highest 79.7 per cent., that received this year. Prof. D. Jones of this Department will continue the work and disseminate the culture for the use on crops of legumes.

FEEDING STUFFS FROM SCREENINGS.

The subject pertaining to the importations of screenings with the accompanying dangers of infestation of noxious weeds was discussed at length by J. R. Dymond, Department of Agriculture, Ottawa, and in his remarks he drew particular attention to the danger to which our farms are exposed through the dissemination of feeding materials containing these noxious weeds. The screenings which come into Ontario are mixed with other grains and ground by ordinary choppers, but the ordinary chopper is entirely unsuited to crush the fine seeds found in such large numbers in all screenings. This is shown by the analysis of a sample which had been ground in order to put it on the market as a feed. One-eighth of an ounce contained weeds in such proportions that one pound of the amount would have contained 29,800 noxious seeds and nearly 62,000 others. This is an entirely wrong use of elevator screenings and one that is about to bring about the wholesale spread of noxious weeds. The American feeders and feed manufacturers imported last year, 50,000 tons of our screenings against an ad valorem duty of 10 per cent. and freight charges to Chicago and Buffalo by lake and often considerable distances inland by rail. The finished product in the shape of dairy and poultry feeds and even mutton and eggs are returned to Canada against more freight and duty charges. "Last year," said Mr. Dymond, "we imported from the United States, over 13,000,000 dozen eggs costing more than \$2,500,000, and more than 4,000,000 pounds of mutton and lamb valued at \$439,000. Our problem is to find out how these screenings should be fed. A man who buys a quantity of screenings for cattle or hog feed naturally tries to include it all and is willing to mix in some good grain to cover up the bad taste of the mustards. In the United States these fine seeds are never ground with the rest of the screenings but are separated and made into dairy and other feeds which usually contain molasses, and often such materials as cottonseed meal, linseed meal, bran or shorts. There is little demand in Canada for feeds of this kind and the easiest way to use the small seeds is to leave them in the screenings and grind them all up together."

In the analysis of the sample of feed previously mentioned, more than 95 per cent. of the weed seeds were Tumbling Mustard and Lambs Quarters. Tumbling Mustard seed is so tiny that it readily passes through a fine mesh-wire sieve containing more than thirty wires to the inch each way. Seed of Lambs Quarters is larger but has a hard flinty coat which makes it difficult to grind and ordinary elevator screenings contain about 20 per cent. of this seed.

Mr. Dymond further remarked: "I think I am safe in saying that if the 50,000 or 60,000 tons of cleanings annually taken out of our Western grain was re-cleaned to remove the small seeds and carefully ground they could be profitably used in feeding hogs and cattle with far less danger of spreading weeds than by the use of commercial seed grains."

Wild buckwheat is the most common impurity in Canadian grain and forms from 10 per cent. to 15 per cent. of ordinary screenings. This is one of the largest weed seeds and is not removed by the screen previously mentioned but it is good feed and easily crushed. However, the speaker thought that if wild buckwheat were separated it would be more valuable as poultry feed than high-grade wheat and corn.

The speaker read several letters which had been sent seeking information from the Department regarding the character of certain feeds which had caused fatality to the stock and it was urged that some investigation work be carried on to ascertain the food value and the dangerous qualities of weed seeds commonly found in feeding stuffs.

SCHOOL WORK.

There is in the Experimental Union a Department known as the "Schools Division." This work is under the direction of Prof. S. B. McCready. So far as the Experimental Union is concerned this work consists in disseminating seed and carrying on experimental schemes among the children in the country schools. They are instructed how to cultivate and mature these crops and the teachers give the reports of the work. The work has been favorable, but it is not to be inferred that all reports are filed with stories of successes. A few tell other tales of indifference of trustees, of antagonism of parents, of irrespon-

sive pupils and of temporary defects but with it all this must be concluded, given fair chances, the teaching of agriculture, will bring large returns to the community, the children and the teachers.

The speaker expressed the opinion that there is no subject included in the program of school subjects which has been so misunderstood and objected to as the subject of agriculture. There has been marked improvement in this respect in late years and he looks forward to the time, not more than twenty years ahead, when it will be as acceptable all round to school supporters and as well established in school work as arithmetic or geography.

There is a misconception abroad, and it is probably the remnant of the earlier method of teaching agriculture tried in the schools, and that is the confusion in the minds of rural people that agriculture and book-learning are synonymous. "The book," said Prof. McCready, "is the book of nature as found on the farm. The teacher of agriculture directs the learner to that book and helps him to read it. He learns from his teacher just as a farm child in a good home with an intelligent father and mother learns lessons in agriculture and in life every day. Agriculture is more than plowing, harrowing, seeding, harvesting, cutting wood, drawing water, milking cows, feeding cattle. These are necessary, of course, but they may all be done with labor and persistence without being a success that is filled with pleasures and satisfaction and even profit. Success will come from intelligent effort, from effort made in accordance with scientific principles."

Getting an education has always been accepted as equivalent to preparing to fill a position in the so-called learned professions in the town or city. The boy who is "only going to be a farmer" is too often allowed to drop out of school before he has taken full advantage of even the learning which the local red school house might afford. Prof. McCready further explained the methods used in teaching agriculture and its immense significance in relation to rural problems.

RURAL PROBLEMS.

Some time was given over to a discussion of rural problems and how they may be solved. The Hon. Nelson Monteith, Stratford, spoke first on this subject and opined that the improvements which have been made in urban municipalities have established a high value for labor. This has militated against country life but now that these urban municipalities are not borrowing money to the same extent and not making so many improvements at the present time, that factor will be very much depreciated in its effect. The speaker said that one's ideal of fame should be service. People too long have been seeking press notices and publicity in town and city. He agreed with Prof. McCready regarding secondary schools but did not think the school section too large for community spirit.

W. C. Good, Brantford, was of the opinion that the farmer has got to save this country during the financial disturbances which are taking place at the present time. It is the production on the farms that will right this matter. He furthermore said that there was need of a survey of agricultural conditions in Ontario from which the agricultural departments might gather facts upon which to act in the administration of their affairs. Relative to a college training, Mr. Good said, that the importance of his college course was the increased interest in his work and in his life. The more technical features of the work did not have the significance for which he once gave them credit. This interest in agriculture and life in general he considered might be aroused through teaching agriculture in the school as suggested by Prof. McCready. Mr. Good was furthermore of the opinion that the work of our agricultural departments is neutralized by other forces working against them and an endeavor should be made to find what and where these forces are and eliminate them.

"Production and distribution are closely related," said the speaker, "and every curtailment of production is brought about by a violation of the moral laws of distribution. The poverty which we are feeling in Canada to-day is a result of a violation of the laws of justice." There are moral laws and physical laws and when the physical laws which govern distribution and the moral laws of trade are violated and injustices are perpetrated demoralization of trade and poverty results. The speaker thought that the farmers of Ontario have been demoralized and pauperized by what the departments have done for them. They have been taught to depend upon outside help and it is almost impossible to get them to initiate schemes of their own. The Western farmers of Canada are an example to rural people and farmers of Ontario should learn the lesson they have written.

A. McLaren, Secretary of the College Y.M.C.A. spoke on the question and discussed it from the basis of a number of replies that he had gotten from students in answer to queries why they had left the farm. Lack of co-operative spirit and lack of capital were largely responsible for the abandonment of many holdings.

The matter was further discussed by Prof. J. B. Reynolds, of the O.A.C., who considered that the solution of the rural problem depended upon brains and character. The man of brains and character on the farm or wherever he is is making good. He furthermore considered that the problem lies more in the home than on the farm. It was a question of satisfaction which one got out of their home and he did not blame the women of the country for preferring the advantages and conveniences of a city dwelling. There is need said Prof. Reynolds of the application of business methods and business management.

Dr. G. C. Creelman, President of the O.A.C., gave utterance to two thoughts in connection with the rural problem. He considered that smaller farms might tend to alleviate conditions somewhat and that farmers should give their sons and daughters some interest in the work at home and allow them to live with their parents but upon a financial consideration which the youth might consider his own.

"MORE THAN USUAL."

At the evening session, Dr. C. C. James, Commissioner of Agriculture for Canada, outlined the operations of the warring nations and the great food scarcity in Europe. Dr. James has coined the slogan "More Than Usual" to be applied to Canadian conditions. The great poverty in little Belgium was expressed in the figures of 2,000,000 refugees in Holland, England and France and 5,000,000 hunger-stricken Belgians within the German lines now being fed by Canada.

United States, and other nations. The latest call is for at least one shipload of food each day.

There is a task laid upon our towns and cities. These have been growing and expanding—extending their boundaries until to-day there must be at least one hundred thousand acres lying idle, unproductive but cultivable in our towns and cities. Living nearby are tens of thousands out of work. Schemes have been suggested of taking the landless men out to the manless lands to grow wheat. That would probably cost \$2.00 to grow one dollar's worth of wheat; it would be uneconomical; a waste of men and money.

"The call is for more food," said Dr. James. "The first thing that suggests itself is increased acreage. Let us have another million or two more acres of wheat, many people say. The worst thing that could happen to Canadian agriculture would be the attempting of too much—the spreading out of labor to its dissipation. Ten million acres of wheat producing twenty bushels to the acre will give more crop than twelve million acres producing fifteen bushels to the acre. It would mean twenty million bushels more, produced at less cost. What we want to understand is that it is millions of bushels not millions of acres, that is called for; more milk and butter and cheese rather than more cows. It is a day when the economical use of labor will tell.

The farmer who quietly, honestly, determinedly lays his plans for more wheat, more oats, more milk, more beef, more flax and more of almost everything that he knows best how to grow will be doing only his duty, he will be contributing

what he alone can contribute, and he will be helping in the fight, for, as Napoleon said, 'An army fights on its stomach.' Let us remember that it is more bushels per acre, more pounds of milk per cow, more pounds of meat per animal that will count, and that will mean more total food per farm. Let us in 1915 make good in the farmers' fighting line with 'More Than Usual'."

For almost one hour, Dr. G. C. Creelman interested his audience by a story of his trip to the Orient and through the countries of Japan, China, Australia, and New Zealand. The lack of interest taken in politics by ninety-six per cent. of the people of China, the finer sentiments, love of home and flowers and the aesthetic temperament of the Japanese were beautifully told. Then again the climatic conditions, agricultural developments and general status of affairs in Australia and New Zealand were described. The ocean trip, the enormity of the merchant marine of the Pacific Ocean and Canada's future in regard to it were explained in pleasing language. The address was a treat in regard to reminiscences and conditions abroad and the audience showed appreciation.

OFFICERS FOR 1915.

President, Herbert Groh, Preston; Vice-President, J. B. Fairbairn, Vineland; Secretary, Prof. C. A. Zavitz, O.A.C.; Assistant Secretary, Prof. W. J. Squirrel, O.A.C.; Treasurer, A. W. Mason, O.A.C. Directors: Dr. G. C. Creelman; H. L. Becket, Hamilton; R. S. Duncan, Port Hope; H. Sirett, Brighton; J. E. McLarty, O.A.C.

Greater Efficiency Needed in Western Ontario Dairying.

The forty-eighth convention of the Dairymen's Association of Western Ontario was held in St. Thomas, Jan. 13 and 14, and, as a matter of contrast with the Eastern Dairymen's Convention held the previous week, there was a large and representative attendance at nearly all the meetings, particularly those of the first day. While a goodly number were present at each meeting it was noticeable that makers and factorymen predominated all through the meetings, and that while a fair number of producers turned out there were not anything like as many as there should have been at such a meeting. The tone of most of the addresses pointed to the need of a greater efficiency in dairying from the producer's end of it right up to the time the finished product is put on the market for the consumer. Western Ontario turns out good dairy products, but there is still room for improvement in the methods on the farm and in the factory. The outlook for dairying in this country, if the speakers have a fair conception of what is to come, seems bright.

President J. B. Muir, in his short address, stated that the year which had just closed was unique as the highest average prices (about 13½ cents per pound for the season) were paid to the patrons of cheese factories in this country. It is a fact that owing to conditions which all dairymen regret, stocks of cheese are lower at the present time in Canada than ever before at this date. There seems to be an assured market for all the cheese that can be produced in this country, and Mr. Muir has confidence in the future of the industry. With the decrease in the production of cheese and the very large increase in the production of butter from about 9,000,000 lbs. in 1905 to over 20,600,000 lbs. in 1913, and the Western Provinces developing very rapidly in the dairy business, especially butter making, it does not appear as though too many cheese would be made in the very near future. Manitoba last year increased her production of milk about 50 per cent., and this went into butter. The time may have arrived for dairymen in sections where, for several years, they have been turning from cheese to butter to seriously consider if it would not be in their best interests to go back to cheese making again. The President's chief note to butter-makers was that they are not producing the quality of butter that Western Ontario is capable of, and he urged more effort in this direction, stating that it was yet a long way to perfection in quality in Western Ontario creamery butter, and he desired that makers should see to it that Quebec and Alberta do not carry off nearly all the prizes at next fall's Canadian National Exhibition.

While butter-making has been making rapid advances exports of cheese last year were only about 91,000 boxes less than the previous year. Considering the large numbers of dairy cattle shipped out of the country in 1913 the decrease is not great. The advent of electricity and the milking machine is likely to greatly increase the interest in dairying in this country.

PROGRESS IN FACTORY WORK.

The financial statement showed the affairs of the Association to be in good condition with a balance of considerably over \$400 on hand. The report of instruction work, given by Frank Hens, Secretary of the Association and Chief Dairy Instructor for Western Ontario, showed

considerable good work that had been done during the past season when there were employed five cheese and three creamery instructors in the district. Three hundred and seventy-three full day visits and 473 call visits, or a total of 846 visits all told were made by the cheese instructors to the one hundred and forty-six cheese factories in the district. Six factories were burned during the season, three were rebuilt, and the fall output of several cheese factories was considerably increased by the closing down of condenseries in some districts. Two factories made whey butter, and four factories made casein. Nine thousand five hundred and forty-two patrons supplied the milk to cheese factories with an estimated average of fat in milk of 3.42% and a loss of fat in the whey of .217%. Two hundred and eleven patrons were visited, and 24 factories paid for the milk by test; 13 factories have ice cooled curing rooms, and about 70% pasteurized the whey, while 7 of the factories fed all or a portion of the whey at the factories. The cheese factories produced in 1913, 21,055,531 lbs. of cheese, and in addition produced during the winter months 932,065 lbs. of butter; the output of cheese for 1914 will be greater than this. It required, in 1913, 11.18 lbs. of milk to make a pound of cheese. The average price per pound of cheese was 12.72 cents. The early part of the season of 1914 gave a good average price, and after the month of August cheese sold at the highest prices ever realized in Canada. Quality of the cheese the early part of the season was extra fine. The extreme warm weather of midsummer, however, gave several factories trouble with open cheese. This was quickly remedied; few acidity cheese were reported, and a few complaints made regarding the finish of some of the cheese. Mr. Hens advised that buyers should visit the factories more frequently, and that greater care might be taken in some cases in loading the cheese on the car. There were held, in 1914, 83 factory meetings of instructors with a total attendance of 4,510; 8 patrons pleaded guilty to delivering deteriorated milk to cheese factories, this being the smallest number since the present system started.

One hundred and nine of the cheese factories were reported as kept in a sanitary condition, the others fair, with 13 factories in poor condition and expected to improve next year. Cooling the night's milk to at least 65 degrees is believed to be absolutely necessary under any condition, and if greater care can be exercised in the milking the number of troublesome organisms which have to be controlled should be less. The sediment test was carried by each of the cheese instructors the past year, and good results are looked forward to from this test.

Three creamery instructors visited 126 creameries and 17 cream shipping stations during the year. There are now 9 more factories, taking into account creameries and cheeseries, than there were in 1907. Many people believe that the number is growing less, but this is not so. In 1913 the creameries produced 17,404,314 lbs. of butter. Including 932,165 lbs. of butter made at the cheese factories in winter this makes a total of 18,336,376 lbs., or nearly three times the amount manufactured in 1907. Patrons last year numbered 31,726, and the average per cent. of fat in the cream was 27.21%; 358 full-day and 65 call visits were made. In 585 tests for moisture the

average was 14.68%, and only 25 samples contained over 16% moisture. In 586 salt tests made, among them that patrons should more and the average amount of salt left in the butter was 3.22%. Butter-makers were urged to pay more attention to this point, as buyers complain that a part of Western Ontario butter is still too heavily salted. Fifty-one creameries used the scale for making cream sample, and 25 pasteurized cream, 8 more than in any previous year. Creamery storage averaged a temperature of 44.6 degrees, and the greater number of them were reported kept in first-class sanitary condition.

A number of cream-cooling experiments were carried on, and it was concluded that where cream was pasteurized to 185 degrees and one cooler used either with brine or ice water that it required considerably more work and a larger amount of ice to cool the cream to churning temperature. The method appears to be impracticable. When two coolers were used and cold water run through the first cooler, then brine or ice water run through the second, it was found possible to cool cream with less ice and less loss of fat in the buttermilk than was the case when water was used only through the one cooler and the cooling finished with ice and water around the cream in the vat.

A few suggestions for improvements were made the average amount of salt used was 5.36%, fully realize that when milk is delivered in a condition unfit for fine cheese their own business is affected, and they should take better care of the milk and see that it is not delivered in an over-ripe or tainted condition. Every patron should consider it his duty to deliver well-cooled milk during warm weather, and the makers should assist the instructors to get such milk by rejecting all such undesirable milk at the weigh-stand. Some of the late fall cheese should receive more attention in curing, a more uniform temperature of about 60 degrees should be maintained. Creamerymen should make out a list of the patrons who send low-testing or poor cream and have the instructor visit these patrons. A few creamerymen only gather the cream once in four or five days, and some do not cool it properly. This should be remedied. Factories should be kept tidy, both as to outside and inside, and more attention should be paid to the shipping of cream that it not be exposed to the hot sun in summer.

THE COW MUST WIN BY TEST.

Progress in Cow Testing was the subject discussed by C. F. Whitley. He gave the same address as at the Eastern Dairymen's Association last week, and which was reported in last week's issue. The work is progressing favorably but there is still a great deal to be done, and it would mean many dollars to producers if they could change the test of their cows from 3.4 to 4.3, and raise the amount of milk produced accordingly.

Prof. J. W. Mitchell, of the Manitoba Agricultural College, led in the discussion of cow testing, and pointed out that to be successful in dairying it was necessary to set a standard, some goal to strive for, and this goal he placed within the easy reach of all at 6,000 lbs. of average milk, or its equivalent in richer milk per cow in one milking period. This means for

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a Agricul- cow test- successful in standard, he placed 00 lbs. of milk per eans from

200 to 215 lbs. of butter-fat. Not a very high standard, but much above the average cow's yield under present conditions. If this could be reached the speaker believed that our herds might be cut in two and more milk and butter produced at greater profit. He pointed out that testing was little good unless carried throughout the milking period of a cow, and that there was no greater mistake than averaging a dairy herd. He believes in taking care of the individual, and the average of the herd will take care of itself. Citing the success of testing he quoted from a Manitoba bulletin where two of the best cows in a certain herd averaged 5,509 lbs. of milk and 219 lbs. of butter-fat, while the two poorest averaged 2,637 lbs. of milk and only 101 lbs. of butter-fat. To prove that it was necessary to carry the testing throughout the milking period of the cow he quoted an instance where a cow gave 746 lbs. of milk the first month of lactation period, while another cow gave 842 lbs. During the second month number one cow gave 831 lbs. while number two gave 1,174 lbs.; yet in ten months number one, which had given far less at the start, had given 6,811 lbs. and number two only 5,314 lbs. Two other cases of a similar nature were cited. It is also necessary to test the milk during the entire season. Cows often vary as much as 2% in the test at the beginning of the season as compared with the end of the season. In the practice of weighing every ten days and averaging the milk for the month, Prof. Mitchell thought it would be much better to weigh on the 5th, 15th and 25th of each month in place of the 1st, 10th, and 20th of each month.

GRADING OF CREAM PRACTICAL AND EFFICIENT.

One of the best addresses of the entire convention was that delivered by Prof. Mitchell on the second day, and dealing with "Grading at Creameries, its Value and Necessity, How it Works Out in Practice." Dairymen in Ontario know that considerable work has been done in Manitoba in the grading of cream, and Prof. Mitchell pointed out in the beginning that the evolution of dairying in Ontario and in Manitoba has been very much the same. Ontario has advanced from home dairying to factory or co-operative dairying, and Manitoba is endeavoring to travel the same road. Creameries in Ontario and in Manitoba are operated under much the same conditions, neither province ever having been under the Government or Government-operated form. The big problem for solution is how to obtain, not part, but all the raw material of uniformly high quality. The West is going in for mixed farming very rapidly. Manitoba's output of creamery butter for 1912 was 2,931,000 lbs., while that for 1914 was 4,761,000. An increase of 62% in two years. On the basis of this present output of creamery butter an improvement in quality that would increase the value of that butter 2 cents per pound would mean an increase in the annual revenue to creamery patrons in Manitoba of nearly \$100,000. A similar improvement in Ontario would mean an increase of from three to four hundred thousand dollars. The problem, as previously stated, is how to improve the quality of the cream supplied to the creamery. The principle of cream grading is right, but it has been rather difficult to bring about its adoption. Cream, sweet and clean in flavor will make a butter superior to and worth more money than butter made from cream overripe, hence there is just as much reason for paying for cream on the basis of quality as there is for grading wheat, beef cattle and dairy products themselves as they come on to the market. Making a difference in price per pound for the fat, according to quality, is just, and the old non-grading system encourages the careless patron in his carelessness, and tends to discourage the careful patron in his efforts. Justice to the patron who supplies good cream and justice to the industry both call for application to the grading system.

In February, 1914, a creamery convention was held at the Manitoba Agricultural College. Creamerymen from each creamery were present, and they unanimously adopted the grading system. First-grade cream was to be, preferably sweet, from which first-class butter could be made by a competent butter-maker, the flavor to be clean and fresh, and the consistency smooth and even. Second-grade cream was to be sour or sweet, which is slightly stale, old or bitter or otherwise slightly defective in flavor, but of a smooth, even consistency. All cream which would make an inferior quality of butter was to be rejected, and a difference of 2 cents per pound of butter-fat made between the prices paid for the two grades of cream. The Government was asked to make arrangements for the grading of creamery butter, and furnish the necessary facilities for carrying out the same. Cream grading was generally introduced and carried out in good faith and without appreciable friction. Instructors did good work amongst the creameries, and the produce grader did his work efficiently and conscientiously.

To facilitate the work of reporting shipments to the produce graders, all creameries were supplied with suitable forms and addressed envelopes for the purpose. These forms contained the name of the creamery, date of shipment, to whom shipped, how shipped—by freight or express, and the number of boxes of prints, number of 14-lb. boxes, 28-lb. boxes, and 56-lb. boxes, together with churning numbers, date and the signature. A simple method of marking packages for the purpose of assisting the grader in his work was evolved, for instance the fourth churning for the month of January, the first month of the year, would be marked 4, and the 10th churning for the month of February 2-10. For reporting back to the creamery a table was made out containing the name of the creamery from which the butter was shipped, to whom it was consigned, and the score, the latter being the ordinary score of 44 for flavor, 25 for grain and body, 15 for color, 10 for salt, and 5 for finish; then a space for the grade and churning numbers. The minimum for first-grade was, flavor 40, total score 91, and the minimum for second-grade, flavor 37, score 85. This report was made out in triplicate, one copy being sent to the creamery, one retained by the grader, and one going to Mr. Mitchell's office.

Results were most marked. A slump in prices was prevented, June creamery furnishings did not fall to within 4 cents per lb. of what the produce merchants anticipated they would be able to buy



Robert Myrick.

President Western Ontario Dairymen's Association, 1915.

it for, and the efficiency of the work done by the instructors was more than doubled by the system of grading. All the creameries did not make number one butter, but where good care in grading was practiced as high as 94% first-grade butter was made, and very good average of 86% first-grade butter were common. The system proved entirely practical, and should be easily worked out in Ontario.

1914 A GOOD SEASON.

The Directors' report showed a profitable season for dairying. Among the large number of dairy cows disposed of in the fall of 1913 were many animals which were inferior milkers, and consequently there was not the decrease in output anticipated in some quarters. Conditions in Western Ontario during the past season were good, and large numbers of young stock were raised. Very little increase has been observed in the export of milk. Some cream has been exported from the south-western peninsula. Largely the home market has absorbed most of the finished product. Early spring conditions were more favorable than in 1913, and the fall output was considerably increased over that of the previous year. The average price of cheese last year was the highest on record, while the butter market during the early part of the season was "weak" and "draggy." Later in the season, however, prices stiffened and the market became more active. Cheese and butter prospects for 1915 are very encouraging. The membership of the Association is 314. The usual cash prizes for the dairy herd competition were not donated on account of the necessity for strict economy, and a cutting was made in the money donated to the cash prizes for the exhibition held at the convention. However, this decrease in prize money did not dampen, to any appreciable extent, the enthusiasm of the exhibitors, and prospects are favorable for a greater exhibition than ever next year.

Present indications point to a strong future demand and remunerative prices for all dairy products produced in Canada. Milk producers in certain sections realize, as never before, the necessity for keeping the cheese factories and creameries in operation, and it would seem that in these sections at least it would be to the future benefit of both producers and manufacturers if some co-operative plan regarding the

milk supply could be worked out between the cheese and butter manufacturers and the manufacturers of other dairy products. Attention was also called to the matter of shipping cream out of the country, and the directors asked this question, "Will it, in the final analysis, pay the producers in certain localities to withdraw their patronage, thus eventually putting the home market out of business for a possible present advantage but a probable future uncertainty?"

ADVERTISE CANADIAN CHEDDAR CHEESE.

Geo. H. Barr, of the Dairy Department, Ottawa, was unable to be present, having been called to a Dairymen's Association Convention in Nova Scotia. G. G. Publow, of the Eastern Dairymen's Association, took up discussion on general matters in which he said that there was very little new to offer, believing that the butter-makers were doing the very best they could with what they had to do with. He was strongly in favor of some system of cream grading, and urged producers to put forth extra efforts in producing a good product for the maker. He suggested that factorymen should refuse to accept milk above a certain temperature, and believed that at least one-half the patrons send milk in poor condition. He was strongly in favor of some sort of campaign of advertising Canadian Cheddar cheese, and believed that producers, makers, manufacturers and dealers should each do their share in working out this campaign. For instance, factories should carry cheese to enable makers to exhibit at certain exhibitions. He believed also that many have gone too far in ripening milk before setting, and that the quantity of milk to make a pound of cheese was increased by makers over-ripening. Prospects, he believed, were never better, and he urged greater efficiency in dairying from start to finish.

Geo. A. Putnam, Supt. of Farmers' Institutes for Ontario and Director for Dairying, gave a very interesting address, and following other speakers along the same line, expressed the wish that dairymen themselves, or through Government support, might take up the matter of advertising Canadian Cheddar cheese among Canadian consumers who know very little about it. He dwelt on the dairy end of farming as one of the most substantial, certain and sure branches of the entire occupation. He also devoted considerable time to exhorting his hearers to put forth every endeavor in the near future to increase production, and came out boldly with the statement that there was room to make an improvement of 50% in the appearance of many factories by two days' work with hammer and saw. Speaking on several subjects outside of technical dairying he mentioned among other things that farmers do not want the inexperienced men from the city. They want men who know something of the business in which they are engaged. He asked dairymen who, he believed to be in a position to help in community work, to lend all their efforts to community improvements. Co-operation is required, technical education is necessary, and it should be carried to the rural districts. Better salaries for good teachers would be money well spent, and all branches interested in the uplifting of rural communities should take a lesson from the work of the Women's Institute workers, who, especially at this time of stress, are doing remarkable things in the way of supplying funds and material for the soldiers, as well as keeping up interest in things generally in the community and improving social conditions.

Owing to the fact that Prof. H. H. Dean, of the Ontario Agricultural College, could not be present at the Convention, R. W. Brown, B.S.A., read his paper, which contained some suggestions on developing the home market for Canadian cheese. Prof. Dean's paper pointed out that at present export market conditions for Canadian cheese are very favorable, but we must remember that these conditions, while favorable, are unusual, due to more or less artificial times which are not likely to continue very long, consequently, we must prepare for the "slump" which is sure to come sooner or later. Two facts stand out prominently at the present time regarding home consumption of Canadian cheese, first, the comparatively small amount of cheese consumed, estimated at 3 pounds per head yearly. Second, the fact that we are importing about 1 1/2 million pounds of cheese annually, chiefly of the fancy varieties and worth nearly \$300,000. Prof. Dean believes that there is no reason why the annual cheese consumption should not be at least 10 pounds of cheese per head of population, and no reason why nearly all the cheese at present imported should not be manufactured at home.

The food value of a pound of cheese is estimated to be equal to that of two pounds of average meat. Estimating the present meat consumption at 25 lbs. per capita (a low estimate), Canadians are consuming about 200,000,000 lbs. meat annually, at a cost of about \$40,000,000. By a proper understanding of food values, we might save about \$16,000,000 annually on this one item alone by substituting a part of the present meat ration for cheese. (This would figure somewhat as follows: A cheese consumption of

10 lbs. per head would be about 80,000,000 lbs., this would take the place of about 160,000,000 lbs. meat and still leave 40,000,000 lbs. meat for those who prefer corpse to cheese. The 50 million pounds of meat saved would cost about 32 million dollars, the saving, by using cheese instead of so much meat would be 16 million dollars annually.

As a solution of the problem of inducing the Canadian people to eat more Canadian Cheddar cheese Prof. Dean thinks it should be advertised, as to its food value, from one end of Canada to the other until every buyer of food for human consumption knows the economic value of cheese, and until the cooks know how to prepare cheese in appetizing ways such as they do meats at present. Prof. Dean believes that there should be an attractive advertisement in every paper and magazine published in Canada, telling the people of the value of our Canadian cheese. The funds should be provided partly by Governments, Federal and Provincial, and partly by those engaged in the business, producers, manufacturers, and sellers of cheese. Let a certain proportion of the funds received be set aside for advertising purposes similar to the plan adopted by mercantile and business corporations. The dairy business must be kept in the mind of the public else it will fall behind. A suggestion was made that a campaign of advertising Canadian cheese should be undertaken by the Canadian Government, such as that which was done for the apple in 1914. This should be supplemented by advertising done by those interested in the business on whom must rest the burden of continuing the campaign. Besides, the advertising must be accompanied by practical demonstration of the value of the goods which are advertised. In order to ensure a uniform good quality of cheese sold to Canadian consumers it would seem advisable to adopt some system of grading or branding. Why cannot Canadians work out some plan whereby cheese and butter (bearing a national or provincial brand shall be a guarantee that the goods are of the finest quality? As a standard, Prof. Dean, suggests that cheese and butter which scores 93 points and above should be worthy of the national brand, and that other brands or grades be adopted for lower class goods, but not more than three grades, say a score of 90 to 92 for second grade, and below 90 third grade.

To make this plan practicable the co-operation and hearty support of farmers, manufacturers and merchants is required. Each class must work for the good of the dairy industry as a whole, in this particular case for the good of the cheese business. The farmer or milk producer has been the great burden bearer in the past, but the farmer is waking up, and we may as well recognize the fact that if milk nets him less than \$1.00 per hundred pounds for cheese making he is going out of the business. If the farmer stops producing milk where will the cheese manufacturers and cheese merchants land in a short time? On the other hand it is true that in a number of instances men have put their all into a cheese factory, but when an opportunity came for the farmer to make more out of his milk elsewhere the patrons have left the manufacturer in the lurch. This was unfair to the man who trusted the farmer to patronize his business, and yet who can blame the farmer to try and get all he can for his milk, as the margin of profit in any case is narrow?

Prof. Dean's paper concluded with these words, "The Canadian farmer having tasted the sweets of high prices for cheese during the latter part of the season of 1914 cannot be induced to accept low prices with good grace in the future, hence, strenuous efforts should be made to maintain the present high level of cheese prices. One of the means to accomplish this is to develop the home market by advertising the great food value of cheese to Canadian consumers, and by supplying none but first-class cheese in as many varieties and styles as the consuming public demands, although the staple cheese will always be Canadian Cheddar, than which no better is made. For the price no other concentrated food is cheaper or more nutritious. Let everybody eat more cheese during 1915, and thus reduce the high cost of living."

THE MILKING MACHINE.

An address which was listened to with a great deal of interest was that given by Prof. E. S. Archibald, of the Ottawa Experimental Farm, whose subject was, "The Modern Dairy Barn and the Use of Milking Machines," but whose address was confined almost entirely to milking machines. The difficulty in getting suitable labor on the farm has made the subject of milking machines a pertinent one. The daily routine work with a dairy herd must go on at regular hours, early and late every day of the month and every month of the year. This is one of the greatest drawbacks which the dairy farmer has to meet, and one not so severely felt by farmers handling other classes of live stock. The mechanical milker is looked forward to as a solution of this problem, and is expected to assist the dairy farmer in exactly the same way as his other implements and

modern machinery have helped him over similar difficulties. Clean milk is also in greater demand throughout Canada each year, and if the labor problem continues to be so pressing it will become necessary for a large number of farmers either to limit their operations or to use one of the better machines with sufficient equipments to thoroughly clean and sterilize the same.

In a successful milking machine there are six requirements—simplicity, cheapness, durability, ease in cleansing, minimum of manual labor and minimum cost to operate and minimum power for operation. In the opinion of Prof. Archibald many of the machines on the market are too complicated and costly for the average small farmer to purchase. From his experience he emphasized the fact that with these more complicated machines a more intelligent class of labor is necessary than in the old style dairying. The milking machine has been making headway in England, Scotland, Australis, New Zealand and in some countries of Continental Europe. For the benefit of dairymen in Canada the Experimental Farm at Ottawa have decided to give this subject careful experimentation.

During the past forty years over 200 patents representing different types of milking machines have been taken out. From the type that used an inserted milk tube in the teats and which frequently caused permanent injury to the udder to milking by giving pressure only to the base of the teat, and this pressure following downwards, the type which was intended to approximate hand on through to the type which is more modern and a resemblance to the calf method of milking, namely of suction, and of mechanical pressure, milking machines have gone. Prof. Archibald classified modern milking machines as follows: (a) those having intermittent suction, no squeeze to the teat and no vacuum in the can; (b) those having suction, pulsation and squeeze to the teat; (c) those having suction, pulsation and downward squeeze with squeeze caused by the vacuum; (d) Those having suction, pulsation and no squeeze to the teat. From experimental work at the Central Experimental Farm the conclusion has been reached that there is rarely much time lost by having two cows milked into the same pail at once. Special pails may be purchased from the companies with a division in the centre, thus allowing each cow's milk to be kept separate and records made of the same. The two-cow units cost about the same and in some cases less than the single-cow unit, which means a saving of capital expenditure. However, this is still an open question. Prof. Archibald explained the classification by discussing the different machines of each class at some length.

The great essential of a milking machine is the economy of it. A certain machine was in use at the Experimental Farm for a year and it saved on labor between 45% and 50%, that is the labor of milking; but on the other hand it largely increased the labor in washing and sterilizing of dairy utensils, this latter, however, is not so pressing as to time, and it must be remembered that extra precaution is taken at the C. E. F. to put up a milk approximating certified milk. This is not done on the average farm. Thorough washing and sterilizing twice per day of the milking machine is imperative in order to produce a low bacterial count in the milk. The average farmer, he believed, with a herd of twenty cows or more might install the two-unit machine and milk the whole herd very comfortably with at least 50% less labor than by hand milking.

Prof. Archibald produced tables showing tests of hand milking against that done by the milking machine, which were in no case indicative of a falling-off in milk flow with the machine as compared with the hand milking. This was found in trials lasting for several weeks and throughout the entire year. Twenty cows during a year of hand milking as compared with the same cows during a year, nearly all of which was machine milking, gave approximately the same milk flow, but it must be remembered that amongst the number were several which were two-year-olds the year of hand milking and which were three-year-olds when the machine did the work; but Prof. Archibald stated that so far nothing had been proven against the machine as a milker. The cows did not materially decrease in their flow under the influence of the milking machine. All cows were stripped after the machine, and this was found to be generally necessary. The quantity of milk taken as "strip-pings" after the milking machine amounted to from $\frac{1}{2}$ to $1\frac{1}{2}$ pounds, the average stripplings reaching from $\frac{1}{2}$ to 1 pound per cow per milking.

Some of the difficulties experienced were that cows which are inclined to be nervous sometimes kick off the teat cup which may fall to the floor and suck in dust, bedding or some other filth with detriment to the milk. These accidents are rare. Pulsators sometimes stick becoming slow. Careful supervision by the herdsman is required to keep pulsators thoroughly cleaned and oiled. Absolute gentleness in the introduction of the machine to the cows is necessary in order not to

antagonize any of the animals permanently against the machine, and the absolute cleansing of the machine is necessary in order to keep down bacterial count.

During the first six months of the test it was found that the milk produced by the milking machine contained on an average 3 to 10 times as many bacteria as that of scrupulously careful hand milking, the counts ranging from 5,000 to 70,000 bacteria per cc., as all precautions were being taken to produce the equivalent of certified milk. During the succeeding three months of the test improved methods of washing, sterilizing of the machine and cold weather coming on gave better results, but still hand-produced milk contained as a rule less than 1-3 the total number of bacteria found in milking-machine milk. When the rubber tubing was new and comparatively smooth the bacteria count could be easily kept down.

In either hand or machine milking the purity of the milk is dependent upon the following factors, first, the cleanliness of the cows; second, the purity of the air in the barn; third, careful milking to eliminate contamination; fourth, thorough washing and sterilizing of the utensils which come in contact with the milk at any period of its handling to the consumer. Roughly speaking rinsing the machine with cold and afterward with luke-warm water will produce a bacterial count in the milk from 200 to 500 times as great as good, careful, hand milking, whereas the careful rinsing in cold and then hot water containing a good washing soda and this followed by thorough cleansing with the brushes, provided the steam sterilizing of all parts and the sterilizing of all rubber parts in a 10% salt solution, 5% lime water solution, or 2½% formalin solution, will give far more satisfactory results, and if other precautions are taken the bacterial count should not range above 5 or 6 times that of hand milking.

No ill effects, whatever, on the cow's teats resulted from the use of the milking machine. If there is any disease amongst the cows, especially a contagious disease like contagious garget, it is rather more difficult to eradicate than where an intelligent hand milker does the work.

At present five machines are being used at the farm, and Prof. Archibald hopes to have some good data on this subject in a year or two.

A number of correspondents who have written in reply to questions sent out by the Department indicate that they are having fair success with their machines, and altogether the outlook is fairly bright for the milking machine, provided small improvements are made, and the whole kept in good running order and operated by an intelligent, careful man.

THE DAIRY HERD COMPETITION.

As is usually the case the dairy herd competition created a great deal of interest. Owing to lack of funds the Association was unable to donate the usual cash prizes, and two sections arranged for in previous years were dispensed with. There were seven entries in class one for patrons of cheese factories, but no entries in class two. The following is a list of the winners in class one. Mr. Van Slyke wins the cup for the second time in succession, and now becomes a permanent possessor of this cup.

1, Jno. Van Slyke, Dunboyne—Dunboyne Cheese Factory—100 acres in farm—11 Holstein grade cows—87,158 total lbs. milk—7,923 lbs. of milk per cow; 2, J. C. Harkes, Listowel—Molesworth Cheese Factory—100 acres in farm—8 Holstein cows (2 P. B., 6, grade)—59,059 total lbs. milk—7,382 lbs. of milk per cow; 3, D. Campbell, Komoka—Gold Creek Cheese Factory—100 acres in farm—13 pure-bred Holstein cows—89,272 total lbs. of milk—6,867 lbs. of milk per cow; 4, Frank Strobbridge, Ingersoll—Banner Cheese Factory—50 acres in farm—10 Holstein cows—67,375 lbs. total milk—6,737 lbs. of milk per cow; 5, Wm. Arthur, Sparta—Sparta Cheese Factory—100 acres in farm—10 Holstein and Short-horn cows—61,751 lbs. total milk—6,175 lbs. of milk per cow; 6, H. W. Duncan, Atwood—Silver Corners Cheese Factory—100 acres in farm—10 grade Holstein cows—58,095 total lbs. of milk—5,809 lbs. of milk per cow; 7, Willis Johnston, Listowel—Elma & Mornington Cheese Factory—148 acres in farm—12 Holstein grade cows—67,235 total lbs. of milk—5,603 lbs. of milk per cow.

HOW THE WINNING HERD WAS FED.

Readers will no doubt be interested to know how Mr. Van Slyke managed his herd. The following letter will give some idea of how the cup has been won twice in succession by this man.

Twelve years ago my herd consisted of grade Shorthorns, fairly good milkers selected from good milking strains. I determined to try the much-talked-of Holsteins and accordingly purchased a pure-bred Holstein bull, intending him to be the sire of a new herd. The heifer calves were raised well and given good care. I always try to have heifers freshen when two years old and take care to treat them kindly and to milk them throughout the entire twelve months of their first year of milk production. If any fall to come up to

the standard they are weeded out and replaced by others of promising appearance. I make it a rule to raise all additions to the herd and am thus in a position to judge to some extent of their ability. If, however, an especially promising calf fails to make good on a fair trial, she is weeded out also. Any member of the herd has to retain her position by her milk-producing qualities, as my object is milk production. The "dual-purpose cow" is generally not the one which excels in milk production. The tendency to put on flesh is, however, not pronounced where a pure-bred Holstein sire is constantly kept and all the additions are the off-spring of my own cows. This custom followed up through eleven years has evolved the present herd.

My system of managing the herd can be told in two words: the first is to get the cattle in good condition; the second is to keep them thus. It is my belief that an animal in good heart is far ahead of one in poor condition, other things being equal. It is especially desired that the cow be in good condition at the time of freshening, thereby insuring a more plentiful flow during the succeeding months of production than would be possible if conditions were otherwise. This is brought about by a rest of about two months, in which no milk production whatever is desired. Plenty of spring water is available at any time of the summer, good clean, well water is provided in winter and salt is accessible all the year round. The cattle are allowed to run out in winter for the greater part of every bright day and I think that this goes a long way toward building up a vigorous constitution, an essential quality where superior results are desired.

The cows freshen in March and April, this time agreeing with the facilities at hand to take care of the milk. During the season they are milked at as nearly the same time night and morning as possible, thus allowing an interval of twelve hours between milkings. If even the haying or harvesting operations would tend to interfere with this routine they are suspended until after the milking; dairying is the principal industry on my farm. When the year goes out, the cows are dried up and if the season has caused an expenditure of flesh an ample allowance is made in individual feeding.

Early in the spring, after the grass has started a little, the cattle are allowed to run at will over the uncultivated acres at the back of the farm. At this time each cow is getting about 15 pounds of mangels per day, while all through the milking season each one gets about three pounds out chop per day. When the pasture fields have grown up with six or eight inches of good pasture, the cows are turned into them. In this way a sudden change from dry to green fodder is avoided and any harmful effects are still further lessened by an increasing supply of mangels before grass comes and a quantity after. The pasture provided is always clover and plenty of it and the fields being pastured one by one an interval is secured in which the remaining fields may recover. At the first of June a small field of six or seven acres is sown thickly with oats for a soiling crop and this is ready when abundant pasture begins to disappear. This provides a change and also helps out the regular pasture until the hay fields can grow up and augment the supply now suffering from a probable dry spell.

From about the first week of August or a little later, green sweet corn, sown for the purpose, is fed twice a day until frost threatens, when it is cut and fed from the shock until exhausted. Then the stalks of the field corn, husked by hand and well-cured clover hay play their part in providing bulky food for the remaining months.

The past year's herd consisted of eleven cows, to whom full justice is scarcely done when the returns show but 87,000 lbs. of milk whereas the daily record statistics compiled with the aid of the regular spring balance scales and record sheets furnished by your Department, show a total of 89,500 lbs. The discrepancy is accounted for by the liberal supply of new milk fed to a number of calves throughout the first month of the contest and by the large amount required to maintain a farm house establishment during the summer months. It would seem reasonable to believe that a system which provides a first-class animal, feeds and cares for it in a proper manner should yield first-class returns.

(Sgd.) JOHN VAN SLYKE.

The following is a list of the prizes won in the regular classes at the show.

September White Cheese.—1, H. E. Donnelly, Stratfordville, 97.15; 2, J. Cuthbertson, Stratford, 97.07; 3, C. J. Donnelly, Scottsville, 96.99 won on flavor; 4, H. Hammond, Moorefield, 96.99; 5, Carter Bros., Stratford, 96.98.

September Colored Cheese.—1, H. E. Donnelly, Stratfordville, 97.57; 2, D. Menzies, Listowel, 97.56; 3, H. Youn, Molesworth, 97.23; 4, J. K. Brown, Ethel, 96.99 won on flavor; 5, Leslie Silver, Mapleton, 96.99.

October White Cheese.—1, J. K. Brown, Ethel, 98.16 silver cup; 2, L. H. Schneider, Gads Hill, 97.65; 3, Geo. Empey, Atwood, 97.33; 4, H. Youn, Molesworth, 96.98; 5, C. J. Donnelly, Scottsville, 96.83.

October Colored Cheese.—1, (tie) D. Menzies, Listowel, 96.99; 2, C. M. Firby, St. Thomas, 96.99; 3, Geo. Empey, Atwood, 96.91; 4, C. J. Donnelly, Scottsville, 96.83; 5, H. E. Donnelly, Stratfordville, 96.82.

Winter 56-lb. Box Creamery Butter.—1, R. C. Bothwell, Hickson, 97.49; 2, Jno. Cuthbertson, Stratford, 96.49; 3, W. Webb, St. Thomas, 95.66; 4, E. M. Johnston, Innerkip, 95.49; 5, Mack Robertson, Belleville, 95.16.

20 1-lb. Creamery Prints.—1, E. M. Johnston, Innerkip, 96.99; 2, C. Klockman, Stratford, 96.82; 3, R. C. Bothwell, Hickson, 95.83; 4, Mack Robertson, Belleville, 95.66; 5, H. A. Clark, Warwick, 95.49.

1 56-lb. Box Creamery Butter.—1, C. Goodhand, Parkhill, 97.15; 2, H. A. Clark, Warwick, 96.16; 3, Jno. Cuthbertson, Stratford, 95.49; 4, W. Webb, St. Thomas, 95.48; 5, Guelph Creamery Co., Guelph, 95.15.

3 September Stilton Cheese (10 lbs.).—1, H. E. Donnelly, Stratfordville, 96.98; 2, Jas. MacKenzie, Verschoyle, 96.33; 3, H. Youn, Molesworth, 96.14.

2 September Flat Cheese.—1, H. Hammond, Moorefield, 97.83; 2, H. Youn, Molesworth, 97.33; 3, C. J. Donnelly, Scottsville, 96.99.

CHEESE AND BUTTER SOLD WELL.

The prices obtained for the cheese and butter sold were quite satisfactory. Cheese sold from

15½ to 15¼c per pound, 9 Stiltons brought 17¼c per pound. Butter sold from 29¼c to 30¼c.

One of the largest evening meetings ever held in connection with the association came out on Wednesday night, when, after an address of welcome by the Mayor of St. Thomas and the President of the Board of Trade of that city, Hon. Jas. S. Duff, Minister of Agriculture, and Hon. Finley MacDiarmid each furthered the increased production campaign and told the audience what was the duty of Canada in the present crisis. J. A. Ruddick, Dairy and Cold Storage Commissioner of Ottawa, gave an address on Swiss Dairying, illustrated by lantern slides. The whole was the same as presented at the Eastern Dairymen's Convention last week and already reported in these columns.

NEW OFFICERS.

The election of officers resulted as follows:—President, Robt. Myrick, Springfield; 1st Vice-Pres., Jas. Bristow, St. Thomas; 2nd Vice-Pres., R. W. Stratton, Guelph; 3rd Vice-Pres., Wm. Bothwell, Hickson; Sec.-Treas., Frank Hems, London. Others on the Board of Directors are: J. N. Paget, Canboro; T. Ballantyne, Stratford; J. H. Scott, Exeter; J. Donaldson, Atwood; J. Mac. Hoover, Burgessville, and Geo. E. Booth.

During the course of the meeting, J. F. Singleton, of the Dominion Department, explained the new Dairy Industry Act to the satisfaction of all present, and told the meeting how in Montreal good creamery butter had been taken by unscrupulous men, re-churned with added water until some of it contained as much as from 40 to 52 per cent. of moisture. Prosecutions under the new Act are remedying this condition and with the clause making it possible to pass new regulations under the Act it should work out to the benefit of all dairying.

The Department of Colonization and Immigration, Toronto, reports offering positions on farms to unemployed men and not a few refuse to leave the city to enable farmers to take advantage of this increasing demand from Europe for food stuffs. More help than ever will be needed, it was stated, "And young fellows who are not afraid of hard work do not need to stay in the city and depend on charity." Little help from the old country is expected this spring, but the department is keeping its organization at work.

Pure bred poultry for breeding purposes may be admitted to Canada from the United States when accompanied by the affidavit of the owner or shipper that the said poultry have come from an establishment where no cattle, sheep or swine are kept, and from a district not included in the closed area under Federal Quarantine. Crates containing poultry must not contain either hay, straw or chaff.

(Sgd.) GEO. F. O'HALLORAN.

We again call the attention of our readers to the fact that the Live Stock Association Meetings will be held in Toronto, the first week in February, and at the same time there will be held in that city, the Annual Meeting of the Ontario Plowman's Association, and the Annual Meeting of the Fairs and Exhibitions Association.

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

Receipts at the Union Stock-yards, West Toronto, on Monday, January 18, numbered 141 carloads, comprising 2,567 cattle, 1,128 hogs, 1,362 sheep and lambs, 68 calves, and 12 horses. Trade was dull. Up to noon only 600 cattle were sold. Best price reported for choice heifers was \$7.50. Some medium to good steers, \$7 to \$7.25; cows, \$3.75 to \$6.50; bulls, \$4.50 to \$6.50; feeders, \$6 to \$6.40; stockers, \$5 to \$5.75; milkers, \$50 to \$85; calves, \$5.50 to \$10.50. Sheep, \$5 to \$6; lambs, \$7.50 to \$9.25. Hogs were lower, at \$7.75 weighed off cars; \$7.50 fed and watered, and \$7.15 f. o. b. cars.

REVIEW OF LAST WEEK'S MARKETS

The total receipts of live stock at the City and Union Stock-yards for the past week were:

	City.	Union.	Total.
Cars	62	443	505
Cattle	740	5,673	6,413
Hogs	752	13,758	14,510
Sheep	870	2,373	3,243
Calves	82	484	516
Horses	20	16	36

The total receipts of live stock at the two markets for the corresponding week of 1914 were:

	City.	Union.	Total.
Cars	9	334	343
Cattle	220	4,339	4,559
Hogs	27	7,717	7,744
Sheep	246	1,919	2,165
Calves	36	229	265
Horses	12	98	110

The combined receipts of live stock at the two markets for the past week show an increase of 162 cars, 1,854 cattle, 6,766 hogs, 1,078 sheep and lambs, and 251 calves, but a decrease of 74 horses, compared with the corresponding week of 1914.

Receipts of live stock, especially cattle, were larger than was anticipated. On Monday there was an active trade for cattle, one bunch of Christmas quality, five in number, sold up to \$8.75, but outside of these \$8.15 was the next high price. On Tuesday, prices for beef cattle barely held steady, while on Wednesday, when a run of 1,300 cattle came in, the market broke, prices declining from 20c. to 40c. per cwt. from quotations on Monday. Stockers and feeders of usual weights and quality were unchanged, but a few lots of short-keep steers sold up as high as \$7 per cwt. Milkers and springers were fairly plentiful, and values were not any more than steady. Good and choice veal calves were a little firmer, but common Eastern calves were no more than steady. Sheep and lambs

were firmer, especially the latter. Hogs were firm all week.

Butchers' Cattle.—Good to choice butchers' cattle, \$7.20 to \$7.40, with few at the latter price; medium to good, \$6.50 to \$6.90; common butchers', \$6 to \$6.30; choice cows, \$6.25 to \$6.50; good cows, \$6 to \$6.20; common, \$5.25 to \$5.75; canners, \$3.90 to \$4.15; light bulls, \$5 to \$5.75; good bulls, \$6.25 to \$7.

Stockers and Feeders.—Feeders' steers, 650 to 750 lbs. each, sold at \$6 to \$6.60; short-keep feeders, 800 to 900 lbs., sold at \$6.75 to \$7; stockers, \$5 to \$5.75.

Milkers and Springers.—Prices were easy, at from \$50 to \$75, with a few good to choice heavy-weight cows, at \$80 to \$85.

Veal Calves.—Choice calves sold at \$9.50 to \$10.50; good calves, \$8 to \$9; medium, \$7 to \$7.50; common, \$6 to \$7, and Eastern calves, \$4.50 to \$5.50.

Sheep and Lambs.—Light ewes sold at \$5.25 to \$6.25; heavy ewes and rams, \$4.25 to \$4.75; light lambs, \$8.75 to \$9.35; heavy lambs, \$7.75 to \$8.25.

Hogs.—Hog prices were steady to firm all week. Selects, fed and watered, sold at \$7.65 to \$7.75; \$7.35 f. o. b. cars, and \$7.90 to \$8.35 weighed off cars.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, \$1.23 to \$1.25; Manitoba, No. 1

northern, new, \$1.43, track, bay points; No. 2 northern, new, \$1.40; No. 3 northern, \$1.36½.

Oats.—Ontario, No. 2 white, new, 50c. to 51c., outside. Manitoba oats, No. 2, 61c.; No. 3, 57c., lake ports.

Rye.—Outside, \$1.05 to \$1.06.

Peas.—No. 3, \$1.85 to \$1.90, outside.

Barley.—For malting, 66c. to 68c., outside.

Corn.—American, new No. 2 yellow, 79½c., track, Toronto; Canadian corn, 81½c., Toronto.

Buckwheat.—No. 2, 77c. to 78c., outside.

Rollod Oats.—Per bag of 90 lbs., \$3 to \$3.20.

Flour.—Manitoba flour—Prices at Toronto were: First patents, \$7.10; second patents, \$6.60; in cotton, 10c. more; strong bakers', \$6.40; Ontario, 90-percent. winter-wheat patents, \$4.90 to \$4.95, Montreal.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$17; No. 2, \$13.50 per ton.

Bran.—Manitoba, \$25 to \$26, in bags, track, Toronto; shorts, \$27 to \$28; middlings, \$32 to \$34.

Straw.—Baled, car lots, track, Toronto, \$10.

COUNTRY PRODUCE.

Butter.—Prices were unchanged. Creamery pound rolls, 32c. to 33c.; creamery

THE ROYAL BANK OF CANADA

Capital Authorized - - - \$ 25,000,000
Capital Paid Up - - - 11,500,000
Reserve Funds - - - 13,000,000
Total Assets - - - 180,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province
of the Dominion of Canada

Accounts of Farmers
Invited

Sale Notes Collected

Savings Department at all
Branches

solids, 30c. to 31c.; separator dairy, 29c. to 30c.

Eggs.—New-laid eggs sold at 40c. to 45c. by the case; cold-storage, 30c.; selects, 32c. to 34c.

Cheese.—New, large, 16c.; twins, 16½c. Honey.—Extracted, 12c.; comb, \$2.50 to \$3 per dozen sections.

Beans.—Hand-picked, per bushel, \$3; primes, \$2.75.

Potatoes.—Per bag, 55c. to 60c. for car lots of Canadians, track, Toronto; New Brunswick, 60c. to 65c., track, Toronto.

Poultry.—Turkeys, per lb., 16c.; spring ducks, 12c. to 14c.; hens, 10c. to 13c.; spring chickens, live weight, 12c. to 13c.; squabs, per dozen, \$4; geese, 10c. to 12c. per lb.

HIDES AND SKINS.

City hides, flat 18c.; country hides, cured, 15½c. to 16½c.; country hides, part cured, 15c. to 16c.; calf skins, per lb., 19c.; kip skins, per lb., 17c.; horse hair, per lb., 40c.; horse hides, No. 1, \$3.50 to \$4.50; wool, unwashed, coarse, 17½c.; wool, unwashed, fine, 20c.; wool, washed, coarse, 26c.; wool, washed, fine, 28c.; lamb skins and pelts, 90c. to \$1.25; tallow, No. 1, per lb., 5½c. to 7c.

FRUITS AND VEGETABLES.

Prices for apples have advanced on account of a demand for the English market. Apples—Spy, \$1.25 per box, and \$3.50 to \$4 per barrel; Russets, \$3 per barrel; Tolman Sweet, 75c. per box, \$2.75 per barrel; Baldwin, 90c. per box, \$2.50 to \$2.75 per barrel; Ben Davis, 75c. per box, \$2.25 per barrel; Snows, \$2 to \$3.50 per barrel. Bananas, \$1.50 to \$1.75 per bunch; cranberries, \$5.50 to \$7.50 per barrel; Malaga grapes, \$5.50 to \$6.50 per keg; grape fruit, \$2.25 to \$3 per case; limes, \$1.25 per hundred; lemons, California, \$3.25 per box; Messina, \$2.75 to \$3.25; oranges, Florida, \$1.75 to \$2.25 per case; California navel, \$2.25 to \$3 per case; Mexicans, \$2 per case; pine-apples, \$3 to \$3.25 per case; Azores, \$3 to \$4 per case; strawberries, 40c. to 45c. per box; beans, \$5 per hamper; beets, 60c. per bag, \$4.50 per barrel; Brussel's sprouts, Canadian, 35c. per 11-quart basket; cabbages, 25c. to 40c. per dozen, \$1 to \$1.15 per barrel; carrots, 50c. per bag; celery, California, \$4.50 to \$4.75 per case; cauliflower, new, \$3.75 per case; endive, 50c. per dozen; onions, Spanish, \$4.25 per crate; Canadian, \$1.35 to \$1.50 per bag; mushrooms, 65c. to 75c. per lb.; parsnips, 60c. per bag; turnips, 30c. to 35c. per bag.

Montreal.

Live Stock.—Demand for cattle was moderately active during last week. The weather was favorable, the temperature being below freezing point, but not very cold. Offerings of stock were moderately large, and demand absorbed practically everything on the market. The quality of cattle was not very good. Practically no choice cattle were available. Good to fine animals sold at 6½c. per lb., while medium quality brought around 5½c. to 6½c., and common sold around 5½c. Common cows and bulls sold down to 5c. per lb. There was a moderately good trade in culling cattle, and prices held fairly steady at 3½c. to 4½c. No particular change took place in the price of sheep or lambs.

Sheep sold at 4½c. to 5c. per lb., and lambs at 7½c. to 8c. per lb. Calves continued scarce, and prices ranged all the way from \$5 to \$15 each. Hogs sold at 8½c. to 8¾c. per lb. for selects, weighed off cars.

Horses.—The market for horses held very steady. Heavy draft horses weighing from 1,500 to 1,700 lbs., were quoted at \$275 to \$300 each, and light draft, weighing from 1,400 to 1,500 lbs., at \$150 to \$200 each. Broken-down, old animals, were quoted at \$75 to \$100 each, and fancy saddle and carriage animals sold at \$300 to \$400 each.

Dressed Hogs.—Dressed hogs were a little higher. Abattoir-dressed, fresh-killed hogs were quoted at 11½c. to 12c. per lb., while country-dressed ranged from 10½c. to 10¾c. per lb. for light, and 9½c. to 9¾c. for heavy.

Poultry.—Poultry was only in fair demand. Frozen and fresh turkeys were quoted at from 17c. to 20c. per lb., wholesale, while chickens and ducks were 13c. to 15c. Geese and fowl ranged from 11c. to 13c. per lb.

Potatoes.—Supplies of potatoes continued large, and prices low, at 58c. to 60c. for Green Mountains, in car lots, ex track, per bag of 90 lbs. Single bags were 70c. to 75c.

Honey and Syrup.—Maple syrup was higher in price, being 80c. in small tins, up to \$1.20 in 13-lb. tins. Sugar was 10c. per lb. White-clover comb honey was 16½c. to 17½c. per lb.; extracted, 12c. to 13c.; dark comb, 14½c. to 15c., and strained, 7c. to 8c. per lb.

Eggs.—The market for eggs was no firmer, and it was said that fresh stock could be had at 45c. to 50c. per dozen. Selected cold-storage were steady, at 32c. per dozen. No. 1 cold-storage stock was 28c. to 29c., and No. 2, 25c. to 26c. per dozen.

Butter.—The butter market was firmer. Choice September creamery was up to 30c. and fractionally more, while fine was about 29c. Seconds were 28c. to 28½c. Ontario dairy was 24c., and Manitoba was 23c. per lb., some quoting a fraction more.

Cheese.—September Ontario cheese was 15½c. per lb. for either white or colored, and October makes ½c. below this figure. Eastern cheese was ½c. to ¼c. below Western.

Grain.—Ontario No. 2 white oats were higher, at 56½c.; No. 3 at 55½c., and No. 4 at 54c. per bushel, ex store. Canadian Western were also dearer, being 62c.; No. 1 feed were 61c., and No. 2 feed 60c.

Flour.—The market for Manitoba flour again advanced, being 20c. higher. Manitoba first patents were \$7.40; seconds being \$6.90, and strong bakers', \$6.70 in jute. Ontario patents were still \$6.50 per barrel in wood, and straight rollers were \$5.90 to \$6, bags being \$2.80.

Millfeed.—Bran was still \$25 per ton in bags; shorts, \$27; middlings, \$30 including bags. Mouille sold at \$35 to \$36 per ton for pure, and \$33 to \$34 for mixed.

Hay.—No. 1 pressed hay, Montreal, ex track, was \$20.50 to \$21 per ton; No. 2 extra was \$19.50 to \$20, and No. 2, \$18.50 to \$19.

Hides.—Beef hides were unchanged. Prices were 17c., 18c. and 19c. for Nos. 3, 2 and 1, respectively. Calf skins were 16c. and 18c. for Nos. 2 and 1, respectively. Sheep skins were steady, at \$1.50 each. Horse hides were quoted at \$1.50 for No. 2, to \$2.50 each for No. 1. Tallow was 6c. per lb. for refined, and 2 to 2½c. for crude.

Seeds.—Last year seems to have been an off year in Canada for timothy and red clover, and each is very scarce. Dealers offered \$7 to \$8 for timothy, but were getting little or none. They bid \$7.50 to \$9.50 per bushel of 60 pounds for red clover, and \$7.50 to \$9 for alsike, at shipping points.

Buffalo.

Cattle.—Receipts were again excessive at Buffalo and Western marketing points last week, and trade here was on a quarter lower basis generally, with some sales on a medium class of cows, selling from \$5 to \$5.50, as much as 35 cents lower. Bulls and canners, and cullers showed about a steady level. In the neighborhood of thirty-five cars of shipping kinds of steers, best of which sold from \$8.50 to \$9. Best handy butchering steers sold from \$7.75 to \$8.25, with

best heavy fat heifers showing a range of from \$7.50 to \$7.60, good butchering grades from \$7 to \$7.25. Canners landed generally around \$4. Bulls of the best grades ranged up to \$7 to \$7.25. Market ruled slow throughout the week. With the quarantine regulations, where counties are being released, there seems to be an inclination to rush to market with cattle, with the result that supplies have been excessive, and buyers were given an opportunity to hammer prices. Shipping kinds of steers are off a full seventy-five cents from the range two or three weeks past. It will require equable marketing to regain these losses. Some authorities are of the opinion that the prime kinds of shipping steers will not be so plentiful during the next six weeks, and that with corn selling high, that the well-finished grades will sell to considerably better advantage than a half-fat, warmed-up kind, which are coming in ample numbers and which are not very strong demand. Very few choice handy steers or heifers are moving marketward, these kinds finding much better sale than the plain and common ones, which can be bought cheap in the West. There were not exceeding a dozen loads of Canadian cattle the past week, and included were no high-class steers, but a medium-weight and medium-finished kind, with most of the offerings from the Dominion running to female stuff. Receipts the past week were 4,750 head, as against 5,050 for the previous week, and 5,150 head for the corresponding week a year ago. Persistent rumors that the Buffalo market has again been quarantined and closed are without any foundation whatever, and some Buffalo sellers are inclined to the belief that these rumors are being circulated to divert stuff from this market. There is no prospect that the yards will be closed, as the general conditions of the foot-and-mouth disease appear to be improving, and quite a few counties are being released every week. It is thought that within a few weeks that practically all the States will be released, with the possible exception of Illinois, where the disease appears to have a stronghold—it being reported that there are in the neighborhood of six hundred cases—partly as the result of the State and Federal authorities not working in accord.

Quotations: Choice to prime native shipping steers, 1,250 to 1,500 lbs., \$8.50 to \$9; fair to good native shipping steers, \$8 to \$8.35; Canadian steers, 1,300 to 1,450 lbs., \$8 to \$8.50; Canadian steers, 1,100 to 1,200 lbs., \$7.50 to \$8; yearlings, \$8 to \$8.75; prime fat heavy heifers, \$7.25 to \$7.60; good butchering heifers, \$7 to \$7.35; light butchering heifers, \$5.50 to \$6.25; best heavy fat cows, \$6.25 to \$6.50; good butchering cows, \$5.50 to \$6; canners, \$3.50 to \$4; best bulls, \$7 to \$7.25; light bulls, \$4.75 to \$5.50.

Hogs.—Prices, under heavy receipts, were forced considerably lower again last week. Monday's run alone figured close to 25,000 head, and while pigs reached up to \$7.40 and Yorkers \$7.25, packers' weights sold generally at \$7. Tuesday's market was steady, and the next three days values were 5c. to 10c. lower, packers grades Thursday and Friday moving mostly at \$6.90, good weights in the modified section selling mostly at \$7, and Yorkers brought from \$7.10 to \$7.25, those in the modified outselling the same weights in the certified by 10c. per hundred pounds. Wednesday's receipts included thirteen decks of Canadian pigs, and buyers got these from \$7 to \$7.25. Roughs last week brought from \$6.15 to \$6.25, and stags mostly \$5.75 down. Receipts last week numbered 48,560 head, being against 60,550 head the previous week, and 48,000 head the same week a year ago.

Sheep and Lambs.—Lambs were lower every day last week, while sheep were held steady. On the opening day, top handy lambs sold at \$8.75 and \$8.85. Few in the modified division brought \$9, and before the week was out buyers got top handy lambs down to \$8.50 and \$8.60. Weighty lambs were very dull, and kinds weighing from 85 to 90 pounds were hard to place even at prices twenty-five to fifty cents per cwt. under the desirable kinds, buyers getting heavy lambs, kinds averaging 100 pounds and better, down to \$7 and \$7.25. Handy wether sheep showed a top quotation of \$6.50, load of handy mixed sheep selling Friday at \$6.25, and the ewe range was from \$5 to \$5.75, as to weight. Re-

ceipts last week totalled 32,575 head, being against 41,630 head the week before, and 35,200 head a year ago.

Calves.—Marketing last week showed 1,630 head, as compared with 2,160 head the previous week, and 1,375 head a year ago. Market was erratic. Monday tops reached \$12, Tuesday nothing brought above \$11.50, Wednesday and Thursday tops moved at \$11, and Friday, under a moderate supply, tippy kinds were jumped up to \$12. Culls mostly \$8.50 down, and common fed calves as low as \$4 and \$4.50.

Cattle.—Beeves, \$5.65 to \$9.40; Western steers, \$4.85 to \$7.50; cows and heifers, \$3.25 to \$8.10; calves, \$7.50 to \$10.50.

Hogs.—Light, \$6.60 to \$6.95; mixed, \$6.60 to \$6.95; heavy, \$6.60 to \$6.95; rough, \$6.45 to \$6.60; pigs, \$5.25 to \$6.80; bulk of sales, \$6.70 to \$6.90.

Sheep and Lambs.—Sheep, native, \$5.50 to \$6; yearlings, \$6.40 to \$7.15; lambs, native, \$6.50 to \$8.15.

Chicago.

Cattle.—Beeves, \$5.65 to \$9.40; Western steers, \$4.85 to \$7.50; cows and heifers, \$3.25 to \$8.10; calves, \$7.50 to \$10.50.

Hogs.—Light, \$6.60 to \$6.95; mixed, \$6.60 to \$6.95; heavy, \$6.60 to \$6.95; rough, \$6.45 to \$6.60; pigs, \$5.25 to \$6.80; bulk of sales, \$6.70 to \$6.90.

Sheep and Lambs.—Sheep, native, \$5.50 to \$6; yearlings, \$6.40 to \$7.15; lambs, native, \$6.50 to \$8.15.

Gossip.

The name of Capt. T. E. Robson, London, Ont., has been added to the list of consignors to the big Shorthorn sale advertised in these columns, to take place at the Union Stock-yards, Toronto, on Wednesday, Feb. 3, 1915. Capt. Robson's cattle will strengthen the sale.

WESTERN NEW YORK HORTICULTURAL SOCIETY.

The sixteenth anniversary of the Western New York Horticultural Society will be held in Rochester, N. Y., on January 27th, 28th and 29th, 1915. An exhibit of fruits is held in conjunction with this annual meeting, and all kinds of machinery and requirements for orcharding are on exhibition. The addresses will be particularly interesting this year, as experienced men with wide reputations will address the convention. Programs may be procured from the Secretary, John Hall, Rochester, N. Y.

EVENTS TO KEEP IN MIND.

Feb. 1st to 5th.—Live Stock Association meeting at Toronto.

Feb. 2 and 3.—Annual convention of the Ontario Association of Fairs and Exhibitions, Canadian Foresters' Hall, Toronto.

Feb. 4.—Annual meeting of the Ontario Vegetable Growers' Association, Parliament Buildings, Toronto.

Feb. 5.—Annual meeting of the Ontario Plowmen's Association, Canadian Foresters' Hall, Toronto.

Feb. 9, 10, 11 and 12.—Ontario Corn Growers' Association Corn Show, Chatham, Ont.

LIST OF SALE DATES CLAIMED.

Jan. 26, 1915.—Victoria Pure-bred Stock Association, A. A. Knight, Lindsay, Ont., Secretary.

Jan. 27, 1915.—Brant District Holstein-breeders' Club, N. P. Sager, St. George, Ont., Sec.-Treas.

Feb. 3, 1915.—The great Canadian Shorthorn sale, Union Stock-yards, Toronto, Robt. Miller, Stouffville, Ont., Manager.

Feb. 5, 1915.—W. F. Elliott Box 54, Unionville, Ont.; Holsteins.

Feb. 9, 1915.—Southern Ontario Consignment sale, 80 head of Holsteins, at Tillsonburg, R. J. Kelly, Culloden, Ont., Secretary.

Feb. 10, 1915.—East Elgin Holstein-breeders' Consignment sale, at Aylmer, Gordon Newell, Springfield, Secretary.

Feb. 11, 1915.—Annual Norfolk Holstein-breeders' Club sale, W. H. Cherry, Hagersville, Secretary.

Feb. 12.—P. D. McArthur, North Georgetown, Que.; Ayrshires.

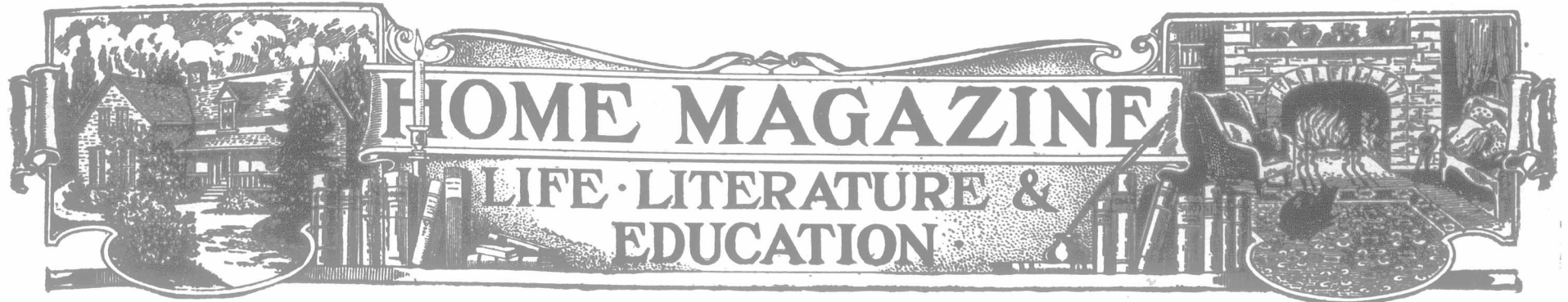
Feb. 17, 1915.—Estate of the late Otto Suehring, Schringville, Ont.

Feb. 17, 1915.—Annual sale of Holsteins, at Bronte, T. A. Dawson, Merx Bronte, Ont.

Feb. 25, 1915.—McConkey's Holstein Sale, Stratfordville, Ont.

March 3, 1915.—Annual Provincial Sale of pure-bred stock (beef breeds), at the Winter Fair Buildings, Guelph, J. M. Duff, Guelph, Secretary.

March 24, 1915.—Oxford District Holstein-breeders' Club, W. E. Thomson, Sec.-Treas., Woodstock, Ont.



A Song.

By James Simmonds.

Old Time may come with his wintry hand,
 He may turn my black locks gray,
 But what care I for snow, on the land,
 If my heart be warm as May?
 Let him wrinkle my brow as much as he will,
 Let beauty with youth depart,
 But as long as I live, oh! let him not kill,
 The Springtime of my heart

Let transient friends whom I thought sincere,
 Depart when most I need them,
 Yet let me think there are others dear,
 And I will never heed them.
 Oh let me not sail on life's perilous sea,
 With faith blotted from my chart,
 For I'd rather my bark should shipwrecked be,
 Than the Springtime of my heart.

Bryant's Poetry.

By J. E. Lattimer.

[Those who have read Souvestre's "Un Philosophe Sous les Toits," or a translation of it ("An Attic Philosopher"): will remember that most excellent French writer's comments on the seeming paradox that the best of soldiers are so often peculiarly appreciative of the finer things of life, music and poetry, for instance. Following out this thought, it will add not a little to the interest with which the essay given below is read to know that its author, Lieut. Lattimer, is a Canadian soldier, who is now preparing to "go to the front." Lieut. Lattimer, who is a graduate of the O. A. C., is known to many of our subscribers who have come into touch with him in connection with his work as Agricultural Representative in various parts of Ontario.—Ed.]

Some people complain that it costs too much to live in the present age, while others argue that it is worth it. Others urge that the high cost of living is nothing compared with the high cost of loving. Whatever may be our ideas on this subject, whether our ambition includes aerial navigation or if we are satisfied with some less lofty flight, all will agree that the most enviable man (if we may be allowed to refer to anyone in that way) is he who finds his greatest pleasure and his most permanent enjoyment in the simple life.

Such a man was William Cullen Bryant. Of him it may be truly said that "he saw books in running brooks, sermons in stones, and good in everything." Particularly did he see "good in everything"; for that reason we should cultivate his acquaintance as far as possible.

It is especially characteristic of this poet to draw the most valuable lessons from simple occurrences. This is prominent throughout all his writings, but perhaps nowhere better illustrated than in that selection entitled, "An Old Man's Counsel." In this he describes a walk through the wood with a white haired ancient who told me much that books tell not, and I shall n'er forget. In this walk the flight of a pheasant is inspiration for the following lines where the sound increasing in rapidity is taken as a fitting symbol of human life.

Slow pass our days
 In childhood, and the hours of light
 are long
 Betwixt the morn and eve: with swifter
 lapse
 They glide in manhood, and in age
 they fly:
 Wisely, my son, while yet thy days
 are long,

And this fair change of seasons passes slow,
 Gather and treasure up the good they yield—
 All that they teach of virtue, of pure thoughts
 And kind affections, reverence for thy God
 And for thy brethren: so when thou shalt come
 Into these barren years, thou may'st not bring
 A mind unfurnished and a withered heart."

Were we granted the age of a Methuselah we might with impunity read much of the fiction to-day so popular. As it is there is scarcely time. With printer's ink so profusely used it is hard to discern what not to read. Yet in an age when so much is required of all, where there is room at the top and little elsewhere, it should be patent to all that if we feed on fiction to the exclusion of literature devoted to those fundamental truths so absolutely necessary in the development of men that stand "four square to every wind that blows" we are running a very grave chance of bringing—"into these barren years a mind unfurnished and a withered heart." I venture this opinion though fully aware that—

"Of all the good things in this good world around us,
 The one most abundantly furnished and found us,
 And which for that reason we least care about
 And can best spare our friends: is good counsel no doubt."

The innumerable caravan, that moves
 To that mysterious realm where each shall take
 His chamber in the silent hall of death,
 Thou go not like the quarry-slave at night,
 Scourged to his dungeon, but, sustained and soothed
 By an unfaltering trust, approach thy grave
 Like one who wraps the drapery of his couch
 About him and lies down to pleasant dreams."

Bryant devoted only a small part of his time to poetry. He was a journalist, and from this training he no doubt derived some of the qualities which enabled him to make his poetry appeal to many. For instance condensation. He is remarkably economical of his reader's time. His writing usually contained an excellent point and he does not tire you with a preamble before he entrusts you with it, but divulges it in the simplest, most forcible and most concise manner possible. Condensation is one of the most valuable qualities a writer can now possess. When we have short cuts to culture popularized by such authorities as Dr. Elliott, of Harvard, who claims that a five-foot shelf of books will provide for a liberal education, provided we let him do the selecting, and when reader's and student's time is becoming daily more valuable, the art of condensing material can scarcely be overvalued. In this art Bryant excelled.

Great variety of verse form is characteristic of the poetry of this poet. He

In such a bright, late quiet, would that I
 Might wear out life like thee, 'mid bowers and brooks,
 And dearer yet, the sunshine of kind looks,
 And music of kind voices ever nigh:
 And when my last sand twinkled in the glass,
 Pass silently from men as thou dost pass."

The subjects of his poems are as varied as the forms of his verse though freedom and nature were apparently the favorite inspiration of his muse, and it is undoubtedly the matter rather than the form of his verse that is the most attractive. Many of his best selections were inspired by natural objects. In comparing these with somewhat similar poems by some of our greatest writers of poetry and prose we will find that Bryant was by no means the least among the poets of nature.

Hamilton W. Mabie claims that a man may acquire a fair education from a ramble in the wood, unless the man be, to use a Carlylean phrase, "a pair of spectacles behind which there is no eye." Emerson says, "One will never see Christianity from a catechism; from a boat on the pond, or from among singing wood-birds one may,"

The English poet of nature, Wordsworth, declares—

"One impulse from a vernal wood,
 May teach you more of man,
 Of moral evil and of good,
 Than all the sages can."

Lord Bryon Claims—

"There is a pleasure in the pathless woods,
 There is a rapture on the lonely shore,
 There is society where none intrudes,
 By the deep sea, and music in its roar,
 I love not man the less but nature more
 From these our interviews in which I steal
 From all I may be or have been before,
 To mingle with the universe and feel
 What I can n'er express yet cannot all conceal."

Tennyson in that wonderful poem, "The Two Voices," which starts in such a melancholy strain,

"A still small voice said unto me,
 Earth is so full of misery
 Were it not better not to be?"
 Silences such suspicions in this way—
 "And forth into the fields I went,
 And nature's living motion lent
 The pulse of hope to discontent.

I wondered at the bounteous hours,
 The slow result of winter showers,
 You scarce could see the grass for flowers.

I wondered while I paced along:
 The woods were filled so full with song
 There seemed no room for sense of wrong.

So variously seemed all things wrought,
 I marvelled how the mind was brought
 To anchor by one gloomy thought."

Carlyle asks the pertinent question, in his great book Sartor Resartus: "Is not immensity a temple and history one grand evangel?" Bryant sees this question answered in the affirmative by all nature, and many of best poems are about the forests which are to him "one grand evangel." For instance, in the "Forest Hymn," note:

"The groves were Gods first temples,
 Thou has not left
 Thyself without a witness, in these shades,



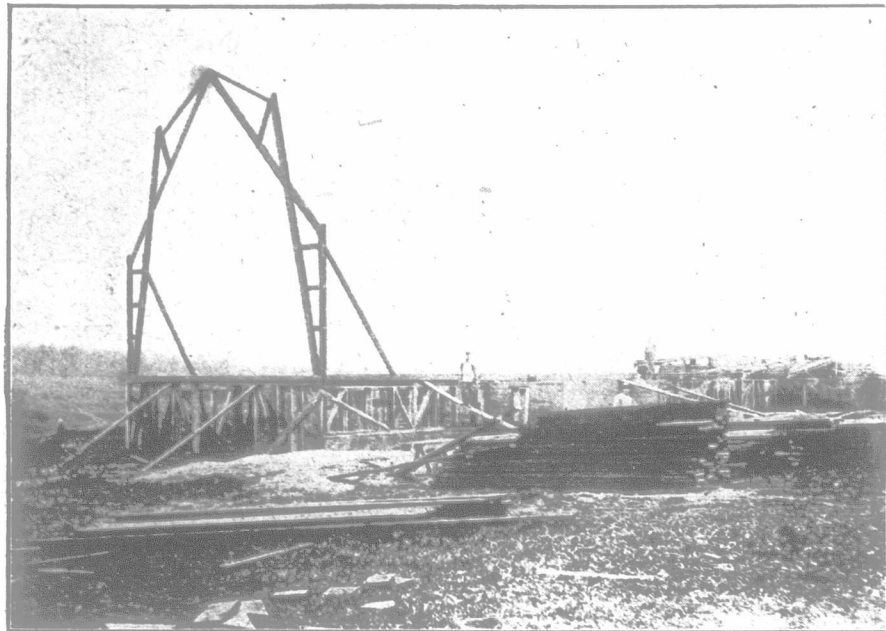
Some Snow in Quebec City.

It is rather remarkable that Bryant wrote what is generally considered his best work in his 18th year. Although noted for precocity, (it is said that he could read quite well when four years old) splendid use of his youth must have been made to enable him at such an early age to express in the simplest and most emphatic language the goal of human effort as agreed to by all the master minds from Cicero's time till now, but no where more concisely put than in Thanotopsis the closing lines of which though probably familiar to all will bear repetition here—

"So live that when thy summons comes
 to join

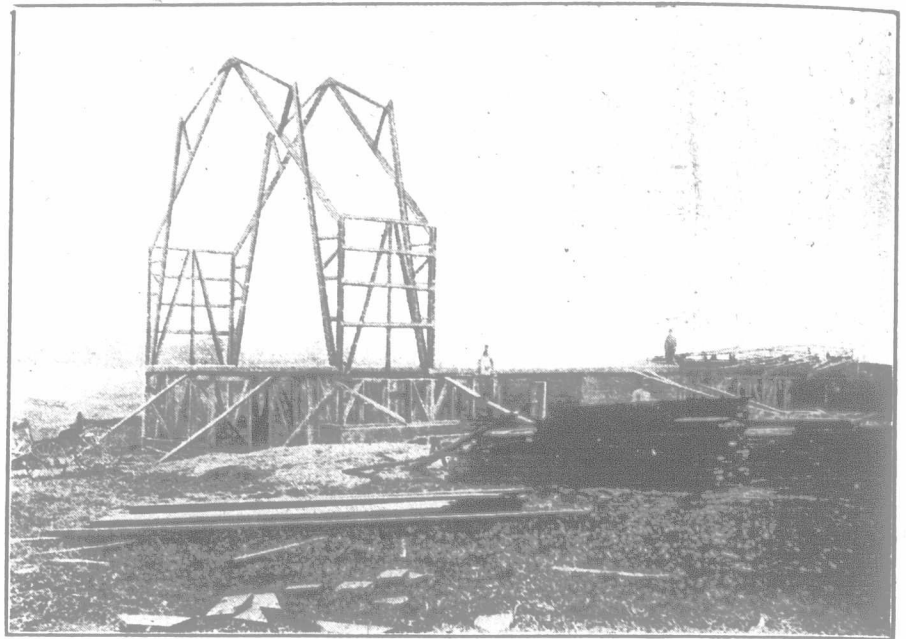
distinguished himself in blank verse, rhyme and sonnet, of which we may note here his sonnet on October.

"Ay, thou art welcome, heaven's delicious breath:
 When woods begin to wear the crimson leaf,
 And suns grow meek, and the meek suns grow brief,
 And the year smiles as it draws near its death,
 Wind of the sunny south: oh still delay
 In the gay woods and in the golden air,
 Like to a good old age released from care,
 Journeying, in long serenity, away.



Erecting a Plank Frame Barn

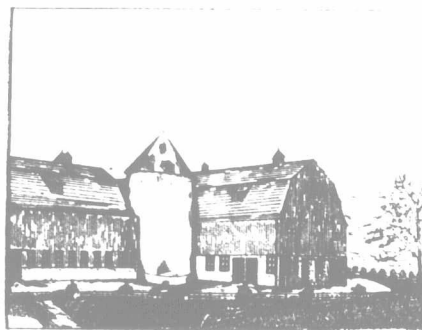
The cost of lumber for this barn is cut in two, as no heavy timbers are needed, nothing over two inches in thickness. As there are no cross-pieces the layout is left entirely open, giving more mow space.



Cuts Builder's Bill in Two

All the work and expense that was once needed to hew and mortise big timbers is abolished. The plank trusses can be cut and put together in a short time. We will show you how to do this.

Let Beatty Bros. Help You PLAN YOUR BARN THIS WINTER



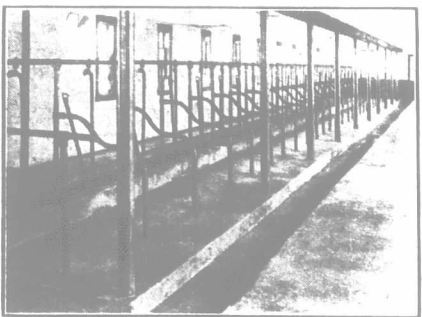
THE GOODERHAM BARN

Built from BT Plans. The illustration shown is from drawing made by our architect. Barn was erected at Clarkson last year by Mr. Gordon Gooderham.



SANITARY STEEL STALLS

Showing cows stabled in steel stalls. They are tied with BT steel stanchions which keep them lined up evenly over gutter so their flanks and udders are kept clean.



PLENTY OF SUNLIGHT

The open construction of the BT steel stalls, stanchions, and metal columns lets the sunlight flood every corner. Sunlight kills disease germs and this helps to keep cows healthy.

Well planned barns make it possible to keep the cattle healthy and comfortable, to get the greatest possible milk production from the cow, and to fatten up feeders and stockers with the least expense for feed, and with the least work. The biggest profits are made in well planned barns.

All good barns begin with good plans. A barn properly planned and built is a constant money maker, because it saves time, labor and feed every day it is used; and it will cost you no more than the same size barn poorly designed and inconveniently arranged.

A correctly planned barn adds to the value of your farm, and it means a better price to you if you want to sell. The average farm buyer looks at the improvements first. The right barn plans will give you a better barn from the standpoint of looks, and more important still, from the standpoint of convenience and cow comfort.

For proper lighting, good ventilation, easy disposal of Litter—floor space used economically and to best advantage so that time and labor will be saved in cleaning and feeding—a barn must be well planned at the start.

A good barn adds to the selling value of your cows—makes them show off better—makes them healthier and finer looking.

A good barn puts more value in a farm than anything else of equal or even greater cost—and the good barn requires no larger investment than one that might be full of expensive mistakes.

BENEFIT FROM OUR EXPERIENCE WITHOUT COST

We can help you because we have been planning good barns for six years in connection with our barn equipment business. We have been in touch with the best barns that have been built in that time and have designed as well as equipped a large number of them.

We are constantly inspecting good barns in every Province and discussing with practical dairymen methods for improving the stabling of their stock.

We equip hundreds of barns each spring and summer and the plans for every one of these come before us for our criticism and advice. We not only suggest improvements but get many practical ideas from them. In this way the plans we will make for you will represent the biggest and best ideas in all the best barns built in every Province of this country. They will represent not only the original work of our expert architects but the results of our contact with barn conditions everywhere.

Get Your Plans Now

Get your plans and specifications now, while your time is not taken up with other work and while you can give the proposition the thought and consideration it deserves. Eliminate mistakes by having each point carefully worked out before you start any work on your barn.

If a builder or contractor is to do the work, have several plans and sets of specifications prepared and submit them to several contractors. You will have lots of time to do this and get the lowest bid, IF YOU START NOW, to get your plans made. Bids will vary hundreds of dollars and you will save a lot of money. BT Blue Print Plans and Specifications make it possible for you to accept the lowest bid, since every bidder must follow the directions as to construction, materials and workmanship.

No matter who does the work, or if you do it yourself, have everything

threshed out NOW and put down on paper before it is started. Do not go ahead with just a hazy notion of what you want. More good barns have been spoiled that way than by any other cause we know of.

Start to-day by having us make you blue print floor plans. This will cost you nothing, and you can have complete sets of plans made later if you want them.

What We Will Do For You Without Charge

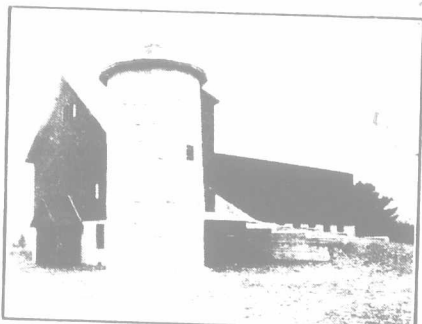
Without any charge or obligation to yourself we offer you a service that is worth many dollars to you.

Send a rough pencil sketch of floor plan of any barn you are thinking of remodelling or building. Indicate inside dimensions, number of stock and what your ideas are. We will give you any suggestions we can for improving it, and will make you a blue print plan, incorporating our ideas.

SEND COUPON FOR FREE BOOKS AND PLAN TO BEATTY BROS., LIMITED, 1601 HILL STREET, FERGUS, ONT.

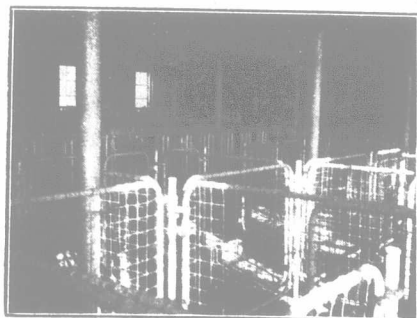
STEEL STALLS NOT INJURED BY FIRE

This is the barn at Boys' Farm and Training School, Shawville, Que. It burned to the ground with practically no damage to the BT Steel Stalls.



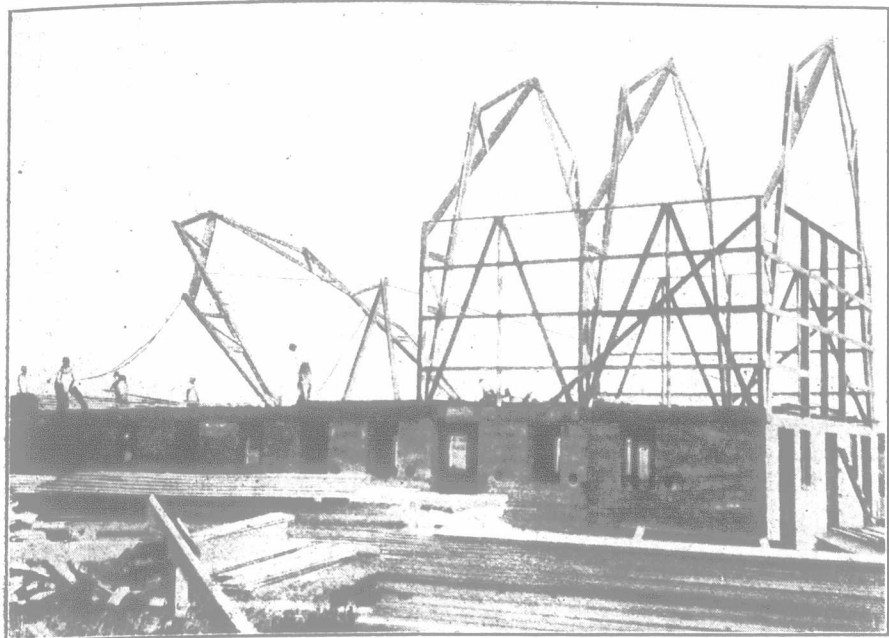
TWICE BURNED TO THE GROUND

After being burned this barn was rebuilt and the same steel stalls used. It burned down the second time and the steel stalls were uninjured. The barn was built again and the steel stalls used after having been through two fires.



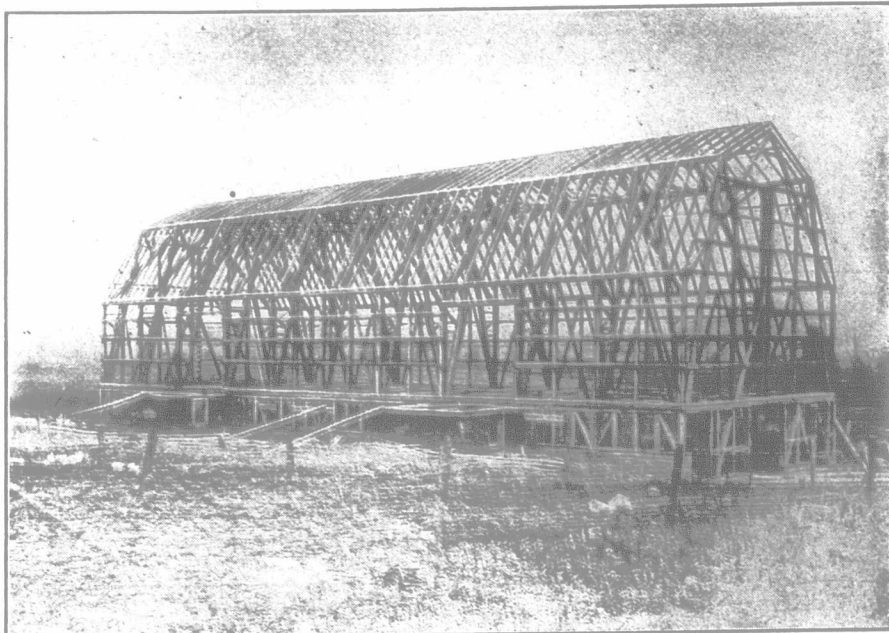
SANITARY CALF PENS

Sanitary, sunny quarters for the calves have much to do with developing of valuable and healthy cows.



Putting Up the Trusses

Three or four men and a team of horses make short work of this job. The old "raising bees" where gangs of people were needed have become a thing of the past. The girts are nailed in place as the trusses are put up.



This is the Sort of Help We Give

In the framing of your barn alone our plans may save you hundreds of dollars, and this is only one of hundreds of ways our barn plan service helps you. Send the coupon for further details, and also get our valuable book on barn building.

Our Barn Plan Service Covers Everything

Be sure your plans are right before you build your barn, for a barn planned wrong will lose money for you every day as long as it lasts.

The wrong design of framing—inconvenient arrangement of feed-bins and feed-rooms—incorrect arrangement of carrier tracking or the wrong location of posts may compel you to take more steps—do more work and pay out more money for help each day throughout the life of the barn.

One window left out—a silo in the wrong place—a door that is not right—poor arrangement of stalls—intakes or outlets improperly installed—mistakes in sizes of platforms, gutters, passages and alleys—even small details may be a source of daily expense.

But every item is right in a barn planned by expert barn architects who know dairy barn needs down to the smallest detail. This is where we can help you. We will show you how to avoid all the mistakes of poor, carelessly-made plans. Let us tell you more about the service we offer.

Our knowledge of good barns covers not only the arrangement of the stables and their equipment, but drainage, ventilation, lighting, framing, best location of barn with respect to the road and other buildings, proper distances between buildings, etc.

Our Barn Plan Service Is Free

We want you to know that any advice or help we can give you is yours without cost. After you get the plan you can decide whether you will have the complete set and lumber bill.

Attach the rough sketch to the coupon and mail to-day. Learn what BEATTY BROS. can and will do for you. When you can have a good barn at no greater cost than probably some of your own neighbors have paid for poorly-planned ones. WHY NOT HAVE IT?

Send coupon for free books and plans to Beatty Bros., Limited, 1601 Hill Street, Fergus, Ont.

Our head architect is without doubt the best barn architect in Canada. He is not only a qualified architect, but a farmer too, and understands farmers' problems. He has built many barns. He remodelled a barn of his own and put in cement and steel fittings, so his suggestions will be thoroughly practical. The farm papers use his services, and his articles frequently appear in them.

Remodelling Old Barns

We have also made a study of remodelling old barns, so that they will make conditions as sanitary and the labor of caring for the cows as easy as possible under existing conditions. In fact, a large number of the barns we have to plan for Ontario farmers are barns which are being remodelled.

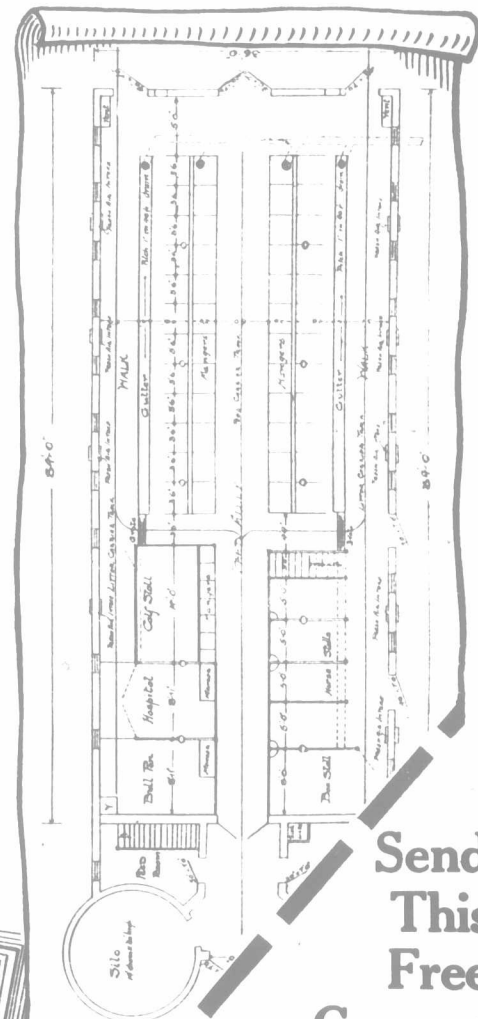
Costs Less to Build This Year

If you are thinking of building or remodelling, be sure to commence it early this year. The cost of lumber, building hardware and labor is lower than it will

ever be again. You will save money by building this year. And don't forget, that a contractor always figures lower on an early job, when work is slack, than he will after his rush season begins.

Get the Free Building Book

Our Barn Plan Department has compiled this book at a cost of almost \$2,000 for the benefit of farmers who are building or remodeling. It explains every fundamental of correct barn construction and contains information about the sanitary stabling of stock, which every farmer should have. This is given free, just for filling in the coupon. Send for it to-day.



Send This Free Coupon

TO BEATTY BROS. LIMITED

1601 Hill Street, Fergus, Ont.

Send me, without charge, the Books I have marked.

(.....) No. 21 about BT Sanitary Steel Stalls, Stanchions, Pens, Iron Horse Stable Fittings, Water Bowls, etc.

(.....) No. 22 about Litter and Feed Carriers.

(.....) Free Book, "How to Build a Dairy Barn."

I am thinking of building (or remodeling)

for cows.

I will start about

My barn will be (size)

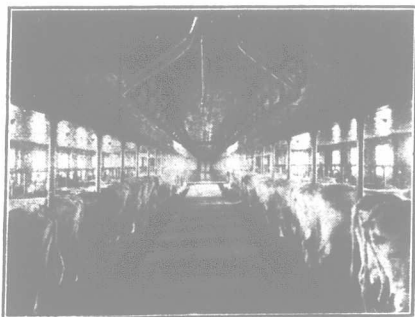
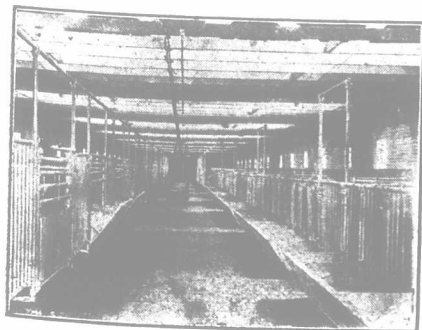
Name.....

P. O. Prov.

Send rough pencil sketch of floor plan of barn you intend to build or remodel, for the advice of our architect and further details about Barn Plan Service.

STEEL BULL PENS

Send for Stall Book No. 21 and read about Sanitary Steel Bull Pens, Calf Pens, Cow Pens, Pens for Steers and Steel Pig Pens.



GET BOOK ON STALLS FREE

Send for book and read about Sanitary Steel Stalls, Stanchions and Pens. Mail coupon, or send your name and address on a post card. Ask for Stall Book No. 21.



GROUND
built and
red down
were un-
and the
through

Of thy perfections.
 But let me often to these solitudes
 Retire, and in Thy presence reassure
 My feeble virtue."
 And in Autumn Woods,
 "Ah, 'twere a lot too blest
 Forever in thy colored shades to
 stray;
 Amid the kisses of the soft south west
 To rove and dream for aye.
 And leave the vain low strife
 That makes men mad—the tug for
 wealth and power
 The passions and the cares that wither
 life,
 And waste its little hour."

"In a land where so many have largely
 invested,
 Not only where treasure is never
 molested
 By thieves, moth or rust: but on this
 earthly ball,
 Where interest is high and security
 small,"—
 It is gratifying to find poets upholding
 the idea
 "That somehow the gold isn't all."

Critics of Bryant's poetry might suggest
 that his writings tended toward
 the melancholy. Although there is a
 serious tone to his poetry there is an
 optimism and faith in the future pervading
 it that is a pleasing contrast to the
 writings of some of our great
 poets, who were often cynical and sar-
 castic and at times pessimistic.
 This author's philosophy of life is well
 set forth in a beautiful epitaph entitled
 "The Old Man's Funeral":

"Why weep ye then for him who having
 won
 The bound of man's appointed years, at
 last,
 Life's blessings all enjoyed, life's
 labors done,
 Serenely to his final rest has passed:
 While the soft memory of his virtues
 yet
 Lingers, like twilight hues, when the
 bright sun is set.

"His youth was innocent: his riper age,
 Marked with some act of goodness,
 every day;
 And watched by eyes that loved him,
 calm and sage,
 Faded his late declining years away.
 Cheerful he gave his being up, and went
 To share the holy rest that waits a
 life well spent.

"That life was happy: every day he
 gave
 Thanks for the fair existence that was
 his;
 For a sick fancy made him not her
 slave,
 To mock him with her phantom
 miseries.
 No chronic torture racked his aged
 limb,
 For luxury and sloth had nourished
 none for him.

"And I am glad that he has lived thus
 long,
 And glad that he has gone to his re-
 ward;
 Nor deem that kindly nature did him
 wrong,
 Softly to disengage the vital cord,
 When his weak hand grew palsied, and
 his eye
 Dark with the mists of age, it was his
 time to die."

When we have it upon such excellent
 authority that to attempt "to gild re-
 fin'd gold, to paint the lily or add per-
 fume to the violet is wasteful and
 ridiculous excess," why add any com-
 ment to lines like those?
 Best of all is the faith in the future
 and in a supreme being expressed in the
 closing stanza of "To A Waterfowl":

"He who from zone to zone
 Marks through the boundless sky the
 certain flight,
 In the long way that I must tread
 alone
 Will guide my steps aright."

How similar to the Bard of Avon
 where he said, "He who doth the raven
 feed and doth diligently cater to the
 sparrow, keep me in my age." Few bet-
 ter instances does literature afford that
 great minds think alike.

The poet's firm belief in a future life
 is evidenced by his poems entitled, "The
 Future Life," and "The Return of
 Youth." The latter poem is worthy of
 our attention both for the truths ex-
 pressed and for the form of the expres-
 sion.

"My friend, thou sorrowest for thy
 golden prime,
 For thy fair youthful years too swift
 of flight;
 Thou musest, with wet eyes, upon the
 time
 Of cheerful hopes that filled the
 world with light,
 Years when thy heart was bold, thy
 hand was strong,
 And prompt thy tongue the generous
 thought to speak,
 And willing faith was thine, and scorn
 of wrong
 Summoned the sudden crimson to thy
 cheek.

"Thou lookest forward on the coming
 days,
 Shuddering to feel their shadow o'er
 thee creep:
 A path, thick set with changes and
 decays,
 Slopes downward to the place of com-
 mon sleep;
 And they who walked with thee in life's
 first stage,
 Leave one by one thy side, and, wait-
 ing near,
 Thou seest the sad companions of thy
 age,—
 Dull love of rest, and weariness and
 fear.

"Yet grieve thou not, nor think thy
 youth is gone,
 Nor deem that glorious season e'er
 could die,
 Thy pleasant youth, a little while with-
 drawn,
 Waits on the horizon of a brighter sky;
 Waits like the morn, that folds her wing
 and hides,
 Till the slow stars bring back her
 dawning hour;
 Waits, like the vanished spring, that
 slumbering bides
 Her own sweet time to waken bud and
 flower.

"There shall He welcome thee, when thou
 shalt stand
 On His bright morning hills, with smiles
 more sweet
 Than when at first He took thee by the
 hand,
 Through the fair earth to lead thy
 tender feet,
 He shall bring back, but brighter,
 broader still,
 Life's early glory to thine eyes again,
 Shall clothe thy spirit with new strength,
 and fill
 Thy leaping heart with warmer love
 than then."

In concluding, let us note his longest
 poem, "To the Ages." Macaulay, in his
 history, points out that modern evils are
 not new; it is the perception of these
 evils and the spirit that would remedy
 them that are the new products. This
 poem emphasizes that idea. After allud-
 ing to the time of which high dreaming
 bards have told,

"Ere friendship grew a snare or loved
 waxed cold,
 Those pure and happy times, the golden
 days of old."

the trend of development is traced
 from Egypt to Greece and Rome, and
 from thence to the Northern European
 and Western hemisphere. In a careful
 resume of the accomplishments of the
 ages, blame is meted out where it was
 deserved, and praise given where it was
 earned. Our notice is directed to the
 time when

"Cowl and worshiped shrine could still
 defend
 The wretch with felon stains upon his
 soul;
 And crimes were set to sale and hard
 his dole
 Who could not bribe a passage to the
 skies;
 And Ape, beneath the mother's kind con-
 trol,
 Sinned gaily on, and grew to giant size,
 Shielded by priestly power and watched
 by priestly eyes."

Advancement is apparent to this author
 as evidenced in a stanza further on in
 the poem:

"For look again on the past years;—
 behold
 Flown like the nightmare's hideous
 shapes away,
 Full many a horrible worship that of
 old,
 Held, o'er the shuddering realms, un-
 questioned sway;
 See crimes that feared not once the eye
 of day,
 Rooted from men without a name or
 place,
 See nations blotted from the earth to
 pay
 The forfeit of deep guilt—with glad
 embrace,
 The fair disburdened lands welcome a
 nobler race."

Note the optimistic tone of the last
 stanza:

"But thou, my country, thou shalt never
 fall,
 But, with thy children, thy maternal
 care,
 Thy lavish love, thy blessings showered
 on all—
 These are thy fetters—seas and stormy
 air
 Are the wide barrier of thy borders,
 where,
 Among thy gallant sons that guard thee
 well,
 Thou laugh'st at enemies; who will then
 declare
 The date of thy deep-founded strength,
 or tell
 How happy, in thy lap, the sons of men
 shall dwell."

We who are fortunate enough to be
 able to call ourselves Canadians can ap-
 preciate that stanza. A closer acquaint-
 ance with the precepts with which this
 writer's poetry is so replete, will enable
 us to live in such a way that the optim-
 ism of those last lines will be justified
 as far as our country is concerned.
 Bryant's was an exemplary career. For
 that reason the study of his life as re-
 vealed in his poetry is now valuable
 to us.

Some one has said that we should not
 let a day escape without listening to
 some good music, looking at a good
 picture, or reading some good literature.
 All cannot look at a good picture or
 listen to good music each day, but all
 can read some splendid literature if they
 are so inclined. If we do this every
 evening—

"The night will be full of music,
 And the cares that infest the day
 Will fold their tents like Arabs,
 And as silently steal away."

For this purpose, rich as the world is
 to-day in literature, it pleases me to
 have had the opportunity of recommend-
 ing the poetry of William Cullen Bryant.

Hope's Quiet Hour.

Real Living.

None of us liveth to himself, and no
 man dieth to himself.—Rom. xiv.: 7.

"Could we but crush that ever-craving
 lust
 For bliss, which kills all bliss, and lose
 our life—
 Our barren unit-life—to find again
 A thousand lives in those for whom we
 die—
 So were we men and women! and should
 hold
 Our rightful rank in God's great Uni-
 verse,
 Wheter, in heaven and earth, by will or
 nature
 Nought lives for Self!
 All spend themselves for others!"

All the Universe, as Kingsley tells us
 in the lines given above, is preaching the
 strange doctrine which our Lord declared
 solemnly—the doctrine that anyone who
 is selfishly trying to save his life shall
 lose it, while one who is ready to lay
 down his life for Love's sake shall find

out the secret of real living. Real liv-
 ing is the giving of self in loving ser-
 vice. God is always giving life and
 breath and all things. The angels are
 ministering spirits, unceasingly, serving
 God and His creatures. The sun is not
 too great or high to pour out his life-
 giving rays on every wayside plant and
 tiny insect. Even plants seem to devote
 themselves to the care of their growing
 seed and fruit, and animals are ready to
 defend their young with their own lives.

It was Satan who told the impudent
 falsehood: "All that a man hath will
 he give for his life."—Job II.: 4. We
 have only to look at Europe to know
 how untrue that apparently plausible
 saying is. War is a horrible thing—we
 all know that. One of our readers has
 asked me to write against it. War is
 its own mightiest accuser, and I don't
 see how any intelligent person can possi-
 bly think that the awful slaughter and
 misery of millions of unoffending people
 can possibly be the right way of settling
 the quarrels of rulers and governments.

But the war has proved once more the
 marvellous courage latent in apparently
 commonplace people. As a writer from
 Paris said in a letter to London:
 "There is some light, and you see it if
 you are interested and engaged in Red
 Cross work. You see it in the brilliant
 work that is being done in the emergency
 hospitals that have been organized for
 the care of the wounded, in the courage
 of the motor-ambulance drivers who have
 brought men down from the front, in the
 untiring work of doctors and nurses. . . .
 Officers and men alike are splendid; they
 may disguise their pluck, but they don't
 hide their pride that, wherever shell falls
 fastest and bullets rain thickest, the
 British army is there."

Another correspondent writes: "Never
 once since I came to France have I seen
 among the soldiers an angry face or
 heard an angry word. . . . they are
 always quiet, orderly, and wonderfully
 cheerful."

Irvin S. Cobb, who pictures with hor-
 rible vividness the endless procession of
 wounded men from the front, tells us
 also of the wondrous patience of those
 suffering men. He saw thousands of
 men in agony, but declares that there
 were no moans nor shrieks from those
 who were conscious. He says: "Those
 newly struck seemed stunned into silence;
 those who had had time to recover from
 the first shock of being hit, appeared to
 be buoyed and sustained by a stoic
 quality which lifted them, mute and
 calm, above the call of tortured nerves
 and torn flesh."

We read of the nurses who work on
 bravely, and even cheerfully, giving
 smiles to the poor fellows for whom they
 are tenderly caring, and resolutely refus-
 ing to brood over the horrors they can-
 not cure.

We can see the glory of such selfless
 service, let us recognize its beauty in
 ordinary times and places. The Chris-
 tian's business in life is to follow Christ,
 and He was always ready to help others
 at any cost to Himself. It would have
 been strange indeed if the constraining
 power of His infinite love had not drawn
 Him down to suffer with and for man-
 kind.

It is natural and right to pour out
 riches and talents for the good of
 humanity and the glory of God. A man
 who hoards up wealth—physical, mental
 or spiritual wealth—is losing it. He
 might just as well collect pebbles, for all
 the good that results. A man who
 spends life in selfish pleasure is sure to
 be discontented, for he is wasting price-
 less opportunities. Every seed that falls
 into the ground gains a fuller life through
 death. Unless it yields up its life it
 "abideth alone."

A forced or grudging sacrifice is cold
 and colorless. It must be enthusiastic
 if it is to be glorious and beautiful. The
 disciples showed how little they under-
 stood their Master's spirit when, after
 mentioning the things they had given
 up for His sake, they asked: "What
 shall we have therefore?" If a man
 tries to buy Heaven with money or ser-
 vice, his bargain can hardly be consid-
 ered noble and splendid.

God is educating His children, there-
 fore He does not encourage them to ex-
 pect payment for every act of service.
 The Psalmist considered it an honor and
 privilege to be a doorkeeper in the
 House of God; while Malachi said that
 in his day no one was willing to shut

Real living... life and... angels are... serving... sun is not... his life... plant and... devote... growing... ready to... own lives... impudent... hath will... 4. We... to know... plausible... thing—we... readers has... War is... I don't... can possi... fighter and... ing people... of settling... rments... more the... apparently... riter from... London... see it if... ed in Red... e brilliant... emergency... nized for... e courage... who have... ont, in the... urses... d; they... they don't... shell falls... ckest, the

those doors without pay. Indulgent parents only educate their children in selfishness when they instantly reward them for every generous act. The children soon learn to expect it, feel injured if no notice is taken of their sacrifice, and entirely lose the true joy of giving. David would not offer to God a gift which cost him nothing. Children should be encouraged to give their own coppers in Sunday-school or church, rather than receive them just for that purpose.

The son of an Irish clergyman once asked his father for money for a miserable, ragged child who was begging at the door. The father explained that he had many of his own people to help. "However," he said, "if you like to go without your own dinner and give it to the child, you may." The boy did this, and afterwards declared that it was the best lesson in charity that he had ever known—it was a true giving of himself.

No one can tell how far an act of beautiful living may reach, nor how many people it may inspire. Last Sunday a patient in the hospital told me that she could not help groaning when she was suffering. I told her about the young men in France who were enduring the most terrible agony without a groan. She was young, and quickly roused to enthusiasm. "I will try to be patient, too," she said earnestly. Those brave young sufferers in Europe little thought that their patient courage would fire other hearts so many thousands of miles away.

We all have chances of "real living" every day. Every day we can offer to God some little service or gift that costs us something, and that the world is not likely to notice. Robertson says: "The most trifling act which is marked by usefulness to others is nobler in God's sight than the most brilliant accomplishment of genius. To teach a few Sunday-school children, week after week, commonplace, simple truths—persevering in spite of dullness and mean capacities—is a more glorious occupation than the highest meditations or creations of genius which edify or instruct only our own solitary soul."

A city missionary once said of a man who had the valuable gift of getting into touch with other people: "He isn't much of a man if you measure him some ways, but he's worth a hundred dollars a year as kindling-wood in a prayer-meeting."

We are just beginning a new year. Time is flying swiftly, and we can't afford to waste any of it in selfishly living to ourselves alone.

"Life is but a day in fleetness;
Richer in all strength and sweetness
Grows the striving soul."

DORA FARNCOMB.

A Quiet Country-woman.

A few days ago a gift for the needy (\$5.00) from "A Quiet Country-woman" reached me. Part of this has already cheered and helped a poor family. There are five children—the eldest ten years, and the youngest a tiny baby a week old. The father (a laborer) is in the hospital, and likely to stay there for at least a month longer. The mother asked me to thank her unknown friend for her kindness.

HOPE.

News of the Week

Thirty thousand killed and injured is the report from the Abruzzo District, Central Italy, as a result of the recent earthquake.

Orders have gone out, by order of the Minister of Militia, to all commanding officers in Canada, to summarily dismiss any recruit found under the influence of liquor.

The most important event of the week in the war zone has been the utter defeat of the Turks again, by the Russians, in the vicinity of Mt. Ararat. British airmen report, however, that the Turkish advance upon Egypt across the Syrian desert has begun. In the European field, rain, flood and snow have somewhat interfered with operations. During the earlier part of the week Canadians received their first baptism

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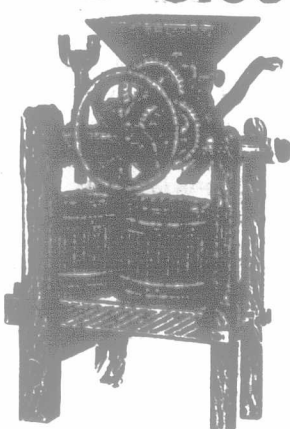
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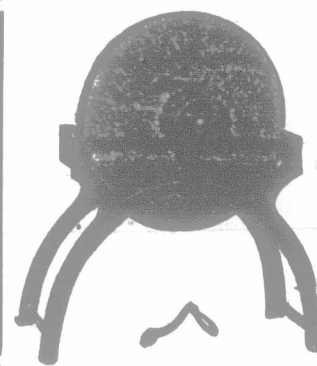
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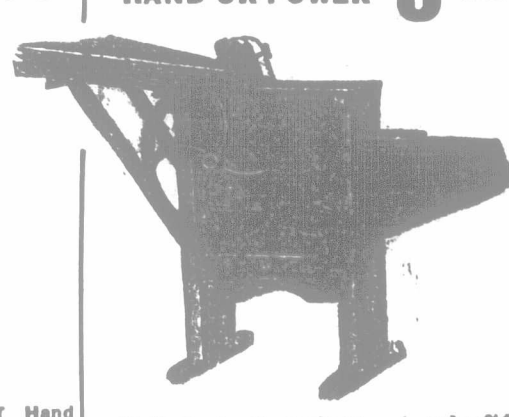
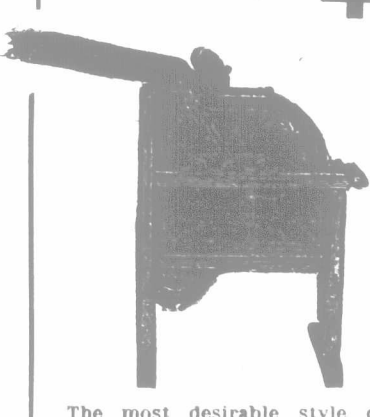
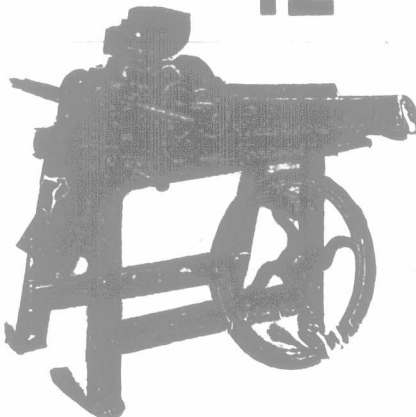
Thoroughly well built in every part. The frame is heavy hardwood, strongly bolted together. Press screw is 1 1/2-inch steel. Mill is back-geared, and has heavy balance wheel to make easy running. Hopper is large, and has force feed. Tubs 12 inches in diameter, hardwood, with heavy iron hoops. You can press one while filling the other.

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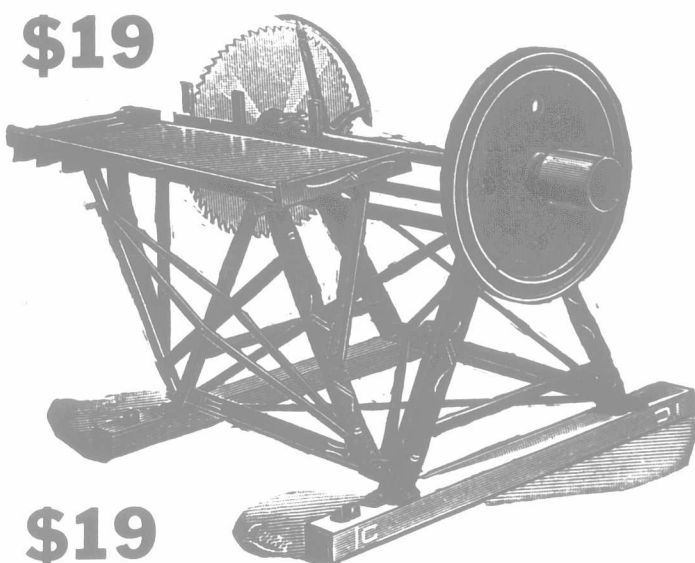
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of fire," the Princess Pats having been in action, and given good account of themselves, near Ypres. On January 17th, nine British, French and Belgian aviators dropped bombs on the railway station at Ostend, doing considerable damage. It is reported that the Germans have established an aerial base near Ghent.

The Ingle Nook.

[Rules for correspondence in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.]

Dear Ingle Nook Friends,—I wonder if it has occurred to you, during the last few months, and especially during these first weeks of the new year, to reflect what a tax upon optimism these calamitous times are proving,—not in regard to the war, perhaps, for according to reports each country concerned is confident of victory for its own arms, but in regard to the general happiness of humankind in its destiny here on this wonderful sphere upon which it finds itself.

Truly, it is hard to be optimistic in the face of such suffering, hard to realize that the old earth is not the plaything of a malevolent and iron-hearted fate, and yet I do believe that, in the scheme of things, it was meant that people—the one great fact of earth—should be happy. Common sense tells us so. When we are unhappy we seldom do our best work, and we are a source of misery to all who come in contact with us, yet we were put here (in our inmost souls we know this is true) to work and to cheer our fellow mortals as we go. If we fail in either, we are failing in our mission and shrivelling up the "selves" that are our only sure and eternal possession.

Of course, there is the war—and we cannot but be unhappy over it; there are many other things, too, that interfere with the confidence and serenity that should be ours, for the most part, from babyhood to old age,—the poverty of vast masses of people, the slavery of certain industrial conditions, the brutality of low types of men. But we should not blame the Scheme of Things for all this. There is absolutely no one and nothing responsible for it but our own blundering and wrong ideals as humans the world over. Cause and Result,—the thing holds in the natural world and in the mental world, too. A wrong ideal brings a wrong action as surely as the blotting out of the moon by a thick cloud leaves the world in darkness. Of a certainty, the old poets sang of this "vale of woe," and of man being "born to trouble as the sparks fly upward," but they merely stated facts. Such conditions have always been; it does not follow that they always will be, and just as soon as people are emancipated from narrowness, and intolerance, and ignorance, and self-conceit, and selfishness, and meanness, they will not be.

Once we understand all this fully, once we are assured that everything that happens is not thrust upon us by some outside force over which we have no control, we are in a position to take heart and act. We were never meant to be automatons,—we should be spoiled if we were,—and what could we be but automatons if we were not permitted to "work out," to a great extent, our own place in the great Eternal?

The more one thinks of it, the more one realizes that we were meant for effort. It is a well-known natural fact that if you tie up an arm and keep it so for any length of time, it loses its strength, wastes away,—atrophies; the same thing happens with any other organ of the body, and the same also with any mental faculty. Waste one's capacity for usefulness in any respect, and one loses, just so far, the power of usefulness. Cease to use your thinking faculties and you give up, somewhat, the power to think.

On the other hand, physiologists have shown that, by some curious process,

new creases or grooves are formed among the convolutions of the brain by every continuous thinking along a certain line. Brain-power, they have shown, does not depend at all upon the weight or quantity of actual, physical brain; it is, however, manifested by the fissures in the "gray matter,"—the greater the thinker the more complex the structure of his brain. The variation in the convolutions seems to consolidate and make sure the power which has really caused the variation. It is all very curious, and very encouraging, too. If certain habits of thought cause certain actual brain changes, which, in turn, make it easier to keep up those habits of thought, why not see to it that those habits are of the best? If worrying causes brain-changes which make it easier to worry, and cheerfulness causes those which make it easier to be cheerful, why can't we see to it that only the cheerful habit is permitted to take root?—And so with all other qualities that we would like to possess. It is thus a strange but incontrovertible fact that we have largely the making of ourselves in our own hands.

It is a fine thing to be an optimist,—to cultivate the habit of optimism. Of course, there is a shallow sort of the quality, really a pseudo-optimism, which simply shuts its eyes to everything disagreeable, and laughs like a clown or jester, through every disaster and misery—especially of other people. Such an attitude should not be called optimism at all, rather, "selfishness." It is the species which has given rise to the caustic remark of someone clever that "A pessimist is a person who lives with an optimist";—the perpetual exasperation of such optimism is no rarity. The true optimist, on the contrary, realizes with an intense keenness, suffering, and distress, and wrong conditions everywhere. The difference between him and the pessimist is that whereas the latter can see no good anywhere, and lives in a continuous state of blueness and cynicism—everything "going to the dogs," to-day worse than yesterday, to-morrow worse yet—the optimist is secure in the confidence that everything will come out right some time, and too busy in trying to bring about that grand consummation, so far as his influence goes, to feel absolutely down and out himself. When one is thoroughly interested, one cannot but bear a hopeful countenance.

Yes, it is truly a fine thing to be an optimist, such as this. It is a fine thing to radiate a hopefulness which rests on a foundation firm enough to count. It is a fine thing to make a little child happier, or an old person, or someone who feels that fate is against him. The light, frivolous laugh and word will not do this; the brotherly smile, the interested handclasp, the readiness to really sympathize will do it. And there are opportunities in such ways for everyone who has a chance to meet any other human anywhere. The circle of influence may not seem large, but it is impossible to tell just how far the result of each helpful action or word, or one strong though seemingly obscure life, may reach. After all, the world is made up of units—just units, and no unit can live unto itself.

Among those who have really very great power, did they but realize it, are surely the people who have to do with children—as parents, as day-school teachers, as Sunday-school teachers, yet it seems, sometimes, that people in such

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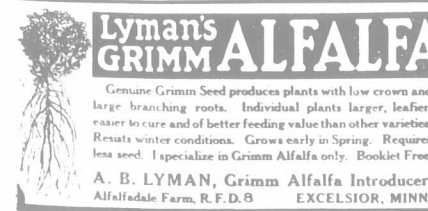
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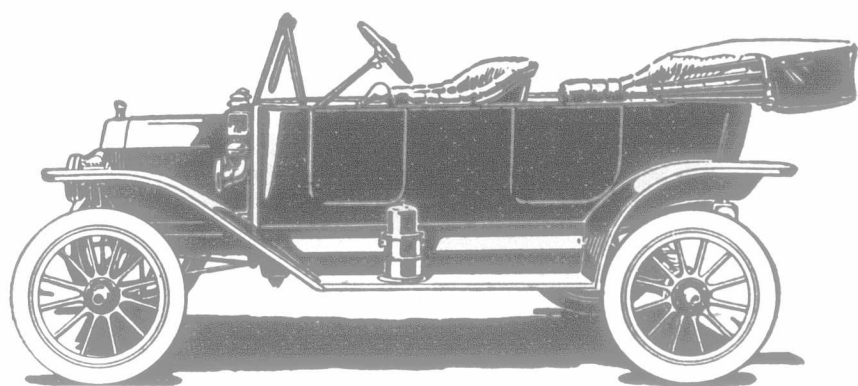
positions do not begin to realize their opportunities and their responsibility. It is an absolute fact that ideas and impressions given in childhood "stick,"—to use a word that expresses the thought more forcibly than any other. Children don't like to be lectured to or harangued, but they are wonderfully responsive to suggestion,—to the word dropped here and there in chance conversation, to the lesson carried in some story, to the influence of some magnanimous action done before them. If the whole atmosphere by which they are surrounded tends to "look up; not down," they are fairly sure to become very good climbers. If, on the other hand, they hear nothing expressed but how to make money, how to dress best, how to "get ahead of the other fellow" in any way, socially or otherwise, they are just as fairly sure to grow up thinking only of self, arrogant, less fine and big than they might be. Mistaken ideals of life and the universe, mistaken ideals of the great human family, forced upon children, how these have clung to people, contaminating their lives, perhaps for all their days! Broader experience may, it is true, bring light; later contact with big and noble and broad-minded people may cause utter revolt against the narrowness of early teaching, well meant though that teaching may have been, yet the struggle is just so much the harder, and the start is made just so much the later. It is a positive fact that people innumerable as the sands of the sea spend the last half or three-quarters of their lives getting rid of ideas poured into them in childhood. Pity that so much time should be wasted, that life should not be, from start to finish, the happy, generous thing it should be were all ideas and ideals, from babyhood up, just what they should be.

It is not impossible, in these days, for parents and teachers, even in the remotest districts, to get abreast of the broadest and most modern thought and interpretation. As a rule, the greatest thinkers have perpetuated their thought through the printed page, and books are not so very costly. The one trouble is that erroneous thinkers have also committed themselves in this way, and the puzzling question is to know what to buy, or what to choose from the shelves of the public library. Farm folk have comparatively little time for reading, and do not want to spend too much time on literature that can only prove unsatisfactory.

Perhaps the best aid to selection is a good magazine which makes book reviewing—in the hands of a reliable critic—a specialty, "The Bookman," for instance. Two or three of such magazines should be on the tables of every public library, and in as many homes as possible. They point the way to the character of the new books that roll forth from the presses every year in endless tide, and it remains for the reader to choose, to weigh, to assimilate, and to reject.

It is not necessary to agree with all that one reads; the reader who is simply a sponge can never develop. The point is that one should come into touch with powerful thought, learn the opposite point of view—if there is one—then bring in the good balance of Commonsense to choose between the two. So one can stand a chance of being fairly right,—so one can become qualified to teach those who may be dependent upon one for teaching.

To return, then, to our subject: Conscious effort may help to promote optimism. Things are going on to-day that show that the world is terribly wrong, but if we make up our minds that we must, by hook or by crook, get hold of right ideals ourselves, that we must try to help others thereto, or let others help us, as the case may be, we can scarce but realize that something worth while still remains to live for. If it were possible for the whole world—every unit in it—to so determine, there could be no war, for no one, no person and no nation, could provoke another person or another nation greatly to wrath. Everyone would know that the thought life is the real life,—that to serve is better than to be served,—and, for material things, everyone would know when he had enough. After all, down at the very base, somewhere, it is the great game of grab that provokes all private jealousies, and all public ones, even all national



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Is it three hours to town in a buckboard— or thirty minutes in a sturdy Ford?

More than seventeen thousand Canadian farmers drive Fords because they make the necessary trips to town during the busy season in the shortest possible time—at the smallest possible expense—and they don't eat when they aren't working.

Ford Touring Car \$590 Ford Runabout \$540. Ford Coupelet \$850. Ford Sedan \$1150. Ford Town Car \$840.

(All cars sold fully equipped f. o. b. Ford, Ont.)

Buyers of these practical cars will share in profits. If we sell 80,000 new Ford cars between August 1, 1914 and August 1, 1915. Write for catalog E.

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"Camp" goes further and lasts longer than any other coffee. "Camp" is delicious and usable to the last drop. It never goes stale.

You make each cup just as you want it—simply adding boiling water. No dregs or grounds.

Pure—and so economical.

Get "Camp" from your grocer, and try it to-day.

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COFFEE SPECIALISTS,
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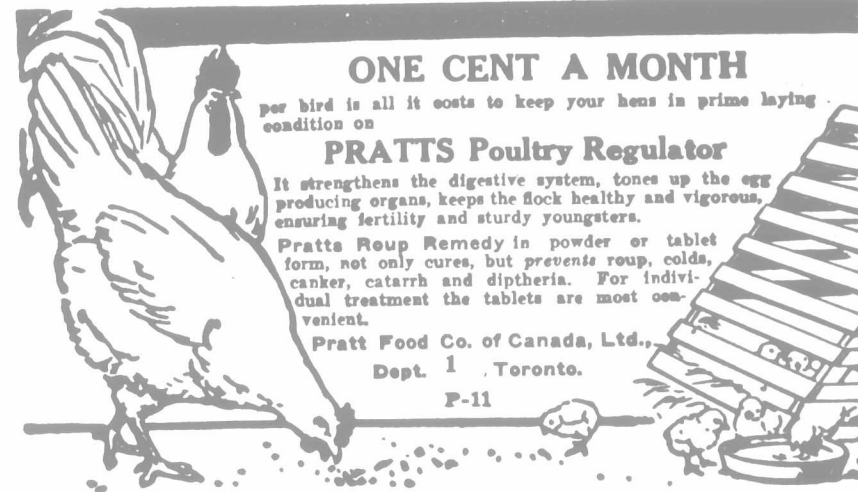
per bird is all it costs to keep your hens in prime laying condition on

PRATTS Poultry Regulator

It strengthens the digestive system, tones up the egg producing organs, keeps the flock healthy and vigorous, ensuring fertility and sturdy youngsters.

Pratts Roup Remedy in powder or tablet form, not only cures, but prevents roup, colds, canker, catarrh and diptheria. For individual treatment the tablets are most convenient.

Pratt Food Co. of Canada, Ltd.,
Dept. 1, Toronto.
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Buy High-Grade Flour

MAKE the best bread and pastry you've ever tasted. Prices of flour and feeds are listed below. Orders may be assorted as desired. On shipments up to 5 bags buyer pays freight charges. On shipments over 5 bags we will prepay freight to any station in Ontario east of Sudbury and south of North Bay. West of Sudbury and New Ontario add 15 cents per bag. Prices are subject to market changes. Cash with orders.



Cream of the West Flour

the hard wheat flour that is guaranteed for bread

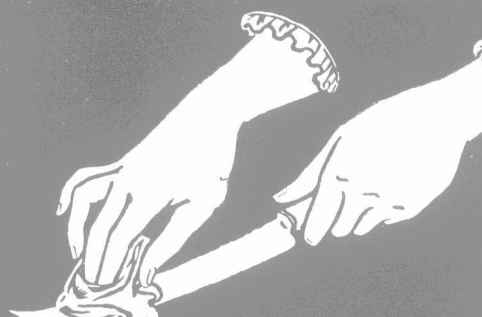
GUARANTEED FLOURS		Per 98-lb. bag
Cream of the West (for bread)		\$3.75
Toronto's Pride (for bread)		3.50
Queen City (blended for all purposes)		3.30
Monarch (makes delicious pastry)		3.30
FEED FLOURS		
Tower		1.95
CEREALS		
Cream of the West Wheatlets (per 6-lb. bag)		.35
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Special prices to farmers' clubs and others buying in carload lots.

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CUTLERY

Quickly and Easily Polished with



Large Sifter Can, with Full Directions, 10c



ones.—the great bulk of the misery and strife of the world.

Here, then, is a question for us all. "I leave it with you. How much is enough?" JUNIA.

FURS—ROSE HEADS

Dear Junia,—Could you please give me a recipe or process to dye gray Persian lamb fur? Can it be successfully done without injury to the hide?

Can you also give process for making rose-leaf heads to have them glossy and smooth? L. A. P.

Grey Co., Ont.
You had better write to some dealer in regard to your furs. John Hallam, Ltd., Toronto, advertises in this journal. It would be quite impossible for you to do the work satisfactorily yourself.

If you put a little vasoline on your fingers when moulding the real rose-leaf heads, you will find that they will take on the required gloss. "Sart heads" (sometimes erroneously called "rose" heads) are not intended to be glossy.

A LETTER FROM NEW GREENSWICH

The Ingle Neck Department, Good afternoon, ladies!—Max T. got in a few moments to join your company. I have been a reader of The Farmer's Advocate for some time and I am very much interested in the Ingle Neck Department. I wish to ask a few questions.

Can some of you please tell me through this department how to make soft pickled apples, or at least soft apple pickles? I know how to make sweet apple pickles. I also would like to know how to make chocolate cake, and how to knit men's gloves. I can make lovely ribbon cake and suitable cake and pansy cake, and delicious cake. If any of you wish any of these recipes I will gladly send them to you. I also know many nice hot plant salad recipes.

Thanking you in advance, and wishing you all a happy New Year.

W. H. L. ROSE
Grey Co., N. B.

The Scrap Bag.

STOVE POLISH

Mix stove polish with equal parts ammonia and turpentine, and apply to the stove when it is cool. Rub off with flannel.

HOMEMADE CLEANSER

Put some ashes through a sieve, add five-cents' worth lamp ammonia, powdering it first. Sift the two well together and keep in a covered jar. Use with a dampened cloth for cleaning granite and iron ware, or unpainted wood.

CUTTING BUTTER

In cutting discs of butter for individual use, take a wet thread, water cuts easily, leaving no ragged edges.

QUICKLY MADE THICKENING

In preparing your thickening for gravies, etc., use an egg beater, which will do the work quickly and smoothly.

STAINED EGGS

To remove stains from eggs before cooking, wash them quickly in water containing a little vinegar and salt.

PEELING ONIONS

Hold onion under water, chop peeling, then and they will not irritate your eyes.

TO REVEAL GARDENS

To gather goods in early spring, beat the sticks on any garden, stretch two strings one-fourth into apart, wherever goods are to be gathered, then pull on the two parallel threads, revealing the garden, etc., the other end.

A HANDY WINKET

Get an ordinary splint basket, about 20 x 15 x 7 inches in size. Wire the handle, if not done, and line the basket with calico, to which rickets have been sewn. Take in the lining with twine. Place in the basket soap, cleaning powder, and paste, furniture polish, scrub brushes, etc. This basket will save many steps.

"Even a Single Hair Casts Its Shadow"



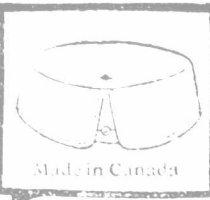
There is scarcely any facial blemish which is greeted with such disfavor by the sex feminine as the appearance of

HAIR ON THE FACE

It coarsens and ages the face, besides giving it a masculine character. Constant tanning stimulates and thickens the growth. There is positively and absolutely no permanent treatment but electrolysis. We employ skillful and experienced operators only. Satisfaction assured in each case. Over 22 years established. Consultation invited in person or by mail. Booklet "F" mailed on request.

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All "ARLINGTON COLLARS" are good, but our CHALLENGE BRAND is the best

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REALLY DELIGHTFUL
THE DAINTY MINT-COVERED CANDY-COATED CHEWING GUM

One School that Merits the Confidence of the public because of its High Grade work is the

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We train young men and women to become skillful and expert stenographers, typists, bookkeepers, commercial teachers, clerks, cashiers or general office assistants in from four to six months and assist them to get positions. Open all year. Enter now. Catalogue free. W. J. ELLIOTT, Principal Yonge and Charles Sts.

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Are acknowledged best.

Write for Free Booklet. THE MOFFAT STOVE COMPANY LTD. Weston, Ont.

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A Christian college-home, healthful situation.

For prospectus and terms, write the Principal R. I. Warner, M.A., D.D., St. Thomas, Ont. 63

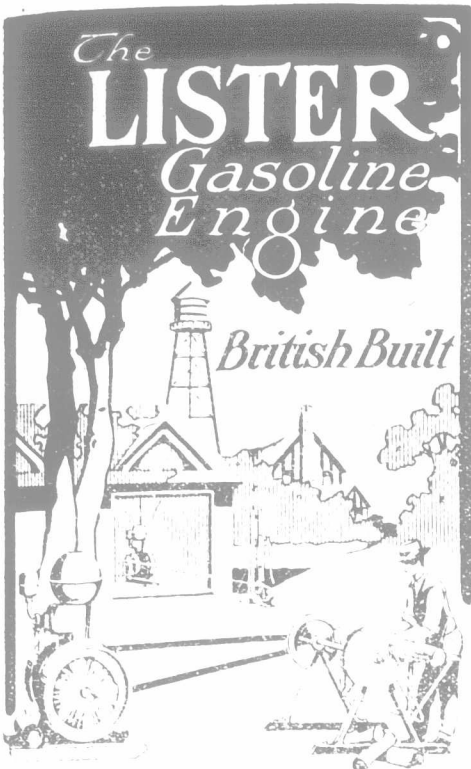
Custom Robe and Fur Tanning

Send Your Cattle and Horse Hides, Furs and other Skins to me, and have them tanned soft and pliable for Robes, Coats, Furs, etc.

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Great Athletic Book 10c

Be strong and athletic. Learn wrestling, self defense, jujitsu. Let Farmer Burns, Mgr. Frank Gotch, World's Champion, teach you. Great opportunity for young men. Makes you strong, healthy and skillful. Send 10c for 72-page book showing great holds and tricks by Burns and Gotch. Only a few at this price. Write today, giving your age. Farmer Burns School of Wrestling, 7641 Range, Bldg., Omaha, Neb.



Write for our Catalogue "G," also Catalogues of Melotte Cream Separators, Lister Grinders, Saw Frames, Pumps, Lighting Outfits, Lister Milking Machines, Lister Silos.

R. A. Lister & Co., Limited
58-60 Stewart St., Toronto

NOTICE TO STALLION OWNERS

It has come to the attention of the Ontario Stallion Enrollment Board that certain stallion owners, through inadvertence or for some good cause, have failed to comply with the Act by having their horses inspected.

The Board has decided that where application for inspection is made before the 1st day of February, 1915, the individual cases will be dealt with in such manner that where there has been reasonable excuse, owners may not be subjected to the penalties provided for by the Act.

Application forms may be secured from the Secretary.

R. W. WADE
Parliament Buildings., Toronto

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The first step towards entering a profession—becoming a doctor, lawyer, minister, dentist, druggist, civil or mining or mechanical or electrical engineer, chartered accountant (Ontario), architect, bachelor of scientific agriculture, in fact, the entrance to almost any professional or college course as junior matriculation—taught. We teach you this course at your own home in your spare time, give you any subjects you require. Write at once for full information.

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Dept. E, Toronto, Canada

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Seed Merchants since 1890

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Throw away your crank, start from the seat with a Sandbo "TWO-COMPRESSION" Starter. Differs from all others. Positively guaranteed to start.

Write
GEO. W. MacNEILL,
85 Richmond, W., Toronto.

Richards
QUICK NAPHTHA
THE
WOMAN'S SOAP
MADE IN CANADA

Our Serial Story.
PETER.

A Novel of Which He is Not the Hero
Copyrighted by
By F. HOPKINSON SMITH,
Charles Scribner's Sons.

CHAPTER XXIX.—(Continued.)

The tailor rose from his seat with a satisfied air—he had evidently reached the point he had been striving for—laid the stump of his cigar on the edge of the mantel, crossed the room, fumbled in the side pocket of a coat which hung on a nail in an open closet, drew out a small key, sauntered leisurely to his desk, all the while crooning a tune to himself, Jack following his every movement, wondering what it all meant, and half regretting that he had not kept on to the ferry instead of wasting his time. Here he unlocked a drawer, took out a still smaller key—a flat one. This time he removed some books and a small Barre boogie tiger from what appeared to be a hat—square table, robbed back the cloth, bringing into view an old-fashioned safe, applied the key and swung back a heavy steel door. Here, still crooning his song in a low key, dropping it and picking it up again as he moved—quite as does the grave-digger in "Hallelu"—he drew forth a long flat bundle and handed it to Jack.

"Take them, Mr. Breen, and put them in your inside pocket. There are ten United States Government bonds. If these Breen people will not lend you the amount of money you want, take them to Mr. Grayson's bank. Only do not tell him I gave them to you, I bought them yesterday and was going to lock them up in my safe deposit vault, only I could not leave my shop. Oh, you needn't look so scared. They are good," and he loosened the wrapper.

Jack sprang from his seat. For a moment he could not speak.

"But, Mr. Cohen! Do you know I haven't any security to offer you, and that I have only my salary and—"

"Have I asked you for any?" Isaac replied with a slight shrug, a quizzical smile crossing his face.

"No—but—"

"Ah, then, we will not talk about it. You are young—you are hard-working; you left a very rich home on Fifth Avenue to go and live in a dirty hotel in a country village—all because you were honest, you risked your life to save your employer; and now you want to go into debt to save a friend. Ah—you see I know all about you, my dear John Breen. Mr. Grayson has told me, and if he had not, I could read your face. No—no—we will not talk about such things as cent per cent and security. No—no—I am very glad I had the bonds where I could get at them quick. There—now do you run home as fast as you can and tell your friend. He is more unhappy than anybody."

Jack had his breath raw and he had also mad up his mind. Every drop of blood in his body was in revolt. Take money from a Jew tailor, whom he had not seen half a dozen times, with whom he had no business relations or dealings, or even social acquaintance?

He laid the bonds back on the desk.

"I cannot take them, Mr. Cohen. I thank you most sincerely, but—no—you must not give them to me."

Isaac wheeled suddenly and drew himself up. His little mouse eyes were snapping, and his face fiery red.

"You will not take them? Why?"

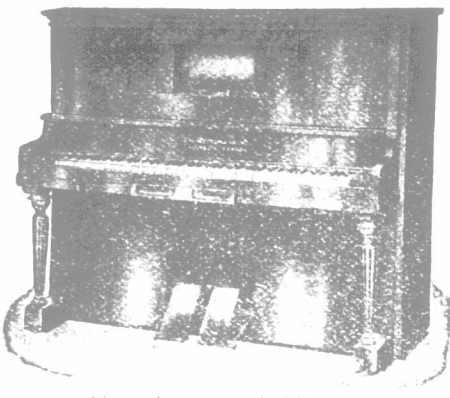
"I don't know, I can't!"

"I know!" he cried angrily, but with a certain dignity. "It is because I am a Jew. Not because I am a tailor—you have too much sense for that—but because I am a Jew!"

"Oh, Mr. Cohen!"

"Yes—I know—I see inside of you. I read you just as if you were a page in a book. Who taught you to think that? Not your Uncle Peter, he loves me—I love him. Who taught you such nonsense?" His voice had risen with every

If Nobody In Your Family Plays



Don't Have A Dumb Piano!

Because nobody in your family plays is no reason why you should be without a piano. But don't have a dumb piano! Get a

Sherlock-Manning 20th Century Player Piano
"CANADA'S BIGGEST PIANO VALUE"

In order to play it you need absolutely no skill or training. By the operation of a few simple devices, anyone—even though they never saw one before—can render perfectly any musical composition.

The Sherlock-Manning Player-Piano has the Otto Higel Mechanism (the newest and best player mechanism produced), Sustaining Pedal Attachment, Solodant (which plays the accompaniment, instantly omits the melody or correctly accents the theme in any composition), Tempo-Aid (which automatically reproduces the time and volume originally intended by the composer).

You Buy It For Over \$100 Less

Sherlock-Manning Player Pianos are found in some of the best homes in Canada. Write Dept. L for information and handsome art catalogue L.

THE SHERLOCK-MANNING PIANO COMPANY,

London, Canada
(No Street Address Necessary)

What would you think?

—of a woman who would "boil the clothes" on an oil lamp in the parlor,—to save coal.

or, of one who would cook the dinner in a big pot over a camp fire in the backyard,—because ranges were "so dear."

VERY WELL, THEN, How about the man who tracks up the kitchen, spills water and feed over the clean floor, gets in his wife's way and is a nuisance generally, whenever he uses the kitchen range to cook up feed for the stock?

Or, even the man who builds him a little camp fire in the backyard for the same purpose?

Surely such men have more time, more muscle, more wood and more heat to waste than it seems right for any man to have.

BECAUSE, for a small outlay a farmer can own an ACME Boiler and do the thing properly. He can stop lugging hot feed across the lot to the stable.

The Acme can be set up in any place where you could use a stove, and it is even safer with its **spark-proof damper** and its strong cast-iron base and legs. It can be placed wherever it will be handiest, and it can be moved from one building to another. It has a door big enough to take rough chunks of wood. Wood which would otherwise be wasted may be used to heat any outbuilding that needs it.

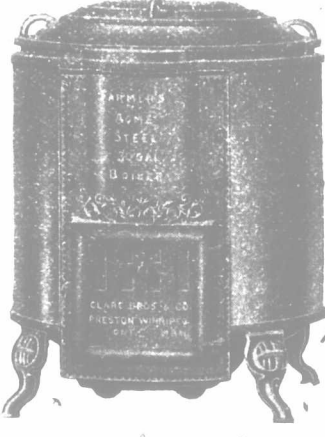
The Acme is something more than a pot with a fire under it. It is built to save

fuel. Inside there are duplex return flues which carry heat completely around the boiler, reaching every inch of it before passing out the chimney.

The body of the Acme is copper-bearing steel, a special rust-resisting metal.

The three sizes, 30, 45, and 60 gals., can be had with either cast or galvanized lids. Prices run from \$13.85 to \$25.00. A mighty good one at \$16.00 will suit most men.

ACME
Farmer's
BOILER



Send the coupon to-day for full information

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Preston, Ontario.

Send full information about The ACME Farmer's BOILER.

RENNIE'S SEEDS ALWAYS GROW

THE BEST VEGETABLES AND THE FINEST FLOWERS.



CANADA'S OPPORTUNITY—Every foot of fertile soil in Canada must be sown and cultivated to its limit this season. The world needs all the products of the soil we can grow during 1915. While our supplies are large, we advise ordering seeds immediately in case of shortage, as the demand will be enormous.

A Copy of Our New Seed Book—FREE—write to-day.

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THE UNIVERSAL MILKER

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"COMPLETE"

By Canadian people, under HINMAN patents.

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(Sole manufacturers for Canada),
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More Milk--More Money
Cotton Seed Meal

means more milk. You will do well to get in line and purchase your requirements now, while prices are right.

GOOD LUCK BRAND

is the standard of comparison. Beware of the "Just as Goods." Insist in the bag with the Good Luck tag. You are then sure of getting a high grade product. This meal is guaranteed with the Dominion Government. You take no chances. Write for prices now. We carry a stock of this material at:—

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Grow Good Crops!

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SEEDSMEN DEPT 4 OTTAWA

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FERTILIZERS

Write for FREE Fertilizer Booklet and prices.

THE ONTARIO FERTILIZERS, LIMITED
West Toronto, Ont.

Raise in Prices

We have to announce that on and after February 1st, 1915, the price of **Molassine Meal** will advance \$2.00 a ton to consumer and dealer.

We strongly advise ordering at once to save this increase.

Owing to the great increase in the cost of Molasses, it is more than probable that a further increase in price will have to be made in the near future.

All orders booked before February 1st must be shipped out from our warehouse **not later than February 15th, 1915,** in order to obtain the present price.

ORDER YOUR

MOLASSINE MEAL

Made in England

NOW AND SAVE THE HIGHER PRICE

The Molassine Co. of Canada, Limited
Montreal St. John, N.B. Toronto

WAYNE STEEL TANKS

Will They Stand the Frost?

Mr. Jacob Lawrance, Woodstock, has a Wayne Steel Tank that has been in constant use for 10 years. He purchased another one of 50-bbl. capacity recently for his supply tank. The old tank is still as good as new.

Wayne Oil Tank & Pump Company, Limited
WOODSTOCK, ONTARIO

Cotton Seed Meal

\$31 per ton F.O.B. Forest

H. FRALEIGH, Box 1, Forest, Ont.
Also dealer in Fair Seed and Linsed Meal.

BOOK ON DOG DISEASES
And How to Feed

H. CLAY GLOVER, V. S.
118 West 31st Street
New York

Mailed free to any address by the author.

sentence. In his indignation he looked twice his size. "Is not my money as good as that man Breen's—who insults you when you go to him?—and who laughs at you? Have I laughed at you? Does Mr. Grayson laugh?"

Jack tried to interrupt, but the tailor's words poured on.

"And now let me tell you one thing more, Mr. John Breen. I do not give you the bonds. I give them to Mr. Grayson. Never once has he insulted me as you do now. All these years—fifteen years this winter—he has been my friend. And now when the boy whom he loves wants some money for a friend, and Mr. Grayson has none to give him, and I, who am Mr. Grayson's friend, come to help that boy out of his trouble, you—remember, you who have nothing to do with it—you turn up your nose and stop it all. Are you not ashamed of yourself?"

Jack's eyes blazed. He was not accustomed to be spoken to in that way by anybody; certainly not by a tailor.

"Then give them to Uncle Peter," Jack flung back. "See what he will say."

"No, I will not give them to your Uncle Peter. It will spoil everything with me if he knows about it. He always does things for me behind my back. He never lets me know. Now I shall do something for him behind his back and not let him know."

"But—"

"There are no buts! Listen to me, young man. I have no son; I have no grandchild; I live here alone—you see how small it is? Do you know why?—because I am happiest here. I know what it is to suffer, and I know what it is for other people to suffer. I have seen more misery in London in a year than you will see in your whole life. Those ten bonds there are of no more use to me than an extra coat of paint on that door. I have many more like them shut up in a box. Almost every day people come to me for money—sometimes they get it—oftener they do not. I have no money for beggars, or for idlers, or for liars. I have worked all my life, and shall to the end—and so must they. Now and then something happens like this. Now do you understand?"

Again Jack tried to speak. His anger was gone; the pathos in the Jew's voice had robbed him of all antagonism, but Cohen would allow no interruptions.

"And now one thing more before I let you speak, and then I am through. In all the years I have known Mr. Grayson, this is the first time I have ever been able to help him with the only thing I have that can help him—my money. If it was five times what you want, he should have it. Do you hear? Five times!"

Isaac threw himself into his chair and sat with his chin in his hand. The last few words had come in a dry, choking whisper—as if they had been pumped from the depths of his heart.

Jack instinctively put out his hand and touched the Jew's knee.

"Will you please forgive me, Mr. Cohen—and will you please listen to me. I won't tell you a lie. I did feel that way at first—I do not now. I will take the bonds, and I thank you from the bottom of my heart for them. You will never know how much good they will do; I have hardly slept since I knew I had to get this money. I am, perhaps, too tired to think straight, but you must do something for me—you must make it right with my own conscience. I want to sign something—give you something as security. I have only one thing in the world and that is, some ore property my father left me in Maryland. At present it is worthless and may always be, but still it is all I have. Let me give you this. If it turns out to be of value you can take out your loan with interest and give me the rest; if it does not, I will pay it back as I can; it may be ten years or it may be less, but I will pay it if I live."

Isaac raised his head. "Well, that is fair." His voice was again under control. "Not for me—but for you. Yes, that is quite right for you to feel that way. Next week you can bring in the papers." He picked up the bonds. "Now put these in your inside pocket and look out for them as you cross the ferry. Good-by."

(To be continued.)

JANUA
It's a
the Chi
Cream
Pu
Cook
"Wea
Alu
Doub
Give y
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JANUARY 21, 1915

It's a "Party" to the Children— Cream Tapioca Pudding Cooked in a "Wear-Ever" Aluminum Double Boiler

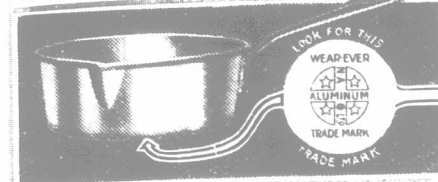


Give your boys and girls all the Tapioca Pudding they want. But be sure to cook it in a "Wear-Ever" Double Boiler. You can cook the most delicate sauces and puddings in the Double Boiler without fear of burning.

"Wear-Ever" Aluminum Utensils are stamped from thick, hard sheet aluminum, without joints, seams or soldered parts. Cannot rust or form poisonous compounds with fruit acids or foods. Send for booklet, "The Wear-Ever Kitchen".

Replace utensils that wear out with utensils that "Wear-Ever"

WANTED. Men to demonstrate and sell "Wear-Ever" Utensils. Only those who can furnish security will be considered.



Northern Aluminum Co., Limited Dept. 75, Toronto, Ont. Send me, prepaid, complete literature (two-measure) "Wear-Ever" stamped Aluminum Utensils. I enclose 25c in stamps—money to be refunded if I'm not satisfied. Name..... Address.....

UNTEARABLE PANTS \$2.45



These pants are made of a pure wool, dark grey untearable tweed, they are stitched with heavy 6-cord thread, and have heavy drill pockets. Enclose \$2.45, with size of waist and length of leg for sample pair. Sent postage paid. Money refunded if not satisfactory.

THE HENRY TAILORING CO. Stratford, Ont.

BE SURE AND ASK FOR THE Maxwell Line of WASHERS, CHURNS, BUTTER WORKERS, FOOD CUTTERS, GAS ENGINES, etc. Write for Catalogue. Maxwells Limited, St. Mary's, Ontario

Since Land Rolling Pays, it Pays to get a Bissell Land Roller (Three-Drums Roller Bearings) T. E. BISSELL CO., Limited, ELORA, ONT.

"NINE LIVES" Be sure that you buy your batteries with this trademark XCELL DRY BATTERIES. Guaranteed to last for at least all other makes. Extra lives have been given to the Black Cat. Write for Catalogue. CANADIAN CARBON CO., 40 KING ST. W., TORONTO, O.

Investigate the spraying question from a coldly business standpoint, and you'll buy a SPRAMOTOR. Well known about the world for its superiority in any class of insect spraying outfit on the market. Write today. B. H. HEARD SPRAMOTOR 2103 King St. London, Can.

Endowments at Life Rates The London Life Insurance Company London Canada

Questions and Answers. Miscellaneous.

Sugar Beet Pulp.—Blister.

1. Which has the more feeding value, sugar-beet pulp or turnips? 2. My mare has a sprained chord in one of her hind legs. The veterinarian says a blister would be the best thing. What would be a good blister?

M. J. G.

Ans.—1. Turnips. 2. Try two drams each of biniodide of mercury and cantharides, mixed with two ounces of vaseline. Tie so she cannot bite the parts. Clip the hair off around the parts. Apply the blister once daily for two days, rubbing in well. On the third day wash off and apply sweet oil. Let loose now and oil daily until the scale comes off. Repeat in a month if necessary.

Roup.

I have a fine flock of Brown Leghorns. They have been in fine condition all along, but the last few days I find that they have a swelling around the head, their eyes swell shut, and soon die. Tell me what you think the trouble is, and what you would do for them.

L. F.

Ans.—The hens are likely suffering from roup. With all those which have reached the advanced stage, killing and destroying should be resorted to. Disinfect and clean up the pens. Put some potassium permanganate in the drinking water of the rest of the fowls. Use about what can be placed on a five-cent piece to a gallon of water. This disease is very contagious, and is caused by drafts, cold, or too warm quarters.

Horse Stable.

I am going to build a barn 24 x 30, to accommodate team and rigs below. I want to tile to main drain so as to have surroundings dry. I can get choice gravel, sand, and large or small boulders for the drawing of about one mile. I am within one and a half miles of a lumberyard.

1. Which one of the three would you consider best to build, cement basement, stone basement, or one thickness of lumber full height, suitable for painting, and stable double-boarded, with paper between, on scantling inside?

2. Would 2 x 4 scantling do for uprights, full height, 14 feet?

3. Which, a tile drain from main under barn and beyond, or one each side of barn?

M. D.

Ans.—1. The double-boarded and papered basement would be dry and warm, and, all things considered, preferable. However, either stone or cement is good, and if proper ventilating systems are installed, would be satisfactory. Horses generally do better in a frame stable.

2. This depends upon the overhead storage. Heavier would be better.

3. Tile all around the outside of the wall at the base, and leading away into one drain.

Sale of Farm etc.

1. In the sale of a farm, what is removable by the former owner in the house, in the barn, and on the farm, such as troughs, and tile brought for a drain which was started but not completed?

2. Is the railway compelled to take away water?

3. What will remove the grime caused by dirt and perspiration from ornaments?

W. H.

Ans.—1. Nothing considered as a permanent fixture in house or barn may be removed. The owner may take away anything which in removing will damage the house or barn. Regular watering troughs should not be removed unless specially mentioned. The tile should have been specially mentioned in agreement. A deal depends on the agreement. Road crossings and sewer outlets.

2. What water? The railway has no right to take away water on the farm, and it is not compulsory on the railway to take away water.

3. Mercuric iodine, by washing and oiling, will remove the grime. Toss 24 grains of mercuric iodine in a quart of oil and wash with it.

Sydney Basic Slag

If you are a user of fertilizers it will pay you to get an experience of Basic Slag this season. This fertilizer will cost you \$10 to \$15 per ton less than anything you have hitherto used, and will give at least as good results.

Basic Slag is no Untried Fertilizer

Fifteen thousand tons were used in Nova Scotia in 1914, and 6,000 tons in Quebec. What is good for the Nova Scotia and Quebec farmer will be found equally profitable in Ontario. If you are in doubt, ask any man who has farmed in the Old Country during recent years as to the merits of Basic Slag.

Where we have no local agent, we will supply you direct from the factory in ton lots at \$20 per ton, delivered free at any station in Ontario. Cash with order. Descriptive pamphlets and all particulars on application to

The Cross Fertilizer Co., Limited SYDNEY, NOVA SCOTIA

Agents wanted in unrepresented districts

First Annual Sale of the East Elgin Holstein Breeders at Aylmer, Ont.

Wednesday, February 10th, 1915

60 High Class Holstein Cattle

mostly females. Cows with records up to 24 lbs. butter per week; nearly all the cows will have freshened or be heavy in calf and all subject to tuberculin test; every animal guaranteed sound; no three teaters and no slack quarters.

The cows are bred to, and the young stock are from some of the best sires in Canada.

Sale will commence promptly at 1 o'clock at Grave's Feed and Standing Stable.

TERMS—Cash or 6 months' credit on approved paper interest 7% per annum.

Train accommodation unexcelled, both M.C.R. and G.T.R.

Excellent Accommodation. Good Cattle. Courteous Treatment.

WRITE FOR CATALOGUE AND ATTEND THE SALE.

Merritt Moore, Auctioneer

Gordon Newell Springfield, Ont., Sect.



Central Nurseries, St. Catharines, Ontario

Have for Sale a variety of Trees, Vines, Plants, Ornamentals, Etc. For 1915. For satisfaction plant HULL TREES. Our prices are the lowest in the market. See our price list. The price is guaranteed. Look over our price list. No agents. A. G. HULL & SON, St. Catharines, Ontario



MADE IN CANADA
SAVE-THE-HORSE
(Trade-Mark Registered)



BOOK FREE

ONE BOTTLE CURES TWO CURBS

Mr. Armour Thompson, Box No. 36, Elmvale, Ontario, writes:—"Troy Chemical Company, Toronto. Save-The-Horse cured two curbs instead of only one as guaranteed. Enclosed check for another bottle. Send instructions for windpuff."

REMEMBER.—No blistering or loss of hair. Horse works as usual—any season.

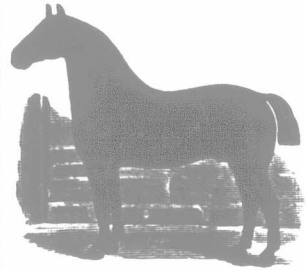
Every bottle of Save-The-Horse is sold with signed contract-bond to return money if remedy fails on ringbone, thoropin, SPAVIN or ANY shoulder, knee, ankle, hoof or tendon disease. **BUT WRITE,** and we will send our **BOOK**—Simple Contract and **ADVICE**—ALL FREE to (Horse Owners and Managers—only). Address

TROY CHEMICAL CO.,
145 Van Horn St., Toronto, Ont.

Druggists and Dealers everywhere sell Save-The-Horse WITH CONTRACT, or we send by Mail or Express paid.

DR. PAGE'S ENGLISH SPAVIN CURE

For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hocks, Strains or Bruises, Thick Neck from Distemper, Ringworm on cattle, and to remove all unnatural enlargements.



This preparation, unlike others, acts by absorbing rather than blistering. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin or money refunded, and will not kill the hair. Manufactured by Dr. Frederick A. Page & Son, 7 and 9 Yorkshire Road, London, E.C. Mailed to any address upon receipt of price \$1.00.—Canadian agents:

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171 King St., East, Toronto, Ont.

FROST BITES
quickly relieved by using



It stops bleeding instantly and will prevent Blood Poisoning. For Sale by all Dealers. Let us send you a sample.

DOUGLAS & CO., NAPANEE, ONT.

THICK, SWOLLEN GLANDS that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

ABSORBINE

also any Bunch or Swelling. **No blister, no hair gone,** and horse kept at work. Concentrated—only a few drops required at an application. \$2 per bottle delivered.

Book 3 K free.
ABSORBINE, JR., antiseptic liniment for mankind, reduces Cysts, Wens, Painful, Knotted Varicose Veins, Ulcers. \$1 and \$2 a bottle at dealers or delivered. Book "Evidence" free **W. F. YOUNG, P.D.F. 258 Lyman Bldg., Montreal, Can.**



CATTLE FATTEN QUICKER.

Dehorned cattle herd together quieter and take on flesh quicker. Their meat is tender and firmer and they bring a higher price. The **KEYSTONE DEHORNER** is used at the Government Agricultural Colleges. Write for booklet.

R. H. McKENNA, 219 Robert St., Toronto.

Clydesdales and Shorthorns. Young stallions of superior quality, certain winners at the big shows. Young bulls and some heifers bred from cows milking up to 52 lbs. a day. Come and see them.

PETER CHRISTIE & SON,
Manchester P.O., Ont., Port Perry Station

Dr. Bell's Veterinary Medical Wonder, 10,000 \$1.00 bottles to horse-men who will give the Wonder a fair trial. Guaranteed for Inflammation of the Lungs, Bowels, Kidneys, Fevers, Distempers, etc. Send 10 cents or mailing, packing, etc. Agents wanted. Write address plainly. **Dr. Bell, V.S., Kingston, Ont.**

Questions and Answers.
Miscellaneous.

Road Allowances.

Could one man open a road without the consent of the Council, across three lots, when the public road is opened about 100 rods south of where the road allowance is? The road allowance has never been opened or fenced, and the road allowance has been cultivated land. This man intends opening the line fences and driving his cows and carriages across these fields where the road allowance is. There is a good road about 100 rods south which the Council has kept up for over fifty years. This man has a good lane put to the road which the Council keeps up. This man has cut the corner posts of the wire fence, and thrown down the next wire fence, and is going through this winter.

G. C. M.
Ans.—We would advise that you take the matter up with Council at once. It does not seem right that he should force his way across without any agreement.

Leucorrhoea.

Can you tell me how to treat a mare with a disease we call the whites. There is a very frequent discharge of a yellowish-white color, from the vagina. Although a good eater, she keeps in poor condition. Tried to breed from her last season, but although washed out before service, she has failed to prove in foal.

J. J. R.
Ans.—Leucorrhoea is a chronic disease of the womb difficult to treat, and she is not likely to conceive until the disease is checked. It is generally advisable to get a veterinarian to treat the disease. If you decide to treat it yourself, you must flush the womb out twice weekly with about one gallon of a two-per-cent. solution of Zenoleum heated to 100 degrees F., and introduced with an injection pump or large syringe with a long nozzle. Give internally 30 drops carbolic acid, mixed with a cupful of water and sprinkled on her grain twice daily. Continue treatment until discharge ceases.

Building Queries.

How much cement and sand would be required to manufacture, say, 1,000 brick of usual size? How much for 1,000 hollow cement blocks, 8 x 8 x 16? What parts of cement and sand do they use for each?

How many brick would be required to veneer a house 32 x 30 x 20 feet high? How many cement blocks for same?

C. C.
Ans.—For 1,000 brick, 2 1/2 x 4 x 8 1/2 ins., made with gravel having 30 per cent. voids, the quantities necessary for a 1 to 3 mixture, would be approximately 3.4 barrels of cement, 1.5 cubic yards of gravel; 1 to 4 mixture, 2.7 barrels of cement, 1.6 cubic yards of gravel; 1 to 5 mixture, 2.3 barrels of cement, 1.7 cubic yards of gravel. If facing is desired on these brick, it would take about half a barrel more cement per thousand.

Some concrete machinery makers give the following values for one hundred 8 x 8 x 16 in. hollow blocks:

Mixture.	Barrels cement.	Cu. yds. gravel.
1 to 4.....	2.38	1.41
1 to 5.....	2.12	1.49

This is based on 30-per-cent. voids in the gravel. For a facing made of 1 part of cement to 2 parts of aggregate, 2-in. thick, add one-quarter of a barrel. For 100 cubic feet of wall, materials needed would be as follows:

Mixture.	1-2-1	1-2-2	1-3-1
Cement.....	5.38	4.58	3.92
Sand.....	1.63	1.70	1.74
Gravel.....	3.70	3.49	3.48

This is based on 40-per-cent. voids in the gravel. Of course, all these values are more or less average, and are subject to slight variations. However, they are good-working quantities. **W. H. P.**

Will it be a Dry Season?

You don't know—nobody knows. But if you take the precaution of proper tilling you will have as little to fear from insufficient moisture as hundreds of users of Peter Hamilton Cultivators last year. Good seed deserves better treatment than simply planting it haphazard. Work up your soil with a

Peter Hamilton Cultivator

and you'll get improved results. All teeth cultivate to the same depth and thoroughly work up every inch of the ground. Every tooth reinforced, each section of heavy steel. See this splendid implement before investing in any cultivator.

The Peter Hamilton Company, Ltd.
Peterborough, Ont.



IMPORTED PERCHERON Stallions and Mares

We have a larger selection of Percherons than any other firm in Eastern Canada, and our barns contain more prizewinners at the leading fairs than all others combined. No advance in prices, although the source of supply is cut off. Write for beautiful illustrated catalogue.

Hodgkinson & Tisdale, Beaverton, Ontario
Bell 'Phone 18

CLYDESDALES AND PERCHERONS

I have not exhibited at any shows during 1914. I am still in the horse business, and at present have the best lot of Stallions and Mares I ever had at any one time, 29 head: 17 Clyde Stallions and 4 Mares, 5 Percheron Stallions and 3 Mares; a visit to my stable will convince you I have more high-class horses than can be found in any one stable in Canada, and won't be undersold by any dealer in Canada; always a pleasure to show stock to intending purchasers, sale or no sale.

T. H. HASSARD, MARKHAM, P.O., G.T.R.
Locust Hill Station only 3 miles, C.P.R. Long-Distance Phone.

1914 Stallions—CLYDESDALES—Fillies 1914

We made the grade on a darkened ship without meeting a Kaiser cruiser. Our 1914 importation are home. Stallions and fillies especially selected for character, quality and breeding. If you want a topper, come and see them.

Smith & Richardson, Columbus P.O.
Myrtle C.P.R. Brooklin G.T.R.

Imp.—Clydesdales, Stallions and Fillies—Imp.

We have had lately landed, an exceptionally choice importation of Stallions and Fillies. They have the big size, the clean flat quality bone and the most fashionable breeding. Our prices are consistent with the times.

JOHN A. BOAG & SON QUEENSVILLE, ONTARIO

A few choicely-bred young stallions always on hand and for sale. Prices and terms right. Visitors welcome.

BARBER BROS., GATINEAU PT., QUE.

JUST LANDED CLYDESDALE STALLIONS JUST LANDED

I have just landed a new importation of Clydesdale Stallions, in ages from 3 years up to the big drafty kind that makes the money. I can satisfy any buyer no matter what he wants; a visit will convince.

WM. COLQUHOUN, Mitchell, Ont.

Royal Oak Clydesdales Present offering: 5 Imported Mares (3 with foal by side) 2 yearling Fillies (1 Imp. and 1 Canadian-Bred), 1 Canadian-Bred Yearling Stallion, 1 Canadian-Bred 2-year-old Stallion, 1 Canadian-Bred 6-year-old Stallion. Parties wishing to secure a good brood mare or stallion should inspect this offering or communicate with me at earliest convenience. **G. A. Attridge, Muirkirk, Ont. P.M. and M.C. Ry. L.-D. 'Phone Ridgeway**

SHIRES, SHORTHORNS

Quality in Shire Fillies, and one two-year-old Stallion. Shorthorns of all ages. A very choice lot of young bulls, three from our Show Cows and our present stock bull.

JOHN GARDHOUSE & SONS Long-Distance Telephone WESTON, ONTARIO

CLYDESDALES

Imported and Canadian-bred. With over 25 head to select from. I can supply in either imported or Canadian-bred brood mares, fillies, stallions and colts. Let me know your wants.

R. B. PINKERTON, ESSEX, ONT. Long-Distance Telephone.

Angus Bull For Sale

The undersigned offers the magnificent pure bred Angus bull "Tom of Inner-Feithen" a splendid head leader and in the pink of condition. Three years old. Price \$125. Two young bulls for sale. Just rising one year. In good shape.

M. G. Ransford, STAPLETON STOCK FARM, Clinton, Ont.

PLEASURE CRUISES BY
R.M.S.P.
 - TO -
WEST INDIES
 FORTNIGHTLY SAILINGS
 By Twin-Screw Mail Steamers
 FROM
St. John (N.B.) & Halifax (N.S.)
 Special Facilities for Tourists.
 For Illustrated Folders, Rates, etc., apply to the Agents of The Royal Mail Steam Packet Company, or in HALIFAX (N.S.) to PICKFORD & BLACK, LTD.

SHIP US YOUR
CREAM
 We supply cans and pay all express charges within a radius of 100 miles of Berlin. Send a statement of each shipment. Pay every two weeks.
 WRITE FOR FULL PARTICULARS
The Berlin Creamery Co.
 Berlin, Canada

WANTED
1,000 Chauffeurs
 By the British Government
 Let us qualify you either to go to the front or take the place here of others who have gone—good chauffeurs are scarce. All makes of Gasoline Motor Engines, repairing, etc., thoroughly studied. Our diploma qualifies you for Government chauffeurs' license examination. Write to-day for particulars and free booklet. Classes now starting.
ED. W. CAMERON, Principal
 Toronto Automobile School
 86 Wellington St. West, Toronto, Ont.

EVERY FARMER NEEDS THIS
Harness Repairing Outfit
 We have the best Automatic Shoe and Harness Repairing Outfit on the market. The outfit consists of the Automatic Awl, Collar Awl, Needles, Linnen Thread, Wax, Stitching Horse, also an extra bobbin, and full directions are given. Complete outfit, \$1.50, sent prepaid. Agents wanted—liberal commission. Send for this outfit to-day. Write to
ED. FABER, WELLESLEY, ONTARIO

We Have Advanced Our Price For Good Quality Cream
 We pay express and supply cans. It will pay you to write us, we have had ten years experience and we can guarantee satisfaction. A man wanted in every county, easy money.
Galt Creamery
 Galt :: :: Ontario

Running Water on Every Floor!
 Write us to-day for particulars of the EMPIRE WATER SUPPLY SYSTEM for country homes. Durable, efficient, no trouble to operate, and cost little. We make hand, windmill, gasoline, and electric outfits.
EMPIRE MFG. CO., LIMITED
 1200 Dundas Street, LONDON, ONT

WANTED
 We have again advanced our prices for good quality cream. We could use yours. It will be worth your while to write us.
Toronto Creamery Company, Limited
 Toronto, Ontario
 Please mention "The Farmer's Advocate."

Questions and Answers.
Miscellaneous.

Diverting Relief Funds.

Would it be legal for the ratepayers and citizens of a township on nomination day to direct (without the consent of the contributing parties) a portion of either money or farm products collected from the residents of a municipality, intended to have been forwarded as a relief fund to those suffering in Great Britain from the effects of the prevailing war in Europe, to a resident in the same township from which it was collected?
Ontario. A SUBSCRIBER.
Ans.—No.

To Kill Lice on Stock and Poultry.

I notice from time to time questions asked how to kill lice on hens, cattle, horses, and pigs, and I send you my own recipe, which is both cheap and simple, and the best on record. Take two cups each of coal oil and soft soap; put in one pail of soft water; clean out the hen house and spray all around walls and roosts and nests with a watering can or whisk; repeat in eight or ten days. For pigs or other animals, warm the water and apply with watering can, or any other way desired. For sheep, use like any other dip, parting the wool and pouring on. This is an effective, harmless remedy, as there is no poison about it, and it will not only kill the lice, but clean the skin.
SAMUEL LANGMAN,
Simcoe Co., Ont.

Ans.—Care should be taken not to apply the coal oil without enough soap or blistering would likely result.

Mortgage and Insurance.

A has a mortgage on B's farm. The mortgage states that B is to keep his buildings insured, but does not state in whose favor. If B's buildings burn down, has A a right to the insurance?
Ontario. J. M.
Ans.—Assuming that the mortgage is expressed to have been made in pursuance of the Short Forms of Mortgages Act, and that the insurance clause is in the words provided by the Act, viz: "And that the said mortgagor will insure the buildings on the said lands to the amount of not less than . . . of lawful money of Canada"; by the extended effect given to these words by the Act, the mortgagor, A, has a right to demand of B, the mortgagor, an assignment and delivery over to him, A, of the policy of insurance and receipts relating to it, and to receive payment of the insurance moneys, in the event of fire, accordingly.

Gossip.

Jas. Bowman, of Guelph, Ont., writes: "Since the fall fairs we have sold to John L. Tait, of Glencoe, a very good two-year-old Aberdeen-Angus heifer, bred to Young Leroy, prize three-year-old bull at London Fair, and a Suffolk Down ram, for crossing purposes. Mr. Tait has been raising grade Aberdeen-Angus for some years, and now has started into pure-breeds. J. S. H. Guest, of Appleby School, Oakville, purchased a nice in-calf heifer, Elm Park Keepsake 14th, bred to our champion, Elm Park Wizard. Wm. Charmon & Son, Oakwood, Ont., has bought a good herd-header in the Pride of Aberdeen-bull, Elm Park Pat. Messrs. Charmon have shown some good specimens of the breed at Lindsay Fair for some years, and we hope to have them soon at the large fall fairs. Glendaming Bros., of Bennington, who I have heard have quite a reputation in their neighborhood for raising extra good beef cattle, have purchased a good type for the raising feeding steers in Beauty's Wizard. This bull is out of our champion cow, Elm Park Beauty 14b, and by our champion bull, Elm Park Wizard. J. K. Schraeder, of Crediton, also purchased a useful bull for crossing purposes, and R. T. Dodds, of Seaforth, a good Pride of Aberdeen bull to breed on grade cows. Enquiries are coming in a carload of the above, along with a carload of the seventeen Aberdeen-Angus cattle, and twelve Suffolk Down sheep, which we shipped to ten different parties in West-ern Canada in December, all goes to show that both these breeds, which have again won the champions and grand championships, both alive and in carcase, at Smithfield, England, are steadily winning their way purely on their merits."

CALDWELL'S DAIRY MEAL
 Analysis: Protein 20%, Fat 6.3%, Fibre 10%
 Scientifically compounded to increase the milk flow. A high protein, Government guaranteed, complete balanced cow ration that will keep your herd in top condition and get you bigger milk yield.
CALDWELL'S MOLASSES MEAL
 The famous upbuilder of cattle, horses, sheep and hogs. Contains 84% Pure Cane Molasses and 16% Edible Moss. Makes ordinary feed more palatable and digestive, nourishes and conditions your animals better than anything else you can give.
CALDWELL'S Cream Substitute CALF MEAL
 Completely replaces whole milk for rearing calves. Guaranteed analysis gives Protein 19 to 20%, Fat 7 to 8%, Fibre 5%. Enables you to sell your whole milk and raise as good or better calves for less money.
 If your dealer cannot supply you, write us direct.
 Free booklet on any or all of the above mailed on request.
The Caldwell Feed & Cereal Co., Limited
 LARGEST FEED MILLS IN CANADA
 DUNDAS, ONTARIO

THE MAPLES CHAMPION HEREFORDS
 To make room, we will quote special prices on 15 young bulls, some Toronto winners among them; also females any age. Write for prices on one or a carload.
 W. H. & J. S. Hunter R.M.D., Orangeville, Ont.

1909 Canada's Champion Hereford Herd 1914
 For the above six years at the leading shows from Toronto to Edmonton my herd has maintained its supremacy as the champion herd of Canada; American and Canadian bred bulls for sale, the highest attainment of the breed; also cows and heifers.
 L. O. CLIFFORD, OSHAWA, ONTARIO

FAIRY MOUNT HEREFORDS
 Sired by my Toronto and London Canadian Bred Champion. I have for sale several young bulls from 7 to 24 months of age, Toronto and London winners among them, the low, thick kind, an exceptionally choice lot.
 G. E. REYNOLDS R.R. No. 2 ELORA, ONTARIO

20 ROSEDALE STOCK FARM 20
SHORTHORN BULLS
 Some of them fit to head the best herds in the country. Some are from heavy milking dams. Six are from imported dams.
 G.T.R. C.P.R. J. M. GARDHOUSE Street Railway and
 WESTON P.O. WESTON P.O. Long-Distance Telephone

Northlynd R.O.P. Shorthorns and Jerseys
 For Sale—Our noted sire of big milkers, St. Clair #84578—a Clara bred, son of Waverly. Several of his sons out of R.O.P. dams; also Shorthorns and Jersey females. Official records is our specialty.
 G. A. JACKSON, DOWNSVIEW, P.O., WESTON STATION.

SALEM STOCK FARM HOME OF THE CHAMPIONS
 Special prices of Twenty Shorthorn Bulls during Winter Fair week. Many of them are good enough to head the best herds. Others big and growing that will sire the best kind of steers. Elora is only thirteen miles from Guelph. Three Trains daily each way.
 J. A. WATT, ELORA, ONTARIO

IRVINE DALE SHORTHORNS
 Herd is headed by Gainford Select (a son of the great Gainford Marquis). A number young bulls of choice breeding and out of good milking strains. Also a few heifers.
 J. WATT & SON Elora Station SALEM, ONTARIO

Maple Grange Shorthorns
 Pure Scotch and Scotch-topped. Breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers.
 R. J. Doyle, Owen Sound, Ontario

Poplar Hall Shorthorns
 If you want a herd-header of the highest possible individuality and richest possible breeding, visit our farm; sired by the great Uppahull Omega, Imp.; we have C. Butterflies and Lovelys, Marr, Roan Lulys and Cinderellas, from 7 to 18 months of age.
 MILLER BROS., R.R. No. 2, CLAREMONT, ONTARIO
 Clarendon C.P.R. Pickering G.T.R. Greenbarn C.N.R., Sta.

Meadow Lawn Shorthorns
 Have for sale several well bred young bull and heifers also some young cows of thick fleshy type. Write for prices.
 BELL PHONE. F. W. Ewing, R.R. No. 1, Elora, Ont.
 C.P.R. and G.T.R.

Willow Bank Stock Farm
 Shorthorns and Leicester Sheep. Head established 1855; flock 1818. The imported Crick-horn, Butterfly Roan Chee #60865—heads the herd. Young stock of both sexes to offer. Also an extra good lot of Leicester sheep of either sex; some from imported sire and dam.
 James Douglas, Caledonia, Ont

Canada's Champion Herd of Registered Hampshire Swine
 This herd has won over 90% of all prizes offered for the breed at leading Ontario Fairs. Write for particulars and prices.
 HASTINGS BROS. Telephone CROSSHILL, ONT.

Your Untapped Maple Trees Will Produce Many Dollars

They will produce a substantial income each year, and at a time of the year when other farm work is impossible.

Now that the new pure maple law is in force, there is a greater demand for PURE Maple Syrup and Sugar.

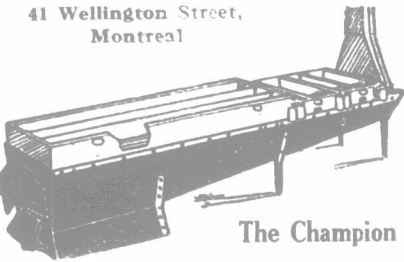
This is your opportunity to increase your income by tapping every maple tree you own. If you are not quite sure how to go about it, we will be pleased to give you fullest information without charge, and at the same time tell you about the

Champion Evaporator

which produces the most high-grade syrup in the shortest time, at the smallest cost.

Get ready now to tap in the spring.

Grimm Manufacturing Co., Limited
41 Wellington Street,
Montreal



The Champion

\$1,000.00 An Acre

YOU can make \$1,000.00 to \$1,000.00 an acre on the poorest land on your farm, and improve to them how they can make more money and at the same time increase the value of their land. If you, your wife, or any member of your family are interested, we want you to send for our free book on Poultry Raising the Peerless Way for only four cents to cover postage.

We want 100,000 orders to set, aside this spring 1 to 5 acres of the poorest land on their farm, and improve to them how they can make more money and at the same time increase the value of their land. If you, your wife, or any member of your family are interested, we want you to send for our free book on Poultry Raising the Peerless Way for only four cents to cover postage.

This book will prove to be your good fairy, and if you act upon its advice you secure expert advice in all branches of the business from those who know. Write today. Address—

Lee Manufacturing Co., Limited
Telephone Building, Adelaide St.
TORONTO, ONT.

Or to E. JOEHN, St. Catharines, Ontario

CODE WILL FORM 25¢ MAKE YOUR OWN WILL in a legal and unbreakable manner—in private and without expense. You owe this to your family and dependents. Complete instructions with each Code Will form— at your bookseller or stationer, or The Copp Clark Co., Limited 509 Wellington W. Toronto

Beaver Hill Aberdeen - Angus
Choice young Bulls fit for service
Females all ages, for sale.
Alex. McKinney,
R. R. No. 2, Eria, Co. Wellington, Ontario

Tweedhill Aberdeen - Angus
Excellent young bulls of serviceable ages.
Heifers in calf, etc.
James Sharp, R. R. No. 1, Terra Cotta, Ont.
C.P.R. and G.T.R. Cheltenham Station.

STOCK BULL FOR SALE
Mossy Lad Roan
Bred by J. P. ...
MI NGUENABB & SONS
R. R. No. 1
Terra Cotta, Ontario

Gossip.

MILKING - TIME AT VILLA VIEW FARM.

On the afternoon of January 6th, fully one hundred people gathered at Villa View Farm, Sebringville, Ont., Arbogast Bros., proprietors, to see how dairying was managed under modern ideas. The power plant in this dairy is a five-horse-power Wagner motor, operated by hydro-electric power. This motor is used to operate a three unit Hinman milking machine, cutting-box, grain crusher, turnip pulper, and cream separator. Another big attraction was the \$2,000 bull, King Segis Aleartra Calamity, sired by the \$50,000 bull, King Segis Pontiac Aleartra. The Villa View herd is made up of registered Holsteins exclusively, forty-five in number. Seventeen of these are milking. The Hinman milker drew many remarks of surprise and admiration at the simplicity and yet efficiency of same. Points that were noticed were: That there were no gauges, no safety valves, no pulsators, no metal piping, just a simple drive rod to operate the machine, and one man handled the three machines. Another feature was the ease with which the machine was handled, and so easily washed. In fact, the whole demonstration was a credit to Arbogast Bros., who demonstrated to their friends how they took advantage of modern machinery to lessen labor on the dairy farm.

BRANT COUNTY HOLSTEIN SALE.

The list of breeders whose herds are represented in the big sale of fifty head of Holsteins at the city of Brantford on Wednesday, January 27th, is an absolute guarantee of the high-class quality of the animals to be sold, and also that their breeding for generations back is all along the highest and richest producing lines. This, coupled with the fact that with one or two exceptions they are all young and undeveloped, makes the offering one of exceptional merit and interest to breeders generally, and more especially to those breeders who specialize in record-making, and prefer to develop their own record-makers. The material for record-making will be sold at this sale. Many of them are daughters and grand-daughters of cows with 27-pound R. O. M. records, and 20,000-pound R. O. P. records, notably the great cow Maggie Clark, whose R. O. M. and R. O. P. records are represented by the above figures. Others are daughters of 19,000-pound cows. One is a daughter of a 20,000-pound cow, and is in calf to a bull out of a 22,000-pound dam, and the balance are equally as well bred. Every animal is absolutely right in every particular, and every animal will be sold on straight, bona fide bids, for under no circumstances will there be any by-bidding.

HEREFORDS AT FAIRY MOUNT FARM.

Fairy Mount Farm, the property of G. E. Reynolds, Elora, Ont., lies three miles south of Elora and ten miles north of Guelph. Many years ago Mr. Reynolds, through his life-long experience in beef-cattle feeding, pinned his faith to the Herefords as the ideal of them all for pasture or stall feeding, and then laid the foundation of what is now one of the best Ontario herds. His system of breeding was to use an American-bred bull on English-bred females. This line of breeding has proven a success in producing for Mr. Reynolds many winners at both the Toronto and London Shows. The present stock bull, Brenda Boy 9595, has already to his credit a number of winners at both the above shows, and two young ones coming on for another year are an exceptionally choice lot. Last fall at Toronto and London, in the open aged class, he was first and in the Canadian-bred class he was first and second. He is an exceptionally well-proportioned bull and is showing much better than any of the fall. If this sometimes you can hear him with plenty of heads and horns, and plenty of the open class. The present stock bull, Brenda Boy 9595, has already to his credit a number of winners at both the above shows, and two young ones coming on for another year are an exceptionally choice lot. Last fall at Toronto and London, in the open aged class, he was first and in the Canadian-bred class he was first and second. He is an exceptionally well-proportioned bull and is showing much better than any of the fall. If this sometimes you can hear him with plenty of heads and horns, and plenty of the open class.

The Great Canadian Shorthorn Annual Sale

WILL TAKE PLACE AT

The Union Stock Yards, Toronto

ON

Wednesday, Feb. 3rd, 1915

Beginning at 12 o'clock, noon

When Robert Miller, Stouffville, Ont.; J. A. Watt, Elora, Ont.; Kyle Bros., Drumbo, Ont., and John Miller, Jr., Ashburn, Ont., will sell 60 head of select

Scotch Shorthorns

of the best breeding and conformation that it is possible to find

About half are young bulls fit for service, the other half young cows with calves at foot, and heifers nearly or quite of the breeding age. They are of the same quality that has made this sale the greatest event of the year in Shorthorn circles, and they will be sold without any reserve. At no time in the history of this country have cattle been more valuable, and this is a chance to get the right kind at a fair price.

Ask for catalogue, and prepare to attend this sale the day following the Shorthorn meeting.

Robert Miller, Stouffville, Ont.

MANAGER OF SALE

Robert Miller Pays The Freight

Young Shorthorn bulls of Showyard Quality, sired by Superb Sultan and other great imported sires, from the best imported and Scotch bred cows to be found, some of them great milkers, ready to sell at moderate prices, and delivered at your home station. Cows and heifers supplied too, write for what you want.

ROBERT MILLER STOUFFVILLE, ONT.

Escana Farm Shorthorns—100 head in the herd, which is headed by the noted bulls, Right Sort Imp., the sire of the first-prize calf herd at 1914 Toronto National Show, and Raphael Imp., grand champion at London Western Fair 1913. For sale: 20 bull calves, 9 to 14 months old, several in show form; also 20 cows and heifers.

MITCHELL BROS., Props., Burlington P.O., Ont.

JOS. McCRUDDEN, Manager. Farm 1/4 mile from Burlington, Ont.

SHORTHORNS of breeding, style and quality. If in want of an extra choice herd-header, carrying the best blood of the breed, or a limited number of right nice yearling heifers, write us; we can supply show material of either bulls or females. Long-Distance Telephone Geo. Gier & Son, R.R. No. 1, Waldemar, Ont.

SHORTHORNS Scotch Bates and Booth, yes, we have them, pure Scotch, pure Booth and Scotch topped Breds. Young bulls of either strain. Heifers from calves up. One particularly good two-year-old Booth bull, ideal dairy type. Geo. E. Morden & Son Oakville, Ontario

GLENGOW SHORTHORNS For this season's trade we have the best lot of young bulls we ever had. Welding Extra Shorthorns, from Elora and Killoan Bredoms, sired by Bloodhook. These are a thick, hollow, 22-inch lot. Heifer from calves up. WM. SMITH & SON, COLUMBUS, ONTARIO

H. SMITH HAY P.O., ONT.
12 SHORTHORN BULLS and as many heifers for sale. Write your wants. You know the Hery Smith Standard.

Gossip.

Volume 8, of the American Leicester Sheep Record, containing pedigree records of animals numbered from 14101 to 16100, has been issued from the press and a copy received at this office.

W. F. ELLIOTT'S DISPERSION SALE OF HOLSTEINS.

Practically all the females to be sold at the big dispersion sale of W. F. Elliott, at Unionville, Ont., on Friday, February 5th, are young, consequently very few of them have been officially tested.

Trade Topic.

Three hens with official records of 261, 263 and 256 eggs in one year, respectively, have been bought by the Pratt Food Co., of Philadelphia, Pa.

SAVE HALF YOUR FENCE MONEY

Buy the "PAGE" Way—From Factory to Farm—At Lowest Prices—Freight Paid

A PAGE fence will outlast two ordinary fences. It sells for very little (if any) more than the cheapest ordinary fence.

Table with columns: No. of bars, Height, Stays inches apart, Spacing of horizontals, Price in Old Ontario.

SPECIAL FENCE.

- 18-bar, 48-inch \$0.43
20-bar, 60-inch .48
Set tools 8.00
3-ft. Gate 2.25
12-ft. Gate 4.20
13-ft. Gate 4.45
14-ft. Gate 4.70
25 lbs. Staples .75
25 lbs. Wire .70

ALL FULL NO. 9 GAUGE.

Prices for New Ontario, Quebec, Maritime Provinces and the West on application.

THE PAGE WIRE FENCE COMPANY, LIMITED

1137 King St., W. TORONTO
505 Notre Dame St., W. MONTREAL
87 Church St. WALKERVILLE
39 Dock St. ST. JOHN, N. B.
100 James St., E. WINNIPEG

BIGGER AND BETTER THAN EVER!

Sixth Annual Sale of

Registered Shorthorns

In the Butler House Yards, LINDSAY, ONTARIO on

Tuesday, January 26th, 1915

30 MALES AT 1.30 P.M. SHARP 11 FEMALES

Will be sold at public auction by the Victoria Pure Bred Stock Association. This is the finest aggregation of stock that the Association has ever got together.

Terms:—Cash, or ten months' credit will be allowed on approved joint notes, all notes to bear interest at the rate of 6 per cent per annum from date of sale.

President - JAMES CASEY. Vice-President - GEO. H. MARK. Auctioneer - WM. MARQUIS. Secretary - A. A. KNIGHT, Lindsay.

BULLS AND FEMALES

We have a full line of on hand. We have nothing but the best Scotch families to choose from. Our cows are good milkers.

A. F. & G. Auld, Eden Mills, P.O. Guelph, 5 Miles Rockwood, 3 Miles.

PLEASANT VALLEY FARMS SHORTHORNS Herd headed by Imp. Loyal Scot. Have for sale, 10 high-class young bulls of herd heading quality.

SHORTHORNS and CLYDESDALES We have a nice bunch of bull calves that were a year-old in Sept., and are offering females of all ages.

Scotch—SHORTHORNS—English—If you want a thick, even fleshed heifer for either show or breeding purposes, or young cows with calves at foot, or a thick mellow beautifully-fleshed young bull, or a right good milker bred to produce milk; remember I can surely supply your wants.

BULLS and FEMALES At greatly reduced prices, as my sale had to be called off on account of the weather. Herd must be reduced, as I am short of feed and stabling. Low prices for quick sale.

10 Shorthorn Bulls, 9 Imported Clydesdale Mares Our bulls are all good colors and well bred. We also have Shorthorn females of all ages.

Glenhurst Ayrshires ESTABLISHED OVER 50 YEARS AGO and ever since kept up to a high standard. We can supply females of all ages and young bulls, the result of a lifetime's intelligent breeding.

When Writing Please Mention Advocate

O.A.C. NO. 72 OATS FOR SALE

Grown from hand picked seed carefully weeded while growing, pure and as free from fowl seeds as is possible to have them.

A. FORSTER Markham, Ontario

SHORTHORNS

8 bulls from 7 to 15 months, some are herd headers both in quality, size and breeding, some are thick, fleshy, sappy bulls that will get good steers, also 10 heifers and a few young cows bred on milking lines; prices easy. Write me your wants.

STEWART M. GRAHAM LINDSAY, ONTARIO

Oakland--61 Shorthorns

Present offering: 4 Roan bulls 10 to 12 months, 3 Reds, older; also matured cows and heifers. Mostly sired by one of the best Roan bulls in Ontario.

Spring Valley Shorthorns Herd headed by the two great breeding bulls Newton Ringleader (Imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.

6 SHORTHORN BULLS 25 females, reds and roans, serviceable, best type and quality, size; cows milking up to 50 lbs. Prices easy. THOMAS GRAHAM R.R. No. 3, Port Perry, Ont.

SHORTHORNS

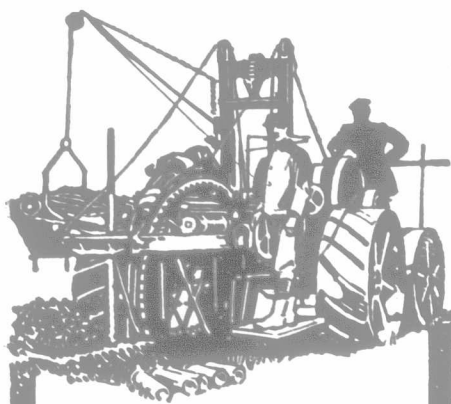
Three bulls, 11 months, a number of younger cows with their calves, cows in calf and yearling heifers for sale. Good individuals. Good Pedigrees. Inspection solicited.

R.O.P. Shorthorns. Prizewinning Yorkshires I can supply young bulls bred the same as the Guelph Dairy Test Winner this year and out of R.O.P. dams. Young sows bred to farrow in Feb., also boars all of show calibre. A. STEVENSON, Atwood, R.R. No. 4, Atwood Sta.

Shorthorns and Swine—Have some choice young bulls for sale; also cows and heifers of show material, some with calves at foot. Also choice Yorkshire sows. ANDREW GROFF, R.R. No. 1, ELORA, ONT.

Clydesdales, Shorthorns, Cotswolds and Yorkshires.—4 Imp. stallions, Several Imp. Clyde Mares and Fawns of best quality, choicest breeding; Scotch Shorthorn Bulls and Heifers; Cotswold Ram and Ewes; English Yorkshires, both sexes. Goodfellow Bros., Bolton, Ont. R.R. No. 5

Strawberries, 50 varieties; Raspberries, 10 varieties; Seed Potatoes, 10 varieties. Free Catalogue. THE LAKEVIEW FRUIT FARM H. L. McConnell & Son, Port Burwell, Ont.



Tile Drainage Makes Worthless Acres Pay

MANY an acre that is now worth nothing can be made as productive as any land in its neighborhood, by a judicious investment in tile drainage.

Tile Drainage makes land more fertile, it lengthens the tillage season and it is a protection against drouth.



A perfect trench at one cut

This remarkable machine is in use all over the country and has been for years. With it one man can dig up to 150 rods of ditch a day and every foot of it will be of proper grade.

Improve your own farm and at the same time make good money on the side after seasons. *Figure out where you can use tile drainage and you are sure to get a good return. Then write for the Buckeye Book of Facts, No. 1.*

The Buckeye Traction Ditcher Co.
FINDLAY, OHIO

Builders also of Buckeye Open Ditchers and Buckeye Gasoline Engines for farm use

Get **Only 10c**

The Latest Modern Silage Methods

Tells you all there is to know about present-day silage feeding—how to build silos, gives reliable and unbiased facts (we do not sell silos) on every silo built home made—stave, hop and octagonal silos—all modifications. Also covers every crop used for silage. All of them. Here's an entirely new book—264 pages—better than former ones used as text books in colleges. Copyrighted November, 1914. Ten page index. We send a for the coin or stamps. Send for this new copy today.

Silver's "Ohio" Silo Fillers

Write for catalog and booklet "Ohio Farm Logic" which we send free. Enclose 10c and we send "Modern Silage Methods" with them.

The Silver Mfg. Co.
343 Broadway, Salem, O.

Ear Tags FOR STOCK

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog and samples free on request.

F. S. Burch & Co., 173 W. Hurst St. Chicago

Bigger Profits From HOGS

Better health, more weight and better prices when fed on **"MAPLE LEAF" Oil Cake Meal**. Write for copy of this simple recipe.

The Canada Linseed Oil Mills, Ltd.
Toronto and Montreal

Dungannon Ayrshires

The average milk yield of our herd is 10,000 lbs. annually for all ages. High class in breeding and individuality. Young bulls, cows and heifers for sale.

W. H. FURBER, COBOLURG, ONT.

Prize-Winning Ayrshires For Sale

Bred on particularly good lines. Will sell females of all ages, also bulls from calves up, sired by Barcheskie Scotch Earl (imp.). Prices reasonable.

W. G. Hensman, R.R. No. 4, Essex, Ont.

Please mention "The Farmer's Advocate"

Gossip.
THE BIG CONSIGNMENT SHORTHORN SALE.

High-class breeding and individual merit of the sixty head of Shorthorns to be sold at the stock-yards in West Toronto, on Wednesday, February 3rd, is up to a standard never excelled at any of the previous sensational sales held by the management of this great Combination Shorthorn Sale Company. Of the entire lot to be sold, fully half of the number will be bulls, and it is not going too far to say that they are decidedly the best lot ever offered by auction in this country, an exceptionally high-class lot of herd-headers whose breeding is unexcelled, the opportunity the sale presents to breeders for getting their wants supplied from so large and choice a selection is one that will surely be appreciated. The same high standard is maintained in the female end of the sale, both in breeding and individual excellence. Following is a short synopsis of several of the consignments:

Nine head, consisting of four bulls and five heifers, come from the noted herd of Kyle Bros., of Drumbo. All the bulls are yearlings. One is a Jealousy, one a Cruickshank Lovely, one a Duchess, and the other a Gwynne. Two are sired by the great sire of show animals, Imp. Newton Ringleader; one by the Missie bull, Royal Star; the other by a son of the Missie Bull, Trout Creek Leader. Of the females, four of them are yearlings, the other a two-year-old Broad-hoofs, by Newton Ringleader. The yearlings include a Buckingham, by a son of the great Bapton Chancellor, (imp.), and Jessie 4th (imp.), a Gwynne, by Royal Star, and the other two are Scotch-topped, one by Royal Star, the other by Nonpareil Ramsden. Exceptional merit is characteristic of this entire consignment.

Robt. Miller will consign 12 young bulls, many of them by his great son of Whitehall Sultan, Superb Sultan. He is perhaps the best living son of that greatest of all sires, and his calves have made him known as having few equals. Archer's Sultan is a dark roan, with size, smoothness and thriftiness to make him worth much in any herd. He is a Miss Ramsden, from a wonderful producing dam. Golden Star is a Golden Drop, short on legs, deep, thick, mellow and smooth; a rare good one. Lord Lancaster, from an imported sire and dam, is a beauty, made right and bred right. Sultan of Avon, a Lavender, by Superb Sultan, and from a beautiful Avondale mother. He is full brother to the great prize-winning bull at the head of John Gardhouse's herd. He is worth much. Superb Lavender is by the same sire, and from the Lavender dam that furnished the highest-priced calf from this herd last year. He sold for \$2500. Village Sultan is from a Village cow, a great milker, by the same sire. He is as straight as a line, and filled every place. There are other young bulls a credit to the herd, with heads that guarantee them as sires and without fault, a lot of bulls all through that any breeder might well be proud of.

Mona Lass, as her name indicates, is a stunner. She is two years old, and has a big bull calf at foot that makes the pair interesting. She is a sweet heifer, and has won some prizes; a nice, attractive roan, too. Alexandra is a beautiful roan heifer that was just calving this morning. She will make a beautiful cow.

Twenty-five head come from the renowned show and champion herd of J. A. Watt, of Elera, among them being some of the winners of last fall and others of high-class show quality. Fifteen of them are females, and ten of them bulls, the latter ranging in age from twelve to fifteen months. It seems needless to say that parties wanting a high-class herd header can get their own selection from a number in this lot, and with superior breeding unsurpassed. Four of the females are young cows, the balance two years and under. All old enough to bred that will have been bred will be in calf to the P.P.E. grand champion, Ontario Perfection. The quality of the entire consignment will be fully appreciated when the show-stand quality of Mr. Watt's herd for many years, and there will be no disappointment for visitors to the sale looking for the best in individuality and breeding.

Now is the time to get your order placed for an IDEAL GREEN FEED SILO (MADE IN CANADA)

WHEN spring and summer work come on you'll be busy. Now when you are not rushed with farm work is the best time to settle the silo question.

You know you ought to have a silo. You know that you can make more money from your cows and stock with a silage ration. Don't go through another winter without a silo.

Make your plans now. Think of the hay you fed last month. Most of that would have been saved if you had a silo. When you can put silage up at a cost of two to four dollars a ton why feed hay and other expensive roughage?

Our new silo book will soon be ready to mail. Contains a lot of valuable information about silos and silage. Write for a copy.

DE LAVAL DAIRY SUPPLY CO., Ltd.
LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
MONTREAL PETERBORO WINNIPEG VANCOUVER

P. D. McARTHUR'S AYRSHIRES

In official record, high-testing Ayrshires, that have won scores of prizes, I can surely supply your wants, over 50 to select from. Young bulls of super-breeding on record producing lines, also the 3-year-old stock bull, Imp. Whitehall Freetrader.

P. D. McARTHUR, North Georgetown, Quebec

Stonehouse Ayrshires

Hector Gordon, Howick, Quebec

Are a combination of show-yard and utility type seldom seen in any one herd. A few choice young males and females for sale. Write or phone your wants to Stonehouse before purchasing elsewhere.

Ayrshire and Yorkshires

Bulls of different ages; Females all ages. A fine bunch of heifers from 6 months to 2 years. Yorkshires from 3 to 8 months old. Quality good. Prices moderate.

ALEX HUME & CO., Campbellford, R. No. 3

LAKEVIEW HOLSTEINS

THIRD PUBLIC SALE will be held at the farm, near Bronte, in February or early March. Heifers and young cows sired by Count Hengerveld, Fayne de Kol and Dutchland Colantha Sir Mona will be the feature of the sale. Look for further advertisements and write for catalogue to the Manager.

LAKEVIEW FARM, BRONTE, ONTARIO

Holstein Cattle (Prince Hengerveld of the Pontiacs, herd sire.)

Stock for sale. Large herd to select from

Hamilton Farms, St. Catharines, Ontario

Sunny Hill Holsteins

Herd sire: Pontiac Segis Avondale, grandson of King of the Pontiacs, S of his mature dam average over 30 lbs. butter in seven days; sire of 1000 lbs. milk, 87¢ in breeding. A Walburn R.

Pontiac Wayne Korndyke, whose dam, sire dam and ten sisters of sire average over 31 lbs. in seven days. Bull Calves for sale.

WM. A. RIFE, HESPELER, ONT.

MADE IN CANADA

We offer at the Tillsonburg Sale 12 young Holstein females, some fresh and others heavy in calf and two young bulls. At present we have for sale, one bull fit for service from a 33-lb. cow, and several young calves, both sexes, come and inspect or write.

M. L. HALEY, M. H. HALEY, SPRINGFORD, OXFORD CO., ONT.

WILLOWBANKS HOLSTEINS

Herd headed by King Korndyke Inka De Kol (Imp.) No. 18545 C.H.F.H.B., 115016 A.H.F.H.B., who has more 30-lb. sisters than any other bull, excepting other sons of Pontiac Korndyke. Stock for sale.

G. V. ROBBINS, R.R. No. 3, Wellandport, Fenwick Sta. Bell Phone, Wellandport, 6 R. 6.

Ourvilla Holstein Herd

The first herd in Canada to develop a 31 lb. cow. The only herd in Canada to develop 27 two-year-olds averaging 16.20 lbs. of butter in 7 days. We have also developed 7 three-year-olds averaging 23.23 lbs. in 7 days. If you want a bull backed by Ourvilla reputation and records, sired by a 31.76 lb. bull, write us.

LAIDLAW BROS., AYLMEER, ONTARIO

Lump Jaw

The first remedy to cure Lump Jaw was

Fleming's Lump Jaw Cure

and it remains to-day the standard treatment, with years of successful lack of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what use you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in

Fleming's Vest-Pocket
Veterinary Adviser

Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.

FLEMING BROS., Chemists
95 Church Street - Toronto, Ont.

FREE LAND

For the Settler in NEW ONTARIO

Millions of acres of virgin soil obtainable free, at a nominal cost, are calling for cultivation. Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you.

For full information as to terms, regulations and settlers' rates, write to

H. A. MACDONELL
Director of Colonization
Parliament Buildings, TORONTO, ONT.

HON. JAS. S. DUFF
Minister of Agriculture
Parliament Buildings, TORONTO, ONT.

Maple Grove Holsteins

Do you know that Tidy Abbecker is the only cow in the world that produced three sons who have each sired 30-lb. butter cows, and two daughters with records greater than her own? She was bred, reared and developed at Maple Grove. Do you want that blood to strengthen the transmitting power of your herd, at live and let live prices, then write:

H. BOLLERT,
TAVISTOCK, ONT. - R.R. NO. 1

BUY THE BEST 4 Holstein Bulls

Ready for service and several calves. Females all ages, cows in R.O.P. and R.O.M. milking up to 19,000 pounds. Bulls in service—"King Segis Pontiac Duplicate" and "King Fayne Segis Clothilde."

R. M. HOLTBY
R.R. No. 4, Port Perry, Ontario
Manchester G.T.R. Myrtle, C.P.R.

Holstein-Friesian Association of Canada

Application for registry, transfer and membership, as well as requests for blank forms and all information regarding the farmer's most profitable cow, should be sent to the Secretary of the Association.

W. A. CLEMONS, St. George, Ontario

6-Holstein Bulls-6

8 to 10 months old. All sired by Riverdale Walker Segis whose dam's record is 29.79, 7 days; good colors and from dam's with records up to 23.33, every one a show bull. State just what you want. Satisfaction guaranteed.

MARTIN McDOWELL
R. R. No. 4 - Woodstock Ont.

Great Yearling Holstein Bull For Sale

out of the cow Victoria Burke with the wonderful record of 106 lbs. milk in one day, 686.6 lbs. in 7 days, 2,538.2 lbs. in 30 days and 30.82 lbs. of butter in 7 days, 122.08 lbs. of butter in 30 days. This cow ranked fourth in 1913 Records, 30 day class. The sire of this bull is sired by Farview Koradyke Pontiac with ten sisters all with records over 30 lbs. butter in 30 days. Come and see or write:

JAMES A. CASKEY, - MADOC, ONT.

The Maples Holstein Herd

offers ready for service sons of Prince Annie Mechthild from R.O.P. and R.O.M. sisters and dam of Duclon's A. 25.00 and 2nd Canadian champion 2-year-old for butter in R.O.P., 147.11 lbs. milk, 8.56 lbs. butter. Also choice females of like breeding. Write:

Walburn Rivers, R. R. No. 5, Ingersoll, Ont.

Riverdale Holsteins—3 bulls ready for service. Also one bull, sired by our great bull, "King Segis Pontiac Duplicate" and from a high-producing dam. A very choice herd headed at a reasonable price. R. W. Walker & Sons, R. R. No. 4, Port Perry, Ont. Manchester, G. T. R. and Myrtle C. P. R. Bell Telephone.

JERSEY BULLS FOR SALE

1 have three very choice registered Jersey bulls, from 6 to 10 months old, from imported sires, and from dams that are great producers. Prices very reasonable. Write:

CHAS. E. ROGERS, INGERSOLL, ONTARIO

Please mention 'The Farmer's Advocate.'

Questions and Answers. Miscellaneous.

Do Hens Pay?

In 1914 I kept 100 hens, and also kept a record of the number of eggs I sold, not counting what were needed for other purposes. I sold 867 dozen, which brought the sum of \$239.21 for one year. These hens are composed of White Leghorns and White Wyandottes.

ALFRED COONEY,
Peterboro Co., Ont.

Ans.—We should say these hens paid well, but you should have added the cost of feed to your records so as to have a complete record with net profits.

Diseased Cow.

A, living in Ontario, sold beef cow to B, who shipped her to Montreal and sold her to C after being killed; then C forwarded B a certificate of her being diseased with tuberculosis, who was forced by the law of Quebec to return C his money. Can B do likewise with A? Has the act of moving her from one Province to another any legal effect?

T. S.

Ans.—In so far as the facts of the case appear, we do not see that A can be compelled by B to refund. If we may assume that A is in a position to prove that he was innocent in the matter—that he did not know, and had no reason to suppose that the animal was diseased; and, moreover, that when B bought the cow, he did not do so with the intention to the knowledge of A, of using the animal as meat for himself or family, he is not liable to make any refund of the money.

Drainage Growing Wheat.

1. If a person had a farm with slope enough on it to carry away the water so that the water will not lie on it in the spring, is there any particular need of tile draining this to get good results? My point is: Would not a person get good results from his crops if the farm is naturally drained by certain slope of the land that a person can get on early in spring?

2. Could wheat not be grown here in Northern Ontario, and also could not clover seed be raised? Why I am asking about clover, I have heard people say that it kills out in winter. The land I expect to have to grow those grains will be clay loam.

J. W.

Ans.—1. It may be advantageous, and in fact is on many farms, to underdrain, even though there is slope enough to carry off surface water readily. Your experience in cropping should teach you whether or not your land requires underdraining. If it is heavy soil, no doubt some underdrains would aid.

2. Hardy strains of wheat should grow. The experience of good farmers in the district should be a fair criterion for a beginner to go by.

Tank for Water Supply.

What would be the capacity of tank suitable for a pneumatic water system, to supply about 75 head of cattle and 30 head of horses and pigs? Also the comparative costs and efficiency of the pneumatic and elevated-tank systems?

W. S.

Ans.—Allowing 10 gallons per day for each horse and cow, and two for each pig, the total water required per day would be 1,110 gallons, or about 25 barrels. The size of tank required would depend on whether windmill or engine is to be used for pumping. With the former, it would be necessary, on account of occasional calms, to provide for larger storage than with the latter. Making such allowance, there would probably be but little difference in price of original installation. Using an engine for pumping, it would probably be wise to have a tank of 1,500 to 2,000 gallons capacity. An elevated-tank outfit, including tank, tower 20 feet high, pump, engine, and installation of the same (not counting the pipes, troughs, etc., which will be about the same no matter which tank is used), would probably cost from \$50 to \$100 less than a pneumatic outfit of the same capacity. In case of fire, a hose on the pneumatic outfit would have about 60 pounds pressure per square inch if pumped four-fifths full, while the elevated tank would give only about 10 pounds.

W. H. D.

IMPORTANT AUCTION SALE

OF 43 HEAD OF

Pure-bred Holsteins

At Rivermead Farm, UNIONVILLE, ONT., on

Friday, February 5th, 1915

Sale commences at 11 o'clock

Thirty-eight cows and heifers and five young bulls. Several cows due to calf within the next 30 days. A number just bred, their last calves to be sold at the sale. Several heifers one year old, bred to a son of a 29-lb. cow, and son of King of the Pontiacs. All to be sold without reserve.

The farm is four minutes' walk from the station, Unionville, Midland Division, G.T.R., 20 miles north of Toronto, Ont.

Terms cash, or six months' with interest, 6 per cent. on approved notes. Catalogue on application.

Auctioneers } B. V. KELLEY, Syracuse, N. Y.
J. H. PRENTICE, Toronto, Ont.

W. F. ELLIOT, Unionville, Ontario

BRANT CO. First Annual Holstein Sale BRANT CO.

Wednesday, Jan. 27th, 1915

At the Old Commercial Hotel Stables, in the City of Brantford

The Brant Co. Holstein Breeders' Club will hold their First Annual Sale of Specially Selected Holsteins numbering 50 head, among which are about half a dozen young bulls old enough for service; the balance females practically all two years of age and under, daughters and granddaughters of 27 lb. R.O.M. cows and of 20,000 lbs. R.O.P. cows and some of them in calf to bulls out of 22,000 lb. dams, the whole consignment is exceptionally well bred and strictly high-class in type and quality. Consigned by such noted breeders as E. C. Chambers, Robt. Shellington & Son, and J. W. McCormick, all of Hatchley; Chester Lee, Kelvin; C. E. Smith, Scotland; C. Duff Nelles, Boston; F. F. Passmore, Brantford; S. Lemon & Son, Lynden; W. Sager, St. George, and F. Chapin, Newport. Every animal offered will positively be sold.

Terms:—Cash or 8 Months on Bankable Paper with 6% Per Annum.

Auctioneer: Col. Welby Almas, Brantford.
Sales Manager: Percy Clemes, St. George.

For Catalogue, Write the Secretary: N. P. Sager, St. George, Ont.

Norfolk Holstein Breeders' Annual Club Sale

SIMCOE, THURSDAY, FEBRUARY 11, 1915

On the morning of the sale all cattle will be inspected by an impartial inspector, to assure prospective purchasers that every animal offered is sound and right. No three-teaters nor shy breeders may be listed by consignors. All cattle not tested for tuberculosis previous to day of sale by a competent vet. must be sold subject to tuberculin test. Now is the time to part with a few grades, and lay a foundation in pure-bred Holsteins.

W. H. CHERRY, J. ALEX. WALLACE,
Advertising Manager, Secretary-Treasurer,
HAGERSVILLE, ONT. SIMCOE, ONT.

SUMMER HILL FARM

Holstein Cattle and Yorkshire Hogs

We offer for sale a dozen bulls, some ready for service, from high official record dams. If you are wanting a bull, better write us and let us tell you how good they are. Can also spare a few good heifers. Yorkshires hogs all ages.

D. C. FLATT & SON
HAMILTON - Phone 7165 - R. R. No. 2 - ONTARIO

VILLA VIEW AND FAIRMONT HOLSTEINS

(The Home of King Segis Alcartra Calamity)

For Sale—Ten bull calves nine months old, one ready for service; all nicely marked and well grown, from record of merit dams with records up to 22.11. Prices from \$50 to \$100.

Arbogast Bros., Sebringville, Ont. P. S. Arbogast, Mitchell, R. R. No. 2.

Brampton Jerseys

We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show ring.

B. H. Bull & Son - Brampton, Ontario

Don't Sell the Young Calf

BLATCHFORD'S CALF MEAL Will Raise It Without Milk

There's big money and little trouble in raising your calf the Blatchford way. You save all the milk of the cow for milk. As soon as the mother cow's milk is ready to sell, the calf is ready for **BLATCHFORD'S CALF MEAL**. For over a century the recognized milk food for calves, at one-fourth the cost of milk.

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"The Champion Oxford Flock of America"

Winners at Chicago International, Toronto, London, Winnipeg, Regina, Brandon, Saskatoon, Edmonton, Calgary and Lethbridge Fairs. Present offering—7 rams and ewe lambs, 46 yearling ewes (some fitted for shows), also 15 yearling rams which will make excellent flock headers. Consult us before buying.

Peter Arkell & Sons, Teeswater, Ontario

Alloway Lodge Stock Farm

Aberdeen-Angus Cattle, Southdown Sheep
Collie Dogs.

Some right good young Angus bulls and heifers for sale.

ROBT. McEWEN, - - - - BYRON, ONT.
Near London

Sheep, Swine and Seed Corn—Young stock of both sexes in Dorset Horn and Shropshire sheep, and in Swine: Poland Chinas, Duroc Jerseys, Berkshires and Chester Whites. Also Seed, Corn, all varieties. Consult me before buying. Cecil Stobbs, Leamington, Ont., Phone 284. M.C.R., P.M. and Electric Ry.

CHESTER WHITE SWINE

For Sale—High class sows from 9 to 18 months of age bred to farrow in March. Also my stock boar Nubble Sam, 21 months old, a right good boar. Another to mount this old. JOHN POLLARD, Norwich, Ont. - - - - R.R. No. 4

Morrison Tamworths and Shorthorns

Bred from the prize-winning herds of England. A choice lot of young boars fit for service and also young sows bred, and also a choice lot of young bulls and heifers bred by Proud English. Bred from champion sires Chas. Currie, Morrison, Ont.

Hampshire Swine and Lincoln Sheep

Best stock and pure bred registered stock. Pure bred.

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Ettrick - - - - R.R. No. 1

TAMWORTHS

Several very choice sows bred for early spring litters also one boar ready for service.

HERBERT GERMAN, - - - - ST. GEORGE, ONT.

ELMFIELD YORKSHIRES

My specialties for sale just now is young bred sows and sires of breeding age. G. sires and G. dams all imported; the sires are choice young sows.

G. B. MUNIA, Agr. P.O. & Sta., Ont. R.R. No. 1

CLARVIEW, CHESTER WHITES

For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from champions.

D. DeGoursey, Mitchell, Ont. - - - - R.R. No. 8

Cloverdale Large English Berkshires

Some of the best bred to be had in the Dominion. Several sows and sires of breeding age. All imported. Write for particulars.

C. J. YANG, Hampton, Ont. - - - - R.R. No. 1

Sunnyside Chester White Swine

Large stock of pure bred registered stock. Pure bred.

W. L. WRIGHT & SON, - - - - Glamworth, Ontario

TAMWORTHS

Best stock and pure bred registered stock. Pure bred.

John W. Todd, R.R. No. 1, Cornith, Ontario

Mention The Advocate

Questions and Answers. Miscellaneous.

Pigs With Cough.

Five four months old have a cough, breathe heavily and become thin, one has died. I purchased a litter a few days ago and they all coughed. I kept one sow for breeding. This sow is the dam of the litter that is coughing now. She still coughs, but is thrifty. She will farrow again in March. R. S.

Ans.—The cough is infectious. See answer to E. P. this issue.

Millet and Quack Fertilizers
Chauffeur.

1. Will millet kill quack grass?
2. Where could I get a book on mixing fertilizers?
3. What age must a person be to run an automobile? T. L. S.

Ans.—1. Not without a great deal of previous cultivation and cleaning of the land.
2. A book could be obtained through this office which would give directions, among a great deal of other valuable information. Directions are also given in fertilizer articles in "The Farmer's Advocate" from time to time.
3. Fifteen years of age.

Building Pig Pens.

1. What width do I have to put cement divisions in a hog pen so that they each hold a 1x4 pig iron post, in a 40-foot building, pen to set on each division to fast apart?
2. What mixture should cement be? G. J.

Ans.—1. Six inches thick should hold it if the building is not too heavy. If there was any doubt about it, eight inches would be very heavy for the purpose. It might be that you could do, in a 40-ft. building, with less than six.
2. One to six or eight, well mixed, would stand. Possibly the stronger mixture would be preferable.

Patent Apples.

1. Would you kindly inform me how to go about securing a Canadian patent, to whom to write, etc?
2. What are the best winter apples to plant other than St. Hubert for this section of country?
3. Will fall and winter apples prefer each other? AN OLD 84 BROTHER

Ans.—1. Write the Patent Office, Parliament Building, Ottawa.
2. Duchess and Wealthy for early and early fall. Empress and McIntosh for late fall or early winter. A good tree is ready and few winter varieties are recommended. Write Prof. Manning, Ottawa, for names of seedling apples and some seedlings.
3. Not likely as the varieties are of different types. Some are early and some are late.

Holstein Cows.

How should I care for my Holstein cows and how should I care for my good cow to produce milk and keep her healthy? A. J.

Ans.—1. For the purpose of raising the milk production, the cow should be kept in a place where she can get plenty of fresh air and light. She should be fed on a good ration of food, and she should be kept in a clean and comfortable place. She should be kept in a place where she can get plenty of fresh air and light. She should be fed on a good ration of food, and she should be kept in a clean and comfortable place.

TRUE ECONOMY

Our New 1915 Model with its absolutely new ideas.



is the first stepping stone to independency. Don't take a step backwards by buying without seeing our new 1915 Superior Cream Separator demonstrated.

It's a wonder—at saving money and labor—several exclusive features—tested.

Write for agent's name or full particulars to-day.

Raymond Manufacturing Co. Limited
GUELPH, ONTARIO

Get the agency in your district if not already covered. Write now.

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Write To-day—Address Desk F 72

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Maple Villa Oxford Down Sheep
Yorkshire Hogs

Sired by Adonis Imp. 57,995, and out of ewes that have won many prizes at big and local shows. I have high-class flock-headers and high-class ewe lambs, also shearlings, of both sexes. Yorkshires both sexes, any age.

J. A. Cerswell, R. R. 1, Beeton, Ontario

Farnham Farm Oxford Downs

"The Oldest Established Flock in America"

We are making a Special Offer for 30 days of 50 first registered yearlings, yes bred to be imported into Canada in April. Also 50 first lambs amongst the best of big, strong-boned for flock-headers. Also a few nice ewe lambs, and a few good Yorkshire ram lambs. C.P.R., Guelph and Arkell. Phone: Guelph, 240 ring 2. G.T.R., Guelph St. and Telegraph. Henry Arkell & Son, Route 2, Guelph, Ontario

Shropshires and Cotswolds

I have for sale a few extra large, well-bred, imported, pure-bred, shearling ewes and a few good Yorkshire ram lambs from my imported ewes. Will be pleased to book orders for a few more of any kind wanted.

JOHN MILLER, R.R. No. 2, CLAREMONT, ONT. Claremont Station, C.P.R., 3 miles
Pickering Station, G.T.R., 7 miles Greenburn Station, C.N.R., 4 miles

Large White Yorkshires

Have a choice lot of sows in pig. Bred ready for service and young pigs of both sexes supplied not at all at reasonable prices. All breeding stock imported or from imported stock from the best British herds. Write or call. H. J. Davis, Woodstock, Ont. Long-Distance Phone. G.P.R. and G.T.R.

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Bred and sows all ages, sows for sale, ready to breed, all of the best of the breed and Championship Stock. Several choice young bulls from 10 to 16 months old, all of the best quality. All at reasonable prices. Write for particulars.

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Yorkshires and Berkshires

Best stock and pure bred registered stock. Pure bred.

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Phone: Local No. 5, Ext. 10

ELMHURST LARGE ENGLISH BERKSHIRES

From our 1500 registered stock, we have for sale a few of our best of the breed. Write for particulars.

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Best stock and pure bred registered stock. Pure bred.

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In Duroc line we have our best, at any desired age, bred to be imported into Canada in April. In Jersey line we have our best, at any desired age, bred to be imported into Canada in April. Write for particulars.

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Best stock and pure bred registered stock. Pure bred.

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Our Treen generous terms offer. Our rich and expensive 100 Shapments Write today for make you Ad AMERICA

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Gentlemen Kindly send me list of Farms & Fruit Lands you have for sale with full information in regard to same.

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Tragic? Yes! “Of course,” you’ll say, “that won’t be said of my wife if I should die suddenly.”

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CAPACITY 2,000 lbs.

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Scale shipped same day as money received.

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130 Egg Incubator
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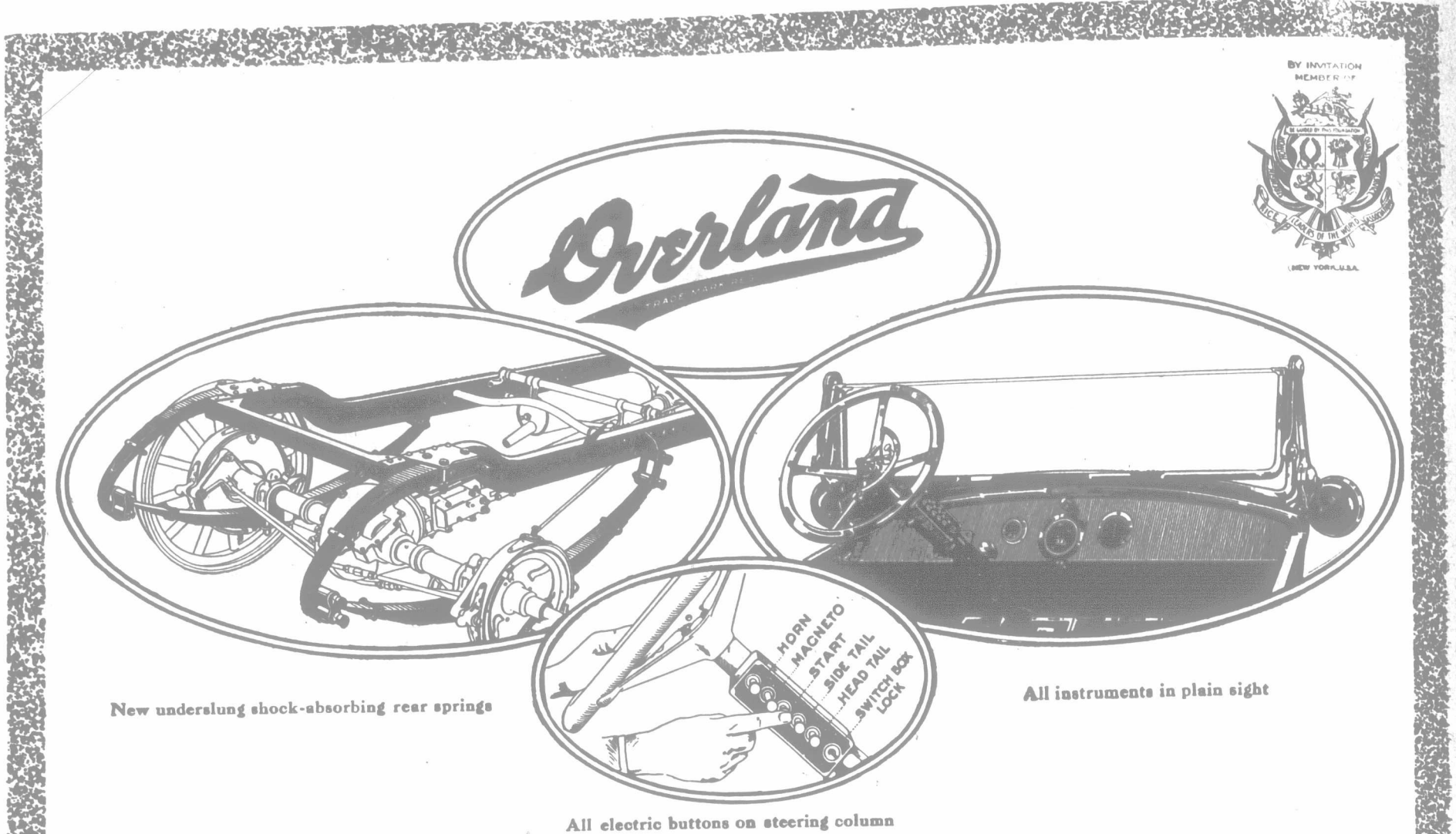
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Nothing could be further from the truth.

The 1915 Overland has all of the very latest improvements, comforts and conveniences.

Yet it costs but \$1425!

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The complete set of electrical control buttons is located on the steering column.

With just a slight pressure of your finger you start the car, operate the electric head, side, tail and dash lights or sound the electrical signal.

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Now take the cowl dash. Here are four instruments—a high-grade electrically-lighted magnetic speedometer, an ammeter, a carburetor priming button and the oil sight feed.

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See how the springs are placed *under* the axle: that they are *long*, have a very wide opening, and are of *generous dimensions*. Notice that the frame is *dropped*, which makes possible a much lower hung and more graceful body. The road clearance is not affected.

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Delivery Wagon with closed body	-	-	\$1195
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Model 82:

Overland Six	-	-	\$1975
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Catalogue on request. Please address Dept. 276.

The Willys-Overland of Canada, Limited, Hamilton, Ont.