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Chief Office: Dept. of Agr. & Forestry, Ottawa, Ont., Canada

Vol. XLVIII.

LONDON, ONTARIO, JUNE 5, 1913

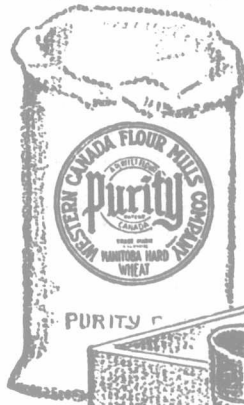
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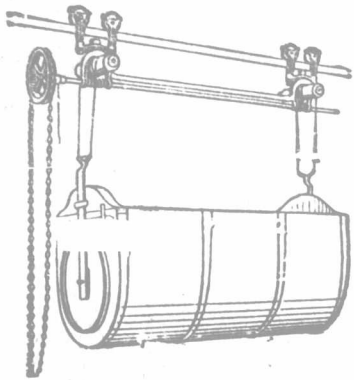


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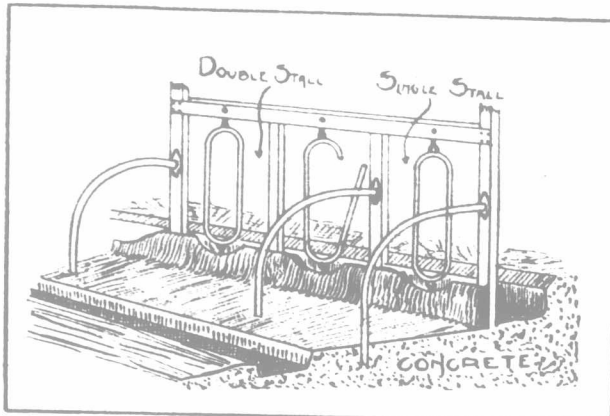


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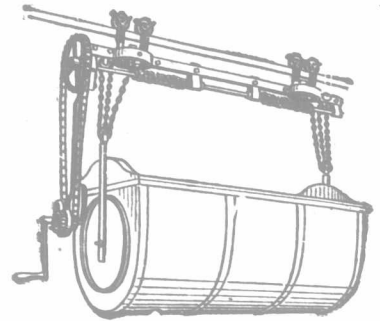
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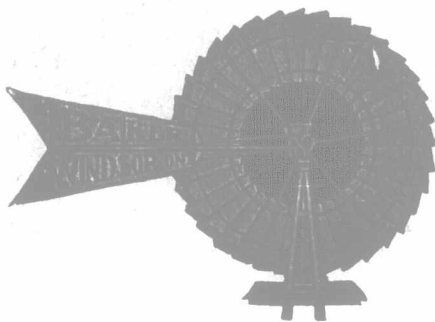
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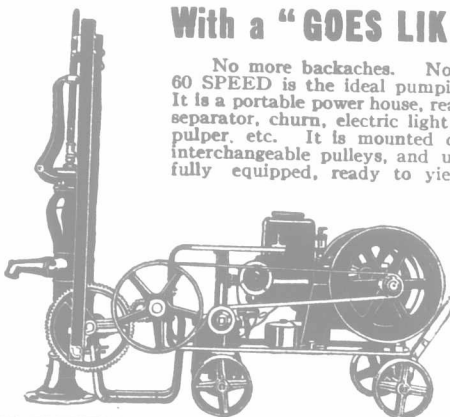
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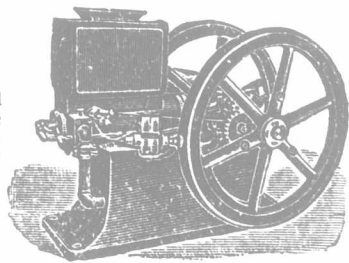
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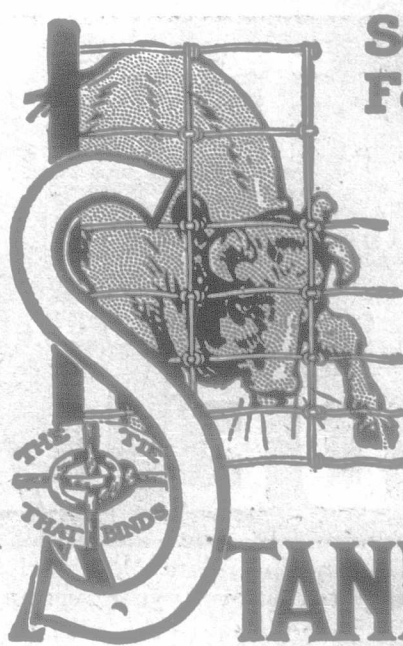


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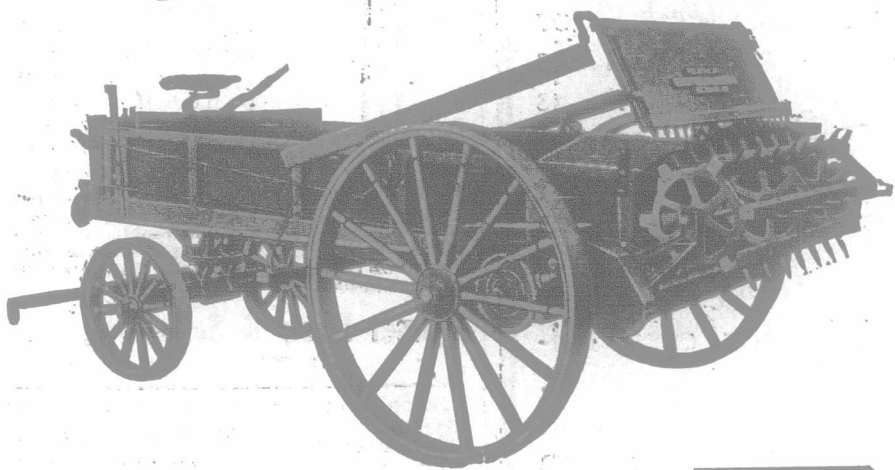
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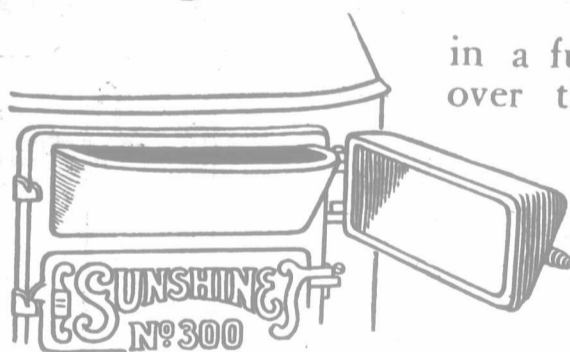


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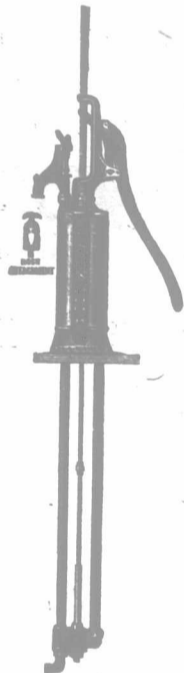
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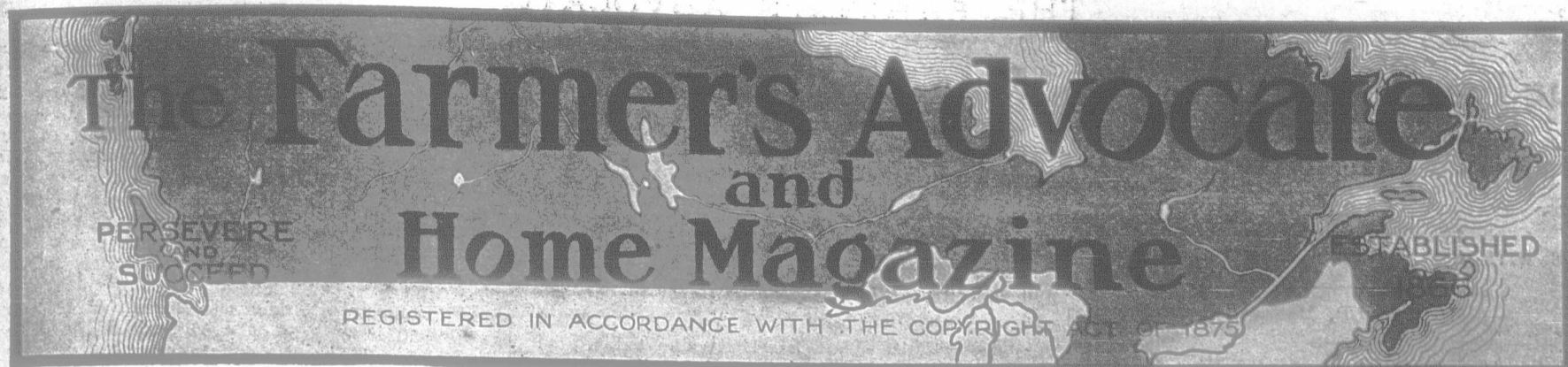
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418 Campbell Avenue, Toronto, Ontario.





Vol. XLVIII.

LONDON, ONTARIO, JUNE 5, 1913.

No. 1080

EDITORIAL.

"Cold and backward weather" has been the current lament, yet about one hundred days hence we expect to be surveying as usual some bumper crops of corn.

Our heart-felt gratitude hereby awaits some alert meteorologist who will provide us with a certain indicator of what night to cover up the tender plants from killing frost.

"The Human Slaughter House," is the gruesome title of a sensational little book by a German school-master, which an American reviewer describes as a "photograph of hell inspired of heaven." It is said to be the most powerful and remarkable indictment of war ever written.

Hon. W. T. White, Dominion Minister of Finance, during the course of a recent speech in Parliament declared that unproductive expenditures upon war and armaments had produced the world-wide high cost of living.

As indicative of the drift of the dairy business in some sections, it was reported by the instructor at the annual meeting of an Eastern Ontario Cheese Board recently, that while there were more factories than ten years ago, the make of cheese had fallen off fifty per cent. This was attributed chiefly to the shipment of cream to the cities.

A variety of causes, fiscal and otherwise, have no doubt tended to the massing of the consuming populations in cities and towns, thus restricting the production of food and clothing, but Hon. Mr. White, the Finance Minister, of Canada, has given pointed expressions to a terrible fact—the burden of war and armaments—that is slowly but surely fastening itself upon the public consciousness in a way that ought yet to find expression in relegating to the scrap heap of barbarism all the "pomp and circumstance" of war.

Discussing the subject of weed protection, a Saskatchewan farmer gives vent to his feelings in this vein:—"That expression 'Let the Government do it' makes one weary. The Government can and does do things for large corporations, but the farmer gets his in newspaper talk. If a railway company wants a law for its protection or benefit it gets it; if a farmer wants a law for the same purpose he waits until he gets it, which is seldom, or after a very long wait."

Well, why?

Alas, alas! Pretty soon all the romance and quaintness and other distinguishing characteristics of farm life will have been abolished. Judging by a news item from Indiana, the elaborate threshing dinner is to go the way of the sugar camp, the soap kettle, the apple "dry board," the preserve jars and the dairy churn. Threshing is there being done by rings, composed of men who take their dinners with them, and go home for supper. Many a house wife will sigh with relief at the thought of it, but the prospect of eating a cold lunch, after a dirty forenoon's work, without even a cup of hot tea to cut the dust, will cause the farm hand to sigh from a different sensation.

The National Winter Exhibition.

In the first 1913 issue of "The Farmer's Advocate" there appeared an article discussing the need of a truly National or International Fat Stock Show in Canada. In that article the belief was expressed that there is ample room in Canada for such an exhibition, and if properly conducted and really national in scope, it should not detrimentally affect other shows already inaugurated.

Since then there has been considerable agitation in various quarters regarding the project. At a banquet held in Toronto during the week of the Live-stock Association meetings early in February such prominent live-stock men as John Bright, Dominion Live-stock Commissioner, and Wm. Smith, M. P., of Columbus, Ont., expressed the opinion that the time was ripe for such an exhibition, and urged that steps be taken immediately towards the end of launching the greatest Canadian live-stock show. Since that time several developments have occurred. It will be remembered that the exhibitors of dairy cattle at last year's Ontario Provincial Winter Fair, not being satisfied with the accommodation furnished at Guelph, held what might have been called an indignation meeting and decided to take steps towards the formation and establishment of a National Dairy Show. The fire, so hastily kindled, smouldered for some time, blazing up periodically, until it became spread over a large area, and then it gained such headway that a meeting was called in Toronto the last week in April. This meeting composed almost altogether of Ontario dairymen, decided in favor of a National Dairy Show. The day following this meeting another was held, this time at the instance of the Toronto City Council, who suddenly roused up and decided that Toronto was the only place to hold such an exhibition, and that Toronto Civic Officials were the most capable of conducting the affairs of such a far-reaching enterprise. This latter meeting, was attended by a few stockmen and some of the dairymen. It was decided by those present to hold a winter fair in Toronto, and they decided to call it "National." They proceeded to elect an executive and planned to hold their first exhibition in November next. A portion of the executive again met in Toronto (all Toronto residents but one) on May 26th, and named the show the "National Live-stock, Dairy and Horticultural Exhibition,"—too long and cumbersome to be popular or effective. Very little was done and another meeting was called for June 5th, when the grounds of the Canadian National Exhibition are to be visited.

The subject is receiving the deepest consideration by stockmen. At the annual meeting of the National Record Board, reported in our last issue, it was one of the three main topics of discussion. The idea of a national exhibition was favored by all, and this resolution was adopted: "This Board is unanimously of the opinion that the time has arrived for the holding of a truly national, agricultural show—live stock, seeds, etc., and organized on broad national lines, and having a board, truly representative, covering every Dominion agricultural interest." A committee named in the report was appointed to interview the Dominion Minister of Agriculture.

This is the situation. Toronto is sure the show is to be located there, and through local effort is strenuously working to establish a win-

ter fair. Unless such show has the support of practical stockmen and agriculturists over the entire Dominion, and is controlled by these men in all its branches, together with Government aid it cannot be a successful National Agricultural Exhibition. If men, primarily interested in things other than agriculture and its products, are placed in positions of authority in connection with the various departments of such an exhibition, it will never be a national, agricultural exhibition in anything more than name. While not disparaging Toronto's claim to the location of such a show, it is premature for any city to decide within itself that it is the only best place to hold the exhibition. The matter of locating the show is one of the most important questions and should be left in the hands of the competent committee or board representing all agricultural interests. In short, everything should be in their hands and upon the advice also of the Dominion Minister of Agriculture, from the very genesis of the movement.

Matters are now in a tangle. Toronto believes she has launched a national show. The live-stock men have appointed a strong committee to wait on Mr. Burrell to discuss the best ways and means of inaugurating such an exhibition. As pointed out by them, such an exhibition must be in the hands of the breeders and producers, and no man should be on the board of management by reason of his holding any political or civic position. As matters stand, there seems likelihood of a clash. It is now too late to get government aid for an exhibition this year, and such must be forthcoming if the show is to be national in scope. Toronto may start a show, but unless the breeders and agriculturists generally are placed in control and support it strongly it can never be more than a local exhibition. From opinions expressed at the National Record Board meeting, and from the resolutions passed, the live-stock breeders do not seem to favor Toronto's start, and, unless they support it, what success can it attain? The National Show is coming, and we believe the move made by the Record Board is in the right direction. It is up to all other agricultural organizations to busy themselves and start the exhibition under the right management, in the right place, and covering the right field—all Canada.

Making the Farm Richer.

A knot of farmers were discussing the question whether it pays to buy grain for cows. "I'm not sure that it always pays directly," said one, "but I believe it may pay indirectly. It is a means of building up the land. It makes your farm more valuable." "Oh 'phaw!" exclaimed another, "I'm not working to build up this old farm, I'm after the cash." The remark carried the crowd, most of whom failed to perceive its stultifying effect. If that man was dairying merely for the sake of cashing in all the dollars he could in any particular year, he was a fool to be keeping cows at all, or at least to be keeping more than a few to provide a little winter employment and steady cash income. Unless he had an exceptionally good herd he could rake in as much cash with less effort in almost any given year by selling his crops right down to the straw and saying the labor of attendance. But how long would such a policy last? Where would it land him in a few years? When we get right down to the bottom

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL
IN THE DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED),

JOHN WELD, MANAGER.

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

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday.
 2. It is impartial and independent of all cliques and parties. It is handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers of any publication in Canada.
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of it the main purpose of stock husbandry as compared with selling crops for cash is to conserve and build up fertility. Disregard that and you can make out a strong case for selling grain, hay and straw. Few farmers now go the length of selling the straw off their farms. They use it up at home for the sake of the land. But if it pays to use the straw at home for the express purpose of soil enrichment, why not also the hay and grain? And if it pays to feed home-grown grain for the sake of the manure pile instead of selling for cash, may it not in some cases, pay to buy grain, partly for the same purpose, providing the farmer's financial position warrants laying out some money for the sake of future returns? We do not pretend that the argument for keeping hay and grain at home is quite so strong as the argument for using up the straw, nor that it is always so wise to buy grain as to feed what has been produced at home, but a common principle underlies it all, varying only in a degree.

The editors of *Hoard's Dairymen* say in a recent issue:

"A farmer once saw us spreading phosphate on an alfalfa field. 'How long do you have to wait before you get anything back from that stuff?' he asked. 'Well, in two or three years,' was our reply. 'That's too long for me,' was his answer. Then we asked him how long he had to wait for returns when he planted an apple tree, raised a colt or a calf? 'Oh, that's another thing,' he remarked. Yes, it was another thing, another place to exercise the same old faith which says, 'Except ye sow, ye shall not reap.'"

The things that pay best are sometimes the things from which we have to wait longest for returns. It pays to invest judiciously for the future up to the limit of prudence as justified by one's means. When clear realization of these principles governs men's practice they are in a position to act wisely. When, for example, a

farmer knows that his manure pile represents part of the money paid out last winter for feed, will he be likely to let it waste and fire-fang in the barnyard till mid-summer? In our observation he will not.

Ready-to-Wear Opinions.

Some peculiar views are held as to the scope and function of an independent paper in the discussion of public affairs. We are often reminded of the anecdote about a writer who asked his managing editor what line he should take on a certain question. "Oh, be careful, you don't offend either political party. You know ours is an independent paper." Such a paper is independent of nobody. It is less independent than the most bitter party organ, for that, at least, is independent of the opposite side. Under a party system of government every important public issue is bound to become, sooner or later, a party question. Otherwise, politics would descend to the level of mere bickering and wittingly between those who are in power and those who want to be. There is enough of that as it is, but without some big dividing issues there would be nothing else. It would be a mere corrupt scramble for power. It is idle, therefore, to talk about keeping big questions out of politics.

A disheartening fact, however, is the blind, unreasoning loyalty with which men and women on both sides will follow the lead of their party newspapers, instead of heeding the attitude of really independent publications, or even of the less bitter party organs. Let any issue develop, and most of the voters will be all at sea about it until their favorite newspaper has declared its stand. After that nine out of ten will know exactly where they are at. They will follow the party lead, whatever it may be, never guessing that the cue had been given by some astute political manager—possibly a man behind the scenes whom the public hear little about. He may be utterly unprincipled, yet his reputation as a strategist establishes him successfully as a party mentor, and enables him virtually to manufacture ready-to-wear opinions for half the population of a country. Some day the absurdity of such a situation will render it no longer possible.

Meantime, hope of better government lies in more true independence of thought and action, both within and without the established parties. Independence within them is good, often helping to shape the policies adopted in caucus. Independence without also helps to determine these, and finally decides between them. Partisans neutralize each other's votes. The genuine, incorruptible, independent element is the one that statesmen have to cater to. This element, though small, is the salt of the national citizenship.

U. S. Department of Agriculture.

Under the new administration there is to be no diminution in the activities of the United States Department of Agriculture, judging by appropriations and enlargement of powers and duties. The amount provided by Act of Congress for the year ending June 30th, 1914, amount to \$17,986,945 an increase of \$1,335,449 over the present year. Prof. W. M. Hays, who has served as assistant secretary since 1904 retires, and has been succeeded by Dr. B. T. Galloway, Chief of the Bureau of Plant Industry, connected with this department for 25 years. One little item in contingent expenses is for an amount not exceeding \$1,000 for an oil painting of Hon. James Wilson former Secretary of Agriculture; and at a farewell function attended by some 1,500 employees and families a portrait bust was unveiled, the original bronze being given Mr. Wilson. In one of the addresses reference was made to the fact that when Mr. Wilson assumed office 2,500 workers were engaged by the Department, while now there are some 14,000.

As indicating new directions of departmental effort, President Wilson recently announced the appointment of a strong commission of seven members to co-operate with the Southern Commercial Congress in the study now being conducted in Europe of Co-operative Credit. Seed inspection is to be extended and there is an increase of \$75,000 for farm management and demonstration work, also liberal allowances for

combating hog cholera and the gipsy moth campaign. A thorough-going investigation into marketing systems is to be prosecuted and \$2,500 is to be expended for experiments in breeding and feeding ostriches.—The Bureau of Animal Industry receives the largest increase, viz., \$360,880 or a total of \$2,031,196 for the year. The horticultural work of the Bureau of Plant Industry is being re-organized and a new section established including work with truck crops, potatoes, sugar-beet seed and studies in landscape and vegetable gardening, floriculture and kindred subjects. Under the Bureau of Entomology several new lines of work will be developed, including fresh studies of fumigation practices. The Office of Public Roads is increased from \$202,120 to \$279,400, of which \$15,000 is available for advice and enquiries on road management, and \$50,000 for studies in road materials, construction and maintenance.

Nature's Diary.

By A. B. Klugh, M. A.

There is a little yellow bird which is very much in evidence just now in the garden and in the orchards, fitting in and out among the branches like a little flash of sunshine. It is the Yellow Warbler, often mis-called the "wild canary." The name "wild canary," if it can be applied to any of our birds, really belongs to the American Goldfinch, as this bird is somewhat closely allied to the canary. But the yellow warbler belongs to a totally different family. Its song does not even faintly resemble that of the canary, and the only point of similarity between the Yellow Warbler and the Canary is that both are yellow.

The Yellow Warbler builds a compact little nest in a low shrub or bush, and in it are deposited from four to five white eggs spotted with reddish-brown.

The song of this species is, like its coloration, very bright and cheerful. It may be put into syllables, as "Sweet—sweet—sweet—sweet—cheer-o-reet," but in this case as in the case of most bird songs, different ears hear different syllables in them. To John Burroughs the Oven-bird says "teacher-teacher-teacher," but no Oven-bird ever said this to me. It says "cher-wack—cher-wack—cher-wack" to me. Yet John Burroughs is a great observer, and I have heard a good many thousand Oven-birds sing. Then take the case of the beautiful refrain of the White-throated Sparrow, to some it sounds like "Old-Tom-Peabody-Peabody-Peabody," to others like "Sow-Wheat-Peverly-Peverly-Peverly," and others again declare it sings "Sweet-Sweet-Canada-Canada-Canada." So "Yer pays yer money and yer takes yer choice." But it is worthy of note that in the case of the White-throated Sparrow the number of syllables is the same no matter which version you take.

Another common bird of the garden is the Chipping Sparrow, the little brownish bird with a gray breast and a bright chestnut crown. Its song is rather a high trill. It is a very valuable neighbor as it eats a lot of insects and also quantities of weed-seed, and at the same time does no harm to the garden produce.

The Chipping sparrow builds its hair-lined nest by preference in a tangle of vines.

How often when in the woods do you hear a rustle of the dead leaves which carpet the forest-floor: you may perhaps catch a flash of brown; but keep perfectly still and you may be rewarded by the sight of one of the daintiest little creatures you ever set eyes on. For most of the rustling is caused by the movements of the little Deer Mouse as it darts about from one place of concealment to another. The Deer Mouse is a light fawn color above, white beneath, with a long slender nose and a long slender tail. It is largely nocturnal in its habits, though it is more or less active at all hours of the day.

There are in our Canadian woods a great host of plants commonly termed Mushrooms or Toadstools. A question perhaps more frequently asked of the botanist than any other question is "What is the difference between a mushroom and a toadstool?" and the answer is "There is none." A Mushroom is usually supposed to be edible and a Toadstool poisonous, yet many of the brightest-colored, most "deadly-looking" species are not only entirely harmless, but are very good eating. At the same time some of the species which look perfectly safe, judged by popular standards, are extremely deadly, and there is no test which can be generally applied to separate the edible forms from the poisonous ones. One erroneous idea is that any species in which the "cap" is pink beneath is good to eat; another misconception is that all poisonous species will blacken a silver spoon. As a matter of fact the only safe guide is to identify each species and look up its record. And one might well ask how the edibility of the various species has been determined. It has been done in this

way. The botanists who have made a special study of the Fleshy Fungi, (as the Mushrooms and Toadstools are called botanically), have first nibbled a little piece of the species under test; if the flavor was hot and peppery or otherwise disagreeable it was condemned on this account. If it was pleasant, then the investigator waited for the result of this experiment on himself. If no evil effects were noticed, next time a larger piece was eaten and result again awaited. If the effect again was not harmful then one of the specimens was cooked, eaten and results again waited for. If still the specimen agreed with the human alimentary tract a dishful was eaten and on still proving out satisfactorily, it was recorded as edible.

Among all our species there are very few which are easy enough to identify to allow of them to be recommended to the public. One of these forms is, however, new quite common in our woods. It is the Morel, a form which resembles a sponge on a stick, and which is brown or blackish in color. As the other easily identified edible species appear I shall mention and describe them.

HORSES.

Regular feeding is very important with the horse at hard work.

Sow a few extra rows of turnips this year, that the horses may have a few during next winter. Carrots are also good, and sometimes parsnips are used to good advantage.

If the heavy-draft stallion, to which the draft mare has been bred through the season, does not get her with foal, do not, in desperation, take her to a light horse. Try another drafter.

Are all the heavy-draft mares in your stable bred and safe in foal? You cannot afford to allow them to miss a year. Colts are valuable, and may be raised while the mare does her usual work.

Have the colts' feet put in good condition before turning them to grass, and level them up from time to time afterwards if they show abnormal growth in any particular. Early care of these is far more important than most people realize.

Some care is necessary in feeding the work horses. Putting enough hay in the mangers to last all day is not good practice. The horse has only a short time to eat, and should get at each feed just what he will consume before going again to the field.

There is no danger of any future halter pulling or breaking if the colt is taught to wear a halter before it has strength to resist or to break the strap when occasionally it is tied for a short time to teach it this lesson. This habit of tying occasionally should be practiced with more and more frequency, and of longer duration at a time as time for weaning nears. Then you will have no trouble when the colt is separated from its mother to be tied by itself.

Water for the working horses, which are likely to be watered warm, should not be too cold. The trough pumped full in the morning provides suitable drink for noon, and filled again at noon is in good condition for the evening. Horses, it is generally believed, should be watered before being fed, when at work as well as when idle. It is not good practice to give over-heated animals very cold water, and, so in order that the horses get their water before feeding during the heavy work in hot weather, it is necessary that the chill be off the water. A few hours in the sun does this.

Speaking of working in-foal mares, a horse-man was once heard to remark that when he first began farming and had only a few horses, it was necessary to work his in-foal mares regularly and comparatively hard. Then he had few losses, and good results with foals. As years passed by more horses were kept on the place, and the in-foal mares were not so needed to do the work. They often did nothing when carrying a foal, and a marked change was noticed in the success with foals, a much larger percentage being lost. Work for the mares and vigorous foals seem to go together.

The Work Horse at Pasture.

Many of the farm work horses are already away to pasture nights and are brought in to do the day's work each of the six days of the week. Some hesitate to send their hard-working animals to grass in the spring, and not without some reason, for very often the nights are cold and damp and the horse has been accustomed to a warm stable throughout the winter, and in many cases has been very warm during the day. These are factors which tend to make the horseman careful about pasturing early, but there are some in favor of it. It is a recognized fact that young grass has invaluable medicinal, system-renovating powers when fed to a horse which has been maintained through the winter on dry feed. "Maintained," is used for a purpose because a maintenance ration is not always a health promoter, and while the animal may not lose or gain in weight, it is quite possible that its vitality may be lower after several months of such feeding. Again, if the horses have been highly fed, generally on heating feeds a cleanser is necessary, and pasture grass is the cheapest and most effective. The horse needs "spring medicine" and the time to get it is early in the season, because then the grass has a more potent effect than later in the summer, when it becomes hard and parched.

The work horse should not be turned out on good pasture "all at once." Take time. Do not start them on it when they are very hot. The writer remembers a case of an in-foal mare which after a hard day's harrowing on a hot day was immediately turned out to grass, and before two hours showed unmistakable signs of acute indigestion, which developed into inflammation and she died in less than thirty hours from the time the harness was removed after her day's work. An over-tired horse should not be turned

day's work, before turning out, that his hunger may be partially appeased, and thus, danger of digestive troubles due to gluttony is to a great extent avoided. Of course, after the horse has been out to grass for a time, it is not necessary, unless the work is very heavy to give him quite as large a grain ration as if he were fed wholly on dry feed. This must be gauged by the kind and amount of work being done.

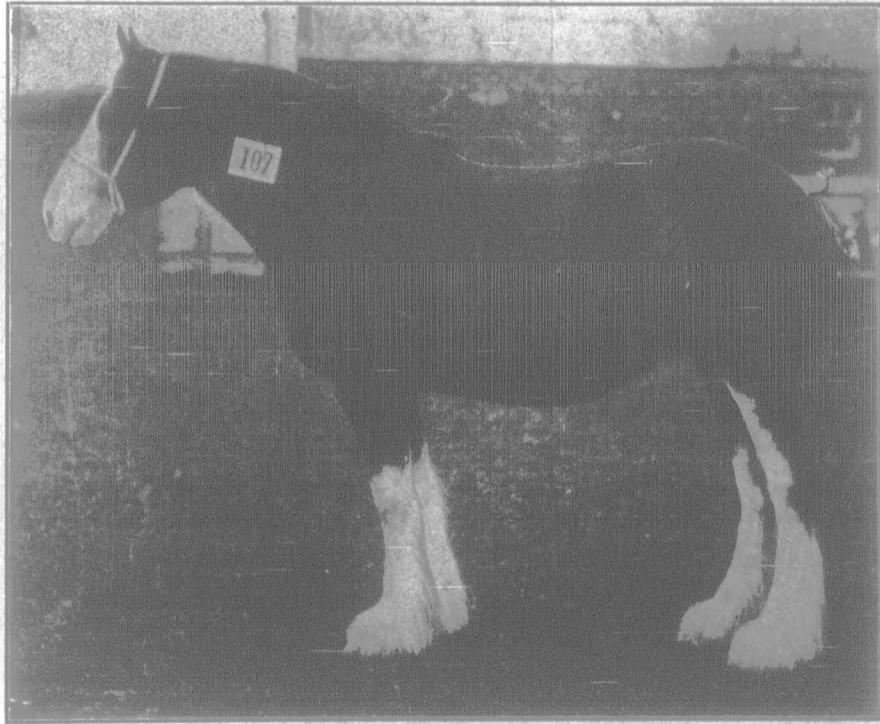
It is important that the horses are in their stalls early in the morning. They should have an hour or an hour and a half to feed before going to work. This gives the teamster plenty of time to clean and care for them and they also have an opportunity to eat dry feed, and are not so gorged with green feed when the hour for work arrives. In connection with caring for the horses it is important that they are cleaned well each night before being turned out to pasture. This makes less work for the morning and places them in a more comfortable condition for the night.

Green feed in plenty can well be supplied throughout the summer, and as the season advances, clover and alfalfa may profitably be substituted for hay in the mangers for the horses to "munch" during noon hour and at the morning and evening feed. No matter what roughage is fed, grain should always be given the horse called upon to do strenuous work. Rolled oats are preferable where the horse is working hard.

LIVE STOCK.

Emulsion for Calf Feeding.

In the course of an article about calf rearing on skim-milk with which a vegetable fat derived from cocoanut has been emulsified by a specially designed drum, some very excellent advice of a general nature is offered. As the author, Dr. Paul Schuppli, remarks, with the rising prices of milk and the better methods of turning the milk supplies to account, it is natural that an attempt should be made by calf rearers to discover effectual substitutes for this substance. Many, indeed most, of the substitutes have proved useless and do not replace milk in at all a satisfactory manner. Although a certain measure of success can be obtained by giving a calf milk only for a short time after its birth, and rearing it subsequently with the assistance of every possible feed, provided the greatest care and a certain amount of money is expended; yet the results are not wholly as satisfactory as if the young animal had been supplied for a longer time with milk, even if skim milk is gradually substituted for whole milk. According to this method, a heifer calf would be given milk for about five months, viz., whole milk for two months, this being gradually replaced by skim-milk during two months, and skim milk being fed alone for the last month. In the case of a bull calf, milk is given for eight months; whole milk for two and one-half months, a mixture of whole milk and skim milk for four months and skim milk alone for one and one-half months. The guiding principle is never to give the calf a large quantity of milk, but to give it over a considerable period. The expense entailed is not so great and the result is far more satisfactory than if a large quantity is given at first and soon discontinued. The result of the last-mentioned system is to produce a fat animal first, i.e., one that has a large amount of reserve substances, which are of little use to a calf. On the contrary, if the over-feeding is continued throughout most of the rearing period, the result is a direct decrease in the milk yield. When the milk rations cease and the calf is fed on non-fatty substances, it loses the fat it puts on when fed on milk and becomes pot-bellied. The aid of the breeder in rational feeding is to supply the young beast with such food as will enable it to use all its energy for the purpose of its perfect development; or in other words, the growing power of animal must be con-



Dunure Myrene.

First-prize Clydesdale mare, Kilmarnock and Ayr Shows, 1913.

out to grass at all unless he is accustomed to it. There is a big difference in the demands made upon the digestive system when it is gorged with new green feed than when called upon to slowly convert dry feed into available form. Care is necessary. Some evening after a comparatively easy day in the field, when the horses have not been over heated and are not very tired, turn them out in the lane or in the field for a couple of hours, after which place them back in the stable and feed as usual. Do this until the horse is accustomed to the change of feed, when, if the nights are warm enough, and the horses have not been over done and are cooled off, they may be left out until morning. If it is raining, or a cold raw wind is blowing, they are just as well inside.

There is another point in favor of pasturing, and that is, the effect upon the animal's feet. The soil is usually damp and cool early in the season and the grass soft and spongy. Just what the horse's feet require. For the feet, pasturing often works wonders.

Where the greatest mistake is made, when the work horses are turned to grass, is in the dropping out of the ration of all dry feed. The grain feed must be kept up if the hard-worked horse is not to lose flesh. Where this is done heavy work horses are found to do just as much work on grass as on dry feed alone, and generally keep in better condition. Hay should be given in small quantity at noon, and the horse should be left in the stable for an hour or two after each

tinually brought into play by means of its food so that its growth gets no check.

In 1905, at the Dairy Congress in Paris, the writer became acquainted with the system in vogue in France of replacing milk fat by another animal fat in calf rearing and fattening. Encouraged by the success of the method, he made experiment in the same direction. In order to ensure satisfactory results and to obtain as much difference in cost as possible between milk fat and its substitute, he selected for the latter a vegetable fat, namely that obtained from cocoanut; this fat has also been used for cooking purposes as a butter substitute. The cheaper fats are those obtained from plants. Cocoanut fat also contains 99 per cent pure fat, which is not usually the case with other similar substances; adulteration is far out of the question, as no cheaper raw substance can be found. By mixing 35 grams in about one litre (about $\frac{1}{4}$ quart) of skim milk, a milk with 3 $\frac{1}{2}$ per cent of fat was obtained, i.e., one corresponding to the average milk used in rearing, for it is of no special advantage to give calves milk which is extra-rich in fat.

In order to make a suitable mixture, the fat and skim milk are heated to 60° C. (140° Fahr.) and passed through an emulsion drum. The object is to obtain a mixture of skim milk and of melted plant fat suitable for feeding; the mixture must not be allowed to stand, but should be made fresh each time, as the fat rises like that of whole milk, and thus each calf does not receive the necessary proportions of fat and skim milk. It is not possible to mix the plant fat and skim milk with a hand apparatus, and all attempts that have been made to do this have proved unsuccessful. It has been shown by experience that the use of so-called emulsion-milk is apt, under certain circumstances, to cause scour; but this can be largely avoided by pasteurizing the skim milk.

Barley Meal vs. Corn Meal for Hogs.

The relative values of barley meal and corn meal for hog feeding have been tested out by the Agricultural Department in Ireland. Pigs 13 $\frac{1}{2}$ weeks of age were fed on these materials for 92 days. The difference in live-weight increase per head was in favor of the corn-fed pigs, and amounted to about five pounds per head. This difference was so slight that the cost of production may almost be regarded as equal. Buyers favored the pork from the barley-fed lot, but in no case was a higher price paid for it. The corn meal cost about \$2.50 per ton more than the barley meal, and as the cost of gains was approximately the same, it was reckoned to be worth this amount more than the barley. Ground linseed cake, potatoes, swede turnips and skim milk were fed each lot in addition.

Rabies in Milk Cows

M. H. Reynolds, a St. Paul, Minn., veterinarian, discusses the chances of milk from rabid cows, causing rabies in humans or animals partaking of it as follows:

Veterinarians are very frequently asked as to the danger from milk, blood, or saliva of rabid cattle. The experience and observations of many authorities indicate that there is slight, or almost no risk from milk consumed in the ordinary way. It is conceivable that milk from a rabid cow might produce rabies in case of a distinct injury or abrasion of the mucous membrane lining the mouth, stomach, or intestines. It might be possible, also, for such milk to prove dangerous to very young infants, on the theory that the mucous membrane lining the digestive tract of the infant is less resistant to germ infection than in case of older people.

Actual experience shows, however, that such infections, either from milk in connection with an abraded mucous membrane or when given young infants, must be exceedingly rare.

It has been shown by experiments, that dogs may be fed the brain of a rabid dog, or milk from a rabid cow without harm; but if broken glass for example, be mixed with the feed so as to scratch the lining membrane, then rabies may be produced in the dog by such feeding of either brain or milk. Sanitation officers are quite generally agreed in the view, that the danger from consumption of milk is not of much practical importance. It happens occasionally that people use milk from a cow that is developing rabies, before they know what is wrong with her. Of course, no one would use milk from a cow that was evidently rabid.

Experiments have shown that the danger from virulent blood is exceedingly variable. If thoroughly dried for two or three days, it loses virulence to such an extent that it is probably not dangerous. However, if blood or brain substance, in any considerable quantity, remains frozen, it will retain virulence for a long time.

It is found that such material does not retain dangerous virulence at room temperature more than two or three days after it has been thoroughly dried.

There is ordinarily little or no danger from saliva around the cow yard or straw pile, because the virus is destroyed by the sun, or dried by the wind, and because the chance of infection by inoculation is so slight.

Saliva may become virulent from four to ten days before the animal shows symptoms.

Warble Flies.

A new bulletin on "Warble Flies," has just been issued by the Dominion Department of Agriculture. This work is by Seymour Hadwen, first assistant pathologist, Experimental Farm, Agassiz, B. C., who collected much evidence in the course of investigations carried on. The man to lose in cases of deterioration due to Warbles, is the farmer. The tanner doesn't want warbled hides at any price. Range cattle suffer most and present the most difficult problem, as no method has been found to prevent the ravages of the fly among semi-wild animals.

From investigation work in New Brunswick, Quebec, Ontario and British Columbia, as taken from letters from leading tanners in these provinces, it was learned that the average percentage of grubby hides in the four provinces is 34.22 per cent for the entire year and during the warble season 56.55 per cent. The length of the warble season from the tanners' point of view

and the back of the knee occasionally, striking as high as the stifle and along the flanks to about the same height.

Five larvae were secured from the oesophagus of a calf on August 15; four were taken from the oesophagus of a cow on November 14, and the last time the warble flies were seen near the cow was on August 2, so that the larvae would be about four months old. The first larvae were seen to emerge April 10, and the last were ready to come out July 2. It is evident that the eggs are taken in the animals' mouths by licking.

Many remedies are recommended for killing or extracting grubs. As for the practice of killing the larvae under the skin by injecting petroleum or applying mixtures to the back, Mr. Hadwen considers it unscientific, for when the larvae dies, its body has to be absorbed. This is likely to take some time, and do the animal harm. The best method, undoubtedly, is to squeeze out the warble as early as possible, softening the skin first, in this way the wound will heal up rapidly. Moussu says that in Denmark the various agricultural societies engage men to go around and squeeze out the warbles early in the year; using a small knife to enlarge the opening when necessary. I do not know how tanners would view this, but should imagine the slight extra injury to the hide would be small, and that the resulting scar tissue would be less than in the case when the larvae were left to come out by themselves. Of course in a small sea-girt country like Denmark, it is theoretically possible to

eradicate the fly in this way, but in Canada, under present conditions, it would be an impossibility. Mixtures applied to prevent the fly laying, are according to all authorities, useless, and many of them are said to be injurious to the hides, and to the animals themselves.

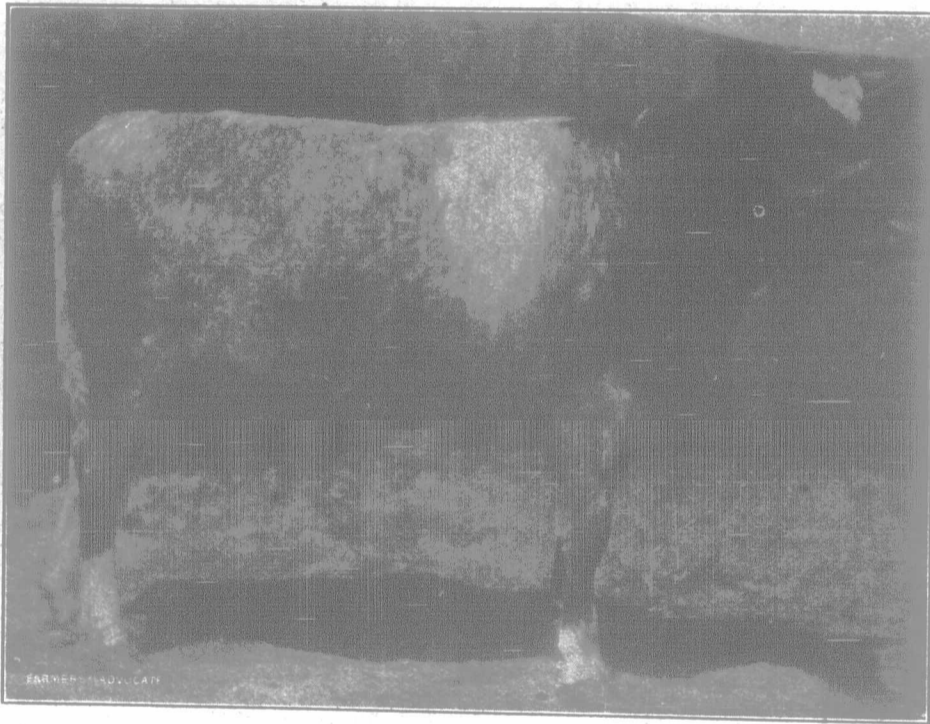
In this country cattle are the favorite hosts of warbles, the only other animal I have seen affected are horses, but rarely so. Railliet records them also far sheep and man, but remarks that they do not seem to be found in any special part of the body, but wander about and do not reach maturity.

In the Southern States, where dipping of cattle is extensively practised

for the eradication of ticks, it has been found to result in preventing grubby hides, the dip evidently destroying the eggs of the newly-hatched larvae.

The Canadian National Records.

It must be a source of great satisfaction to breeders of pure-bred live stock to know that all the affairs in connection with the various breed societies or associations in respect to registrations are in such a favorable condition as they are at the present time. The eighth annual report of the Record Committee made to the Record Board and Record Association at the annual meeting recently held in Toronto, showed the year just passed to be the brightest in the history of the Canadian Live Stock Records, and consequently in the Canadian live stock business. All the breed associations are financially in a splendid position to go ahead and increase their business, and of the twenty-two associations affiliated not a single complaint was heard regarding the workings of the National Association. Surely this is proof enough of the value of nationalized records. If they were not proving valuable, the wide-awake executives of some of the breed societies would most certainly register their complaints. One breed association only in the Dominion remains outside at present, and they do so not because any fault can be found with the keeping of the records or the carrying on of the business in connection therewith, but because they believe it is cheaper for them to carry on their business as a separate body. This belief is based on a report made by two of their members at the last annual meeting of the association, after looking into the comparative cost of operation of the two methods. According to the members of the



Miss Mayflower = 103244 =.

Included in the dispersion sale of the Spring Grove herd at Ilderton, June 25.

extends from late January to early July, the worst period being during the month of April.

Nearly all tanners are agreed that the rough, long-haired, ill-kept animals are mostly warbly and that on the other hand well-fed, sleek animals are not so badly affected. Of course weak animals are always more parasitized than the strong, and cannot fight the fly as well as the more robust; but Mr. Hadwen believes that it simply means that they are at the mercy of the fly all day long, whereas dairy cattle and well-bred animals are often housed during the heat of the day. Another reason is that cattle kept in or near towns will naturally be less exposed to the attacks of the fly, as there will be fewer about. Some of the tanners mention the fact that a wet season is beneficial in keeping down the number of grubs. The answer to this is simple. Warble flies are never seen in cold and cloudy weather. The hides coming from certain districts are mentioned as being comparatively free from grubs, especially in Ontario. Some of them are dairy centres, and the above arguments will apply to these.

Much controversy has resulted from time to time, regarding the life history of this pest and the manner in which it is deposited under the skin on the backs of cattle. The work was done by Mr. Hadwen with *Hypoderma bovis*. Basing the conclusion on the life histories of several specimens it was found that it required an average of 34.7 days to develop the insect from the pupa to the emergence of the fly.

From a study of oviposition, the fly was found to lay its eggs and attach them by means of a gluey substance near the base of hairs. Eggs are invariably found singly on hairs.

The favorite places for the fly to strike seemed to be in the region of the back in particular,

Record Board, the investigation made by these men into the operation of the National Records was not complete enough to warrant a statement such as was made, and the Board and Record Committee estimate that the clerical work of the association in question could be done at less cost to the association in the National Record office than under present conditions. Further investigation has been invited by the Board, and the workings of the Record office are open to all live stock associations in the Dominion. If it costs more to operate an association affiliated with the National Association than as a wholly separate body, it is a wonder that some of the other associations have not found this out. Twenty-two satisfied associations is pretty good proof of the pudding, but twenty-three would be better still, and it is to be hoped that the final outcome of the investigation will place all the live stock associations in Canada in a position to show an absolutely united front.

Have Western Breeders a Grievance?

It's a rare thing to find an organization of any kind with which absolutely no fault may be found. Individuals are not perfect and committees or boards composed of them cannot approach this state more closely than their individual members. Some Western live-stock breeders seem to think they have been, and are being, treated unfairly by the various Dominion breed associations.

First and foremost, they say they do not get their just number of members on the executives of these associations. Whether this is true or not, the fact remains, as pointed out by Peter White at the National Record Board meeting, that men and not geographical position should be the main consideration in appointing these executives. Speakers at the Board meeting stated that had Western breeders known just what they wanted when coming to the annual meetings of the various associations, and had they selected a reasonable number of nominees for each, no doubt more would have been elected. As it has been in the past Western members were nominated for nearly all positions, with the consequence that a large number were defeated. Representation on the Record Board is made by the various associations in annual meeting. On the present Board it was pointed out that there are ten Western men, and only one turned out to the annual meeting. It was also pointed out that of nine officers in the Percheron Horse Breeders' Association eight are located in the West and one in Ontario. In the Suffolk Horse Society with an executive of twelve only one is located in Ontario, and eight of the Aberdeen Angus Association officers are Western men, and only two Ontario breeders. Here are a few instances where the shoe is on the other foot.

Western breeders also contend that they do not get their just portion of the prize monies allotted to their exhibitions as compared with the amounts given to Eastern shows. A glance at the grants compared with the registrations and membership fees in each district does not always show them to be getting the small end. Take for instance the Shorthorn Breeders' Association. The figures show that grants in 1913 for Ontario amount to \$1,700, with registrations in 1912 numbering 4,036, and membership fees of \$1,892. Manitoba, Saskatchewan and Alberta, altogether, get, in grants in 1913, \$1,900 and had only 2,017 registrations in 1912, and only \$968 membership fees. A little more than half as many members, scarcely half the number of registrations, and they are to get this year \$200 more money than the Eastern shows.

Take the Glydesdale Association, Ontario grants for 1913, amount to \$3,400, while those for the three Western Provinces are \$2,720, but Ontario paid in 1912 in membership fees, \$1,892 while all three Western provinces together only paid \$916. Ontario had in 1912, 2,246 registrations, while the other three provinces had 1,510.

The Percheron Society is more marked still. In 1913 Ontario is to get \$250, and only got \$85 in 1912. This year the three Western Provinces are to get \$1,850. Ontario paid in membership fees in 1912, \$92, Manitoba \$60, Saskatchewan, \$56 and Alberta, \$62, or \$178 for the three Western Provinces. Scarcely twice as much paid in; yet they get over seven times as much of the money granted.

The Dominion Sheep Breeders' Association's affairs show similar conditions. The grants to Ontario for 1913 amount to \$448.20, the three Western Provinces getting only \$115.70; but Ontario in 1912 had 1972 registrations as against 566 for all the West, and membership fees in Ontario in 1912 were \$137, but only \$38 for Manitoba, Saskatchewan and Alberta combined.

It does not appear from the foregoing, that Western Canada is being robbed of its just dues in any way by the breed associations in the matter of grants. It rather looks as if they have been liberally dealt with. No controversy should arise between Eastern and Western breed-

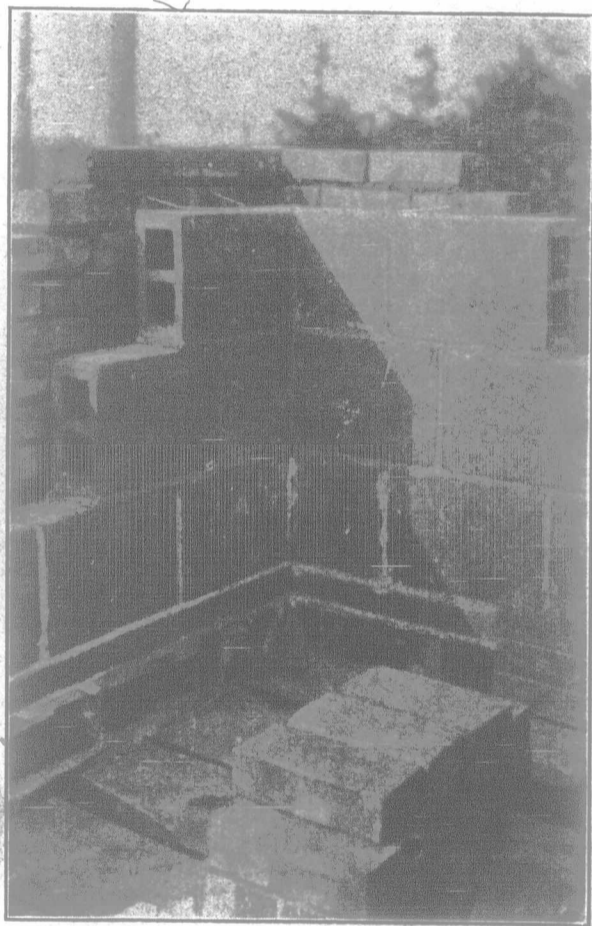
ers. If they think some matters should be adjusted differently, the thing to be done is for Western and Eastern breeders to meet and discuss the matter fully on common ground and come to an amicable agreement satisfactory to all. This article does not propose to show that everything is perfect, but simply states the facts in regard to exhibition grants and executive membership. Canada's live-stock interests cannot accomplish what they should if any division occurs in the ranks. They must show a united front, a national front, unbroken by controversy of any kind.

THE FARM.

A Frost-Proof Wall.

No one can accuse the clay worker of not keeping pace with the march of progress. The decorative possibilities of brick are being demonstrated more and more as the years go by, till the finished product can be constructed into a work of art. The different colors, shades, and sizes of brick hold almost unlimited possibilities for artistic designing, which should delight the heart of the architect and the home-builder.

Neither has utility been neglected. For many years Mr. Broadwell, of Essex Co., Ont., one of the oldest clay-workers in the Province, has



Frost-proof Wall Under Construction, Showing Air Space in Tile.

been seeking to discover a way of producing a frost-proof wall, and has finally succeeded by using hollow tile, combined with brick. The photograph shows the inside corner of the wall under construction. The theory is simple enough. In each 4x8x12 tile are two hollow spaces, as can be seen, some two inches square. The hollow spaces extend through the blocks so that, in laying, the hollow end of one will abut the solid part of the next which adds strength to the wall. These spaces contain "dead air." The outer wall is of a four-inch brick, and between it and the tile wall is an air-space of three inches. This space contains what is called for distinction "live air" because it can pass on up to the roof. Now, dampness and frost are conducted through the brick veneer, but are held by the three inches of air, which is stopped by the hollow-tile wall. Mr. Broadwell has thoroughly tested his discovery, and has found it to be entirely frost-proof. Both walls in the three-inch air-space are plastered over, so as to prevent "hangers." The two walls are braced together with strong galvanized-iron wire, bent in a "z" shape, thus making a very substantial wall. These irons are placed about sixteen inches apart, but in small buildings need not be so close.

This discovery should prove a good thing for the farmer. By its means, he can build at a moderate cost a building that would be cool in summer, and frost-proof in winter, in fact a cold-storage building. Thus, instead of sacrific-

ing his root and apple crops when prices are low in the fall, he could store them and take out according as the market became brisk. Many thrifty farmers pit such produce, but this method, aside from entailing a good deal of work, has other drawbacks. It is unsafe to open a pit in the depth of winter, which is usually the time when produce is at its highest price. Especially in towns and small cities it has often happened that so much produce was pitted that the spring market would be glutted, thus discouraging many farmers from repeating the experiment.

Hollow tile also makes a fine barn at a moderate cost. One 34x34 can be built with hollow tile without the outer wall or brick veneer, which is entirely unnecessary for a barn, at a cost of about \$1,500. When its handsome appearance, its durability and other advantages are considered, it makes a cheap barn. The lessened risk from fire is also an important advantage.

The frost-proof wall when properly constructed makes an ideal dwelling. The foundation needs to be 11 inches wide, of brick or concrete blocks, so as to receive the veneer wall of brick, and the inner wall of hollow building tile four inches thick with three-inch air space between the walls. This "live air" acts like the flue of a chimney, thus providing ventilation. On top of the wall is laid a plate, consisting of a plank on which the rafters are to rest. This plank is perforated with auger holes, which permits the air from air-space to escape up into the gable of the building. The rooms of the house are provided with ventilators, which can be opened or closed at will. In this way the air can be kept perfectly pure without opening doors or windows, or in any way letting in the biting cold air, drafts of which chill to the bone the invalid or baby, and necessitate an increased consumption of fuel. At all corners, doorways, and windows, the dead-air spaces in the hollow tile are closed. Pieces for this purpose are made at the factory. By opening a ventilator all odors of cooking, smoke, etc., are quickly carried off.

No lathing is necessary, as plaster sticks perfectly to the tile. The main advantages are comfort, saving in fuel, healthfulness, lessened risk of fire, durability, appearance and less cost than for a solid brick wall.

Essex Co., Ont. E. P.

How Long Will Seeds Live?

Editor "The Farmer's Advocate": Pertinent to the interesting question at the head of this letter, which you briefly discussed in "The Farmer's Advocate" of the 22nd of May, page 948, I beg to offer the following account of experience with seed of flax and timothy.

In 1901 I assigned to a normal school student the teaching of a lesson on flax, knowing that he had worked for some time in a flax mill. He wrote for objective material to the mill-people, and received a generous supply of plants, seed and fibre. The material unused in his lesson was left with me. This stock of seed, enough at the time to fill a quart bottle, was put in one and corked. Several times since then, including this spring, when I have been taking up germination I have used flax seed from this bottle without noticing any deterioration in its vitality. It is now, at least twelve and a half years old, but it germinated satisfactorily this spring. On reading your article I resolved to test comparatively a score of this seed with an equal number got from the seed store to-day.

A few months, but within a year, after the flax seed came into my hands, I got a pound or two of impure timothy seed for class practice in determining the percentage of purity. There is some of this material left yet; it has been kept ever since in a closed glass "sealer." I used some of it this spring in a germination test with fresh seeds of five other kinds. If one might call this experiment a race, as is done sometimes to stimulate the interest of observers, the timothy seed, now nearly twelve years old, came out second, being preceded only by that of lettuce.

From these and a number of other less definite experiences, I am led to believe that the conditions under which seeds are kept so greatly affect their viability that it is unsafe to dogmatize on their potentialities. I have had sweet corn come up that lay in the ground all winter, and two-year-old sweet corn kept in a paper bag in a box in the house germinate better than one-year-old seed wintered in the husk in the barn. The seed of the flax and the grasses above referred to were preserved in closed glass containers, and at a temperature that never fell much below that of a comfortable living-room. The embryos were neither dried out nor frozen. Stories that I have heard of the germination of seeds, such as those of mustard that had lain deep in the earth for a score or more of years, do not seem to me to exceed the bounds of credibility.

London, Ont. JOHN DEARNESS.

Results of Selecting Seed Oats.

Prolonged wet weather during the harvest season last year, caused many oats to sprout in the shock, and reduced the vitality of others. At Weldwood, we saved ours in better condition than the average, and tests this spring showed a very satisfactory percentage of germination, but the growth was not so strong as we desired. Believing that the best seed is none too good, we procured samples from several likely sources. By far the best came from a seed merchant in Prince Edward Island, who advertises regularly in "The Farmer's Advocate." Slow movement of freight made it uncertain whether the seed would arrive in time, so we ordered only four bushels. The merchant, on his own responsibility, increased the order to eight bushels, putting in four bushels of Registered Banner. These latter were one of the finest samples of oats we have ever seen. They arrived May 2nd and were sown the next day. As they bore the address of the grower, W. H. MacGregor, we addressed to him a few enquiries which he answers in the letter appended. His letter is encouraging, as showing what can be done by persistent intelligent seed selection.

"I am very glad indeed, that the bag of oats you got of my growing pleases you. I have been selecting three years, having been asked to join the C. S. G. A., at the time by the secretary, L. H. Newman. I commenced with oats that had been selected for nine years. The present season we are selling the result of twelve years' work. Last season we sowed seventeen pounds from hand-selected heads, on one-quarter acre and selected heads to thresh thirty-four pounds, and threshed 21 bushels of elite stock seed, 88 bushels per acre. This we reduced to 17 bushels in grading, and have sown the latter amount. This season on a splendid field this will produce a crop of registered seed of the first year, which should be a good foundation stock for anyone wishing to get improved seed.

"Our greatest difficulty is keeping the varieties separate, having only limited space through the winter. It cannot be put in bags as the mice would destroy them, and storage from mice is not to be found anywhere. Could we make the sales a little earlier in the winter we would be saved a lot of trouble in this respect, as at the opening of navigation we must have the grain ready for immediate shipment. When it has a long distance to go customers have the right to expect prompt shipment. We have this year charged 90c. per bushel f.o.b., which does not any more than pay for the labor involved and taking a chance of having a quantity left over, as very often occurs. Last year all varieties of grain took longer to mature than usual. Our seed plot was sown on May 16th and matured on September 13th, almost four months. The weight per measured bushel is 41 lbs. Ordinary oats are much below in weight.

"I would like to hear how this grain succeeds at Weldwood, under your conditions. I am sure it will do well with you. If it does you will be in a position to recommend Island-grown Registered seed to your readers as a very desirable way to enhance the value and yield of their crops."

Steel-Rail Anvil.

Editor "The Farmer's Advocate.":

I noticed a piece in "The Farmer's Advocate" from Mr. Bradt, in which I was very much interested.

I heartily endorse what he says about every farmer having a workshop. In fact I don't see how a man can run a farm of any pretensions without one.

I have an implement house 24 feet by 30 feet, with a work bench along one end. The vise is a get up of my own, 3 by 4 hard-wood scantling, the jaws reinforced by 1/2-inch iron plate. The screw is a strong one, and serves three purposes, cheese press, heading apple barrels, (I handle my own apples) and my bench work. It stands six inches above the bench. I want to thank Mr. Bradt for the information he gave about building a home-made forge. It was just what I wanted. I have a good set of carpenter's tools, a small anvil, with cold chisels and tongs. Have been wondering whether there would be room in my shop for a forge, but it's pretty well filled up with odds and ends of all kinds, even to the upstairs, where I keep my sap tanks, pan and buckets and other appliances.

It might be interesting to know how I got my anvil. It is made out of a piece of steel rail (if you can get on the good side of a section boss, you may get a piece of rail for the asking) mine cost me nothing. My blacksmith made a horn on one end. Then I took it to a foundry, they drilled a 1/2-inch hole in from the other end and close up to the top part of the rail, then they drilled a 1/2-inch hole from the top of the rail down to the other hole in the side.

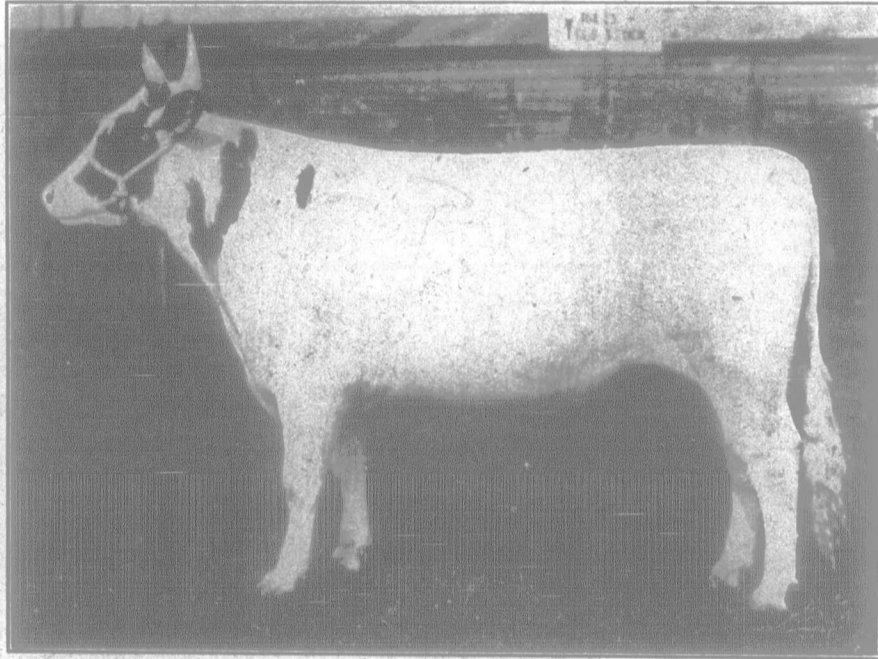
This is to put a hardie in and for punching holes in iron plates.

The drilling cost me 40 cents, making the horn and hardie about 85 cents. I wouldn't take a three dollar bill for it, as it is one of the most useful things about the place.

J. H. LINKLATER.

No More Threshing Dinners.

Indiana farmers have stopped making threshing day a free for all picnic. Hereafter each man must bring his own dinner, and go home to supper. This fact was brought out recently by a graduate of the College of Agriculture, O. S. U., who was investigating the "Threshing Ring" as it is conducted in Ohio and Indiana. These "rings" are proving more popular every year, and one of the very best things which they have done has been to do away with the extravagant and wasteful meals. Another purpose which they serve is to give each man the same kind of work at every threshing during the season. In this way a man becomes familiar with his task, and the whole job is accomplished more rapidly and easily. No wages are being paid anyone to stand idle, nor is anyone overworked. The successful "Threshing Rings" usually have a very simple plan of management. Common sense will suggest a basis for apportioning the help to be furnished, on the acreage of grain which each man raises.



Sir Hugh.

Champion Ayrshire bull at Kilmarnock and Ayr Shows.

Maintenance Left to the Township.

Our Western contemporary puts the case very well for an organized plan of maintenance of country roads. Maintenance is unquestionably the weakest point in our good-roads effort to-day. But this is how it goes:

"Dominion and Provincial Governments and Municipal Councils are voting millions of dollars for the construction of roads without, it would seem, even a fleeting thought being given to the upkeep of these roads. It is conveniently considered that this important factor in rural transportation is delegated to the township, with the work carried on largely through the individual farmer on his portion of the road. No uniform upkeep system has been thought out and no earnest work is given, with the result that after a few years' desultory work on the part of some, the roads are allowed to deteriorate, as they will, to be reconstructed in a greater or lesser number of years as a 'better roads' wave sweeps over the country."

THE DAIRY.

Milk testing sometimes reveals curious facts. A pet cow whose "good rich milk" was reserved for table use, was recently discarded by a farmer when cow testing proved to his dismay that her milk was nearly the poorest in the herd.

The marked increase of interest in cow testing is one of the good signs of the times. New testing associations are being organized and new dairy record centres have been established this year at Alexandria and North Gower, Ont., Shawville, St. George and Ste. Henedine, Que., Scotsburn, N. S., Sussex, and St. Joseph, N. B., making twenty-one in all, with a recorder stationed at each centre.

Color and Richness of Milk.

Popular opinions about the richness of milk are mainly wide of the mark. A familiar sign on which judgment is based is the color of the milk. Because skim milk appears more white or blue than the whole milk from which it was separated, the conclusion is formed that the degree of yellowness denotes the degree of creaminess or richness. To learn the error of this conclusion all that is necessary is to test a dozen samples of different cows' milk all of the same herd. It will be found that some of the most whitish samples test among the highest. Breed and individuality affect the richness of the milk, but the color does not vary in direct relation thereto.

Feed also affects the color quite independent of the richness. Just after the cows have been turned out on grass the milk and butter will be yellower than at any other time, unless during fall when pumpkins are being fed. Ask any cheesemaker whether the yellow milk of this season is the richest. He will tell you it tests lower than during any other months of the year, and that it takes more pounds of milk to make a pound of cheese. Here again the color test fails completely.

But there is one test which many a dairyman has sworn by with all confidence. He would set samples of different cows' milk in shallow pans, and judge by the thickness and toughness of the cream layers which rose in the different vessels. We remember hearing a quaint old character boast of one cow whose milk raised so tough a cream that "a mouse could run over it and it wouldn't go down." Another said he could skim the cream off a certain cow's milk and hand it up on a nail. Such milk was believed to be wonderfully rich. It would surprise many of these men to be told that their tests have indicated the opposite of what they supposed. Given two samples of milk, one of which raises an inch of cream in a glass tube while the other raises three-quarters of an inch, the latter is not unlikely to be the richer sample. The deeper layer of cream will probably be from a cow whose milk has very large fat globules, which rise quickly, carrying with them a

considerable quantity of milk serum which adds to the bulk and toughens the consistency of the cream. The other cow's milk has small fat globules, which find their way slowly to the surface, carrying with them a lesser amount of milk serum reducing both the quantity and consistency of the cream. Toughness no more indicates richness in cream than it does in pastry. The more shortening in the pie crust, up to a reasonable amount, the crisper and mellow it will be. The less butter fat in the cream the less tough it will be, as a general rule. Milk of Holstein and Ayrshire cows usually has small fat globules, and their cream layer is generally quite thin. It often tests much better, accordingly, than one would suppose from the depth of the cream layer. Shorthorns, Jerseys and Guernseys give milk with larger fat globules, and, therefore, their cream separates and churns more thoroughly where primitive apparatus is used. The Babcock test and the cream separator have been friends of the Holstein and the Ayrshire cow.

City housewives and milk consumers in general need a deal of education on the milk question. Their delusions are persistent and many. They form wrong opinions and stick to them, the palate often harmonizing unconsciously with the eye. Between what we know and what we suppose is a wide gulf to be bridged by science and educative propaganda. It is chiefly the substance of the milk that should count rather than its tint.

It is a good plan to keep the dairy calves and young heifers growing and in good condition. A little fat on them should not worry the owners, as it is generally not an indication that the heifers are running towards the beef type, but rather a sign of health, thrift and good management. It is not often, under average care, that they will show too fat, and after results, when they take their places in the herd, almost always prove the thrifty, strong heifer to be the best milker, and the most satisfactory breeder.

THE APIARY.

Beekkeeping During the Month of June.

Editor "The Farmer's Advocate.":

The observing and experienced man no doubt has observed with what rapidity one of long experience can do work to which he is accustomed. More than that, he can size up a situation and know just what is required to put a matter into the needed condition.

Let me use an illustration which should appeal to the agricultural class. Hogs in the great slaughter houses are killed, scraped and prepared for market with a rapidity which has astonished the beholders. The reason is two-fold, experience and study, with money, have given the best equipment, and experience in workmanship has enabled man to make every move tell. So is it in bee-keeping. "Experience makes perfect."

No, I dare not say that, but experience should make efficient. The expert by outward conditions may see what is wanted when the uninitiated discerns nothing. Or he rolls the quilt back on the frames and can see at a glance that the bees require or do not require room. Such experience can only be acquired by practical experience and yet this undoubtedly can be helped by judicious tuition along with the experience. One of the difficulties in connection with the tuition in bee-keeping is that whilst in a special class in judging, animals can be brought into a class room, and a tree may be pruned in the dead of winter, bees cannot be handled in the winter, neither can a colony be taken with the combs, indicating that they need more room, yet, if care is taken, valuable instruction can be given, which must mostly benefit one who has already some experience. A very critical time with a bee-keeper is when the colony is in a condition that it should have upper stories put on the hive to prevent the bees from having the swarming impulse. There are many bee-keepers who do not know enough about their bees to give them room at the right time. It is no longer considered good management to have early swarms. If the bees have wintered well, and depending in a measure upon whether the bees have been able to gather from early blossoms, and if the hive is large or small, one should watch the bees fairly closely all through fruit bloom. It is not often that colonies will swarm during fruit bloom, but they may, when the brood chamber is full. In the production of comb honey it is much more difficult to know what to do than in the production of extracted. With extracted honey an upper story with drawn comb can be put over the brood chamber, putting no queen excluder between, the queen can then go into the super and deposit eggs, and brood can there be reared, perhaps increasing the number of young bees. When the clover flow comes on the queen can then be confined to the brood chamber by a queen excluder, the brood can hatch in the super and the comb there used for the surplus honey. I have never had any honey left in these super combs when clover came in, and I may say with my twelve-frame hive the amount of brood in the brood chamber has not been a serious item.

With comb honey, however, where sections are put on the comb foundation in the sections, first of all the queen bee is most unlikely to have any desire to lay in the sections, next, if honey is stored in the sections it will be off in color and quality and give an inferior section even if only very little of it is found in the sections. My advice to inexperienced bee-keepers is to produce extracted rather than comb honey.

But it may be asked "How shall we know when to super the hive?" It is not altogether a question of the time or kind of bloom, but first the condition of the colony. If the combs in the brood chamber are almost all full with either eggs (one in a cell means it is full for the bee) larvae, capped brood, pollen and honey, then they should be supered, providing that a honey flow may follow. By that I mean that the indications may plainly and unmistakably point to, or actually indicate that clover is about over. There is then no use in putting on supers if there cannot be any white honey expected after clover. This is true in my own section.

The comb indication that bees require room is the elongation of the cells in the combs show that the bees are using any available room in the hive, but the mere building out of comb above the brood does not necessarily indicate that the hive is crowded. The bees practically always build the cell walls longer, when they store honey in the comb, than if the brood is hatched in the cell. If, therefore, the brood last year extended to the top bar, then if honey is stored above the brood, the bees may, and often do, attach fresh wax to the cell wall of the comb.

Cell cups are not even always a sign that the hive should be supered, but with a strong colony, and the honey flow on, with a prospect of it continuing, is a sign of super room, provided the colony is not superseding the queen. Almost full combs and the promise of a continued honey flow, are the prime conditions for supering bees.

Brant Co., Ont. R. F. HOLTERMANN.

POULTRY.

Shade, Water and Grain during Summer.

The hot weather is at hand, and the poultry, including the young chickens, are all out on a free range, or in the poultry yards. It must be remembered that poultry, especially young chickens and ducks, require shade. If a number of the young birds are noticed to become weak and suddenly throw their heads around over their backs, it can generally be concluded that they have had an overdose of sun. While a moderate amount of sunlight is essential to poultry-raising success, shade during the heat of the summer is also absolutely necessary. Here is where and when the orchard proves a good place for the chickens. There is shade in plenty, and where the land is kept cultivated the poultry get considerable feed in destroying grubs and insects of various kinds.

Heat also means thirst. Even though green feed is abundant, it is surprising how much water a flock of young chickens or laying hens will consume each day. If possible, place the water troughs under the shade of a tree, or at any rate in as a cool a place as is available. This will aid in keeping them clean, and clean troughs are very important. If filth is allowed to accumulate on them, they very soon become unfit for use and the water may in a short time become sickening to the birds. Putrefaction and fermentation take place much more rapidly in a high than in a low temperature.

If best results are to be looked for some grain must be fed in addition to the feed which the birds are able to obtain in their rambles over the fields. Too many farm flocks are compelled to pick up their entire living during the summer months, and at the same time expected to lay an egg per bird each day, and also come in for considerable abuse if they purloin a few grains from the sown field, or a few tubers from the potato patch. Poultry requires just as careful management as does any other branch of agriculture.

Feeding Young Chickens and Turkeys.

Editor "The Farmer's Advocate.":

As the feeding and caring for young poultry usually falls to the lot of one or more of the feminine portion of the household, a few suggestions may be a help to someone who is trying to make a success of the business, for it is a business as much as storekeeping, or any other mercantile trade, and has to be attended to and looked after with intelligence or there will be failures. If the eggs don't hatch, or disease takes the flock, it is so often attributed to bad luck. To my mind there is no such thing as luck—there is a cause for everything, and we may reap a profit by the failures, if turned to good account in experience, and not sit down and whining say "What bad luck I have." Always keep the motto in view "Onward and Upward," even in the poultry business.

A good plan, instead of making a summer resort for the hens and their families in the back-door yard, is to make a sort of box with slats on one or all sides, so the young chickens can get in and feed to their heart's content, leaving the older ones out, as they cannot get through between the slats. The top may be put on with hinges, to be convenient in putting the feed in. This can be set anywhere desired, and moved at almost any time, the making of it is only a few minutes work. Enough feed can be put in these in the morning to do all day. Have it large enough so that a long-necked turkey cannot reach the feed. For watering them fill a keg with water having a tap or plug, so that a little water will drop into a shallow pan and they have good drinking water and no anxiety or fear of a chicken being drowned in it.

The same plan of feeding may be adopted with young turkeys that are kept with the hen, except that only enough feed should be put in that they will eat up clean. I prefer to let the young turkeys go with their natural mother. They can be raised with less work, grow faster, and are not in so much danger of being over-run with lice. Feed when young with dry bread crumbs and rolled oats mixed with some sour milk curds, to be moist but not sloppy, and a few onion tops cut up rather fine. Have never tried shorts, but have used cracked wheat, and think the oatmeal was better, not causing so much diarrhoea. Oat chop sifted is not bad feed for them, mixed a little moist. They drink a lot of water and if given regularly will do no harm. If they are fed twice a day, they are not apt to stray too far away. Like some young people they think far away fields look green, but if given contentment and enjoyment near home, the far away fields will be a myth, and not a reality. An ounce of prevention is worth a pound of cure.

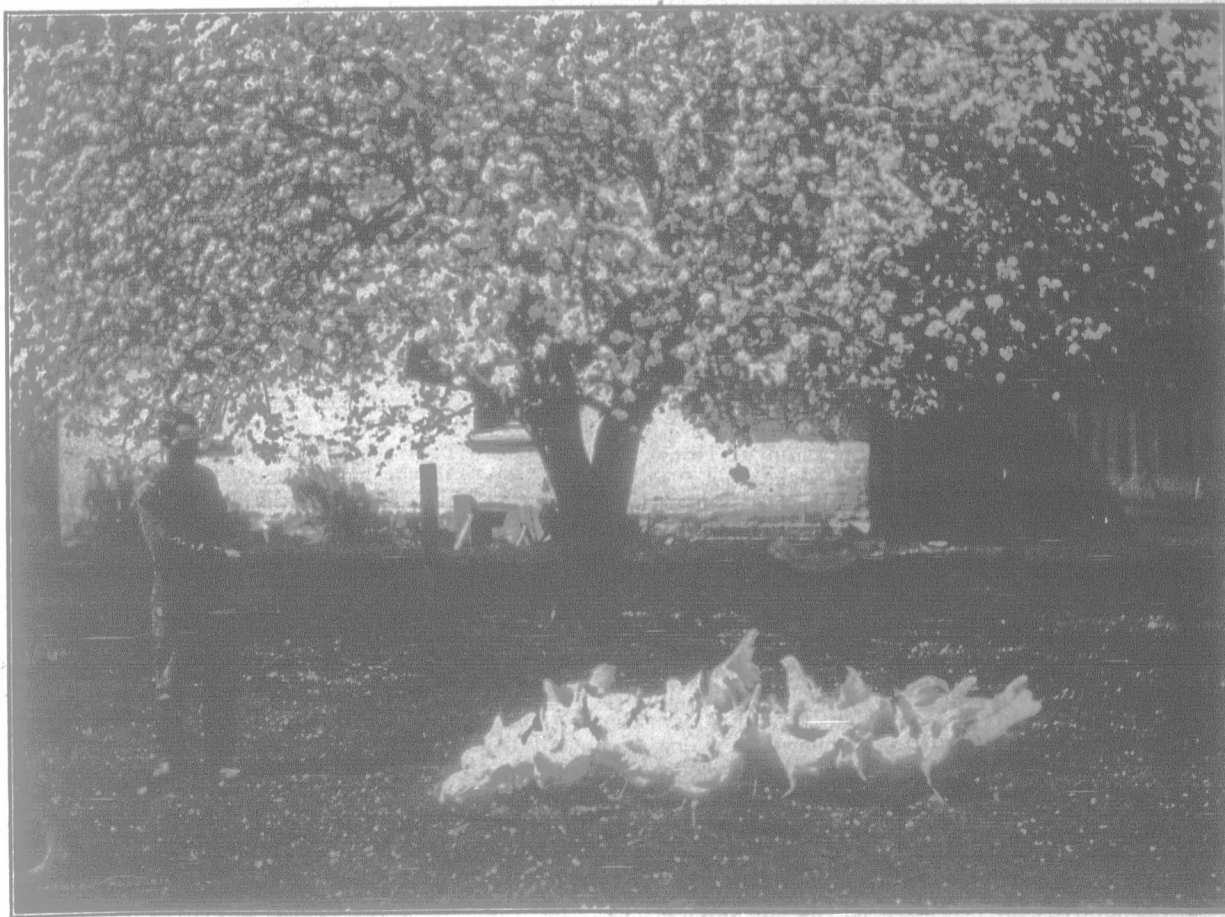
Lambton Co., Ont. BROWN EYES.

HORTICULTURE.

Blasting Holes for Tree Planting.

Editor "The Farmer's Advocate.":

In reply to your enquiry—regarding the results of planting fruit-trees in holes blasted with stumping powder, will say that on May 21st, 1912, the Canadian Explosives Limited, Montreal, gave a demonstration of blowing holes with stumping powder for tree setting, at my farm.



Poultry and Fruit Go Well Together. All signs point to a good crop of both here.

Immediately following the demonstration I set 1,213 apple trees, (different varieties,) by blowing the holes for them with stumping powder, using about one-quarter of a pound per tree. I found this method to be labor-saving and greatly beneficial in the growth of the trees, as a great many trees made growth the first year, of from ten to fourteen inches, and, as far as I know, all the trees are living. The demonstration was brought about by my suggestion and correspondence.

I have just finished setting two hundred and twenty-five assorted apple, pear, plum, quince, cherry, peach, and crab-apple trees with the stumping powder.

I think there have been a few others who have used the stumping powder in a small way since, but so far, it does not seem to have become popular among the orchardists in this locality.

Kings Co., N. S.

C. A. BORDEN.

Co-operation in Fruit Growing.

It might seem strange in an enlightened country like Canada, that people had to be driven to adopt, as a last resort, what has here, as elsewhere, when rightly applied, proved a principle of striking and lasting benefit. Co-operation and the more desirable methods of putting it into practice in the growth and sale of fruit, is in brief the outline of a fifty-page publication by A. McNeill, Chief of the Fruit Division, Department of Agriculture, Ottawa. With the marketing of the present growing crop in view, it deserves a wide circulation, and an early reading. In another branch of farming, Mr. McNeill points out, that the North West Grain Grower's Association bids fair to revolutionize wheat selling.

In fruit growing under the old order of things, the trade and trade conditions fell into the hands of groups of dealers from whom the grower receives for his fruit little more than actual expenses. So unsatisfactory were the results, that it became no uncommon thing a few years ago, to see splendid orchards chopped down for firewood. Nova Scotia and Ontario have been the scene of the most marked progress, through the adoption of co-operation. But it is worth remembering that in the judgment of Mr. McNeill, the decrease of trees in the older, smaller orchards in Ontario, has been quite equal to the increase in the number of new trees planted in larger areas, under perhaps more favorable conditions. British Columbia, has been planting very rapidly, but the 1912 crop was the first to seriously affect the market outside the Province. Except for home use, or a local market, the author does not recommend orcharding at all, except where co-operative methods are adopted. Under the new order the fruit-growing areas are restricted, but the size of orchards is increased. Orchard is commercialized, and the extraordinary spectacle is observed of men in one part of the country receiving \$2 a barrel for their apples while in the next township apples are being allowed to rot under the trees. The small orchard as a side line has not proved remunerative, and with co-operative methods, Mr. McNeill recommends a five-acre orchard on every farm in the apple district of Canada.

It is pointed out that there have been failures in co-operation and one of these in Canada arose out of regarding it as an isolated movement to secure a few more dollars than the grower would otherwise obtain, instead of regarding it as a benefit society or friendly association.

Few Canadian co-operators recognize that co-operation is an entirely new method of doing business. It is not merely a modification of an older method, but something founded upon a different if not antagonistic principle. The prevailing system of marketing is founded upon competition, the practical motto of which is, "Every man for himself." The natural result of this is, that a few individuals receive most of the prizes. C. R. Fay, in *Co-operation at Home and Abroad* defines a co-operative society as "an association for the purpose of joint trading originating among the weak and conducted always in an unselfish spirit, on such terms that all who are prepared to assume the duties of membership may share in its rewards in proportion to the degree in which they make use of their association." Individual growers and buyers cannot be held altogether responsible for the disabilities under which the apple industry labors. It is the system under which they are working that is most at fault. It offers at every turn incentive to untruthfulness and misrepresentation. It places in the hands of unscrupulous growers and unscrupulous buyers an effective instrument of fraud and renders it more difficult for honest men to conduct a legitimate business. Indeed this fraud in the apple business became so serious in Canada that it necessitated the passing of the Fruit Marks Act, now merged in the Inspection and Sale Act, which has done much to correct some of the grosser evils.

Even if there were no misrepresentation between the buyer and the grower, yet from the conditions under which the buyer works, he is obliged to pick and pack the fruit and bring it to market at a much greater expense than that incurred by co-operative methods. Under the present wasteful competitive system it is not too much to say that from 50 to 75 cents is added, on the average, to the cost of every barrel of apples before it leaves the shipping station. The dealers are not particularly anxious to change this if they could, so long as these additional charges are uniform in the whole trade, since each is in as good a position as his competitor, and all may shift the burden upon either the producer or the consumer. If the grower attempts to ship to the ultimate market on his own account, the competitive system of marketing accumulates upon the fruit a number of charges, some of them perfectly legitimate, others quite unnecessary, or, if necessary, exorbitant. But whether these charges are right or wrong, the individual shipper is helpless. He has no way of investigating their correctness.

Co-operative methods substitute as a remedy a more economical method of picking, packing and marketing. They also take away most of the incentives to fraudulent packing and marketing. The economies that can be effected will be noted more particularly in what follows. Here it is sufficient to direct attention to the fact that this economy does not consist in supplanting one person by another to whom a lower fee or less wages is paid. It is a method whereby one man without undue exertion can do the work that is now being done by two or three. So, too, co-operative methods do not propose to make men honest by law or rule. They simply take away the present incentives to dishonesty. The aims of co-operation, as applied to the fruit industry, are:

(a) To bring fruit products as directly as possible from the producer to the consumer.

(b) To encourage the best methods of production.

(c) To encourage thrift in the fruit grower, and economy, intelligence, enterprise and honesty in the packing, grading and marketing of fruit.

(d) To make it possible for a number of small growers to establish a commercial standing that will be a guarantee for grade marks or contracts.

(e) To act as a credit organization to make advances on products in the process of being sold.

It is essential that each member of a co-operative association should bear in mind that the success or failure of the organization depends upon the combined efforts of its members, in giving every possible support to the movement. The ultimate success of co-operation depends largely upon the cheerful optimism and enthusiastic loyalty of the association members. It is assumed that the leaders of the movement in any section, are men of greater executive ability and better training than the average grower. Such men are capable of doing many things well. But at the same time every member must have his mind permeated with the thought that unless he gives every possible assistance the efforts of the leaders are necessarily limited. Given good feeling among the growers, earnest endeavor on the part of each member, and enthusiastic and well-trained leaders, the success of the movement is assured. One of the main charms of modern social life is unselfishness, but the ordinary methods of business appear to have no place for it. Co-operation, on the other hand, endeavors to eliminate selfishness and its success depends largely upon the extent to which this is accomplished. Have by-laws and regulations by all means, but it should be understood among the members that there is a higher code of morality than can possibly be embodied in these. Co-operative methods limit the dividends that may be paid to capital and exclude share voting. In ordinary joint-stock companies, the influence and power is proportioned to the money invested, so that the rich become richer by appropriating selfishly, through the power of money, the fruits of the labors of others, the unearned increment of values created by society, and the natural resources that in justice should be shared in due proportion by everyone. Co-operation distributes wealth in proportion to the just earning of each worker, prevents the accumulation of large profits, and shares unselfishly all natural resources.

Those who are in closest touch with the Canadian fruit growers realize that what is needed most at the present moment is wise leadership in each locality. A few men at least in each neighborhood are fairly well grounded in the social problems that affect agriculture. In every agricultural district there is a wealth of knowledge and public spirit unorganized, that might be applied under wise guidance to the problems of that particular locality.

Management and Control.—The principles of co-operation are few and extremely simple. Never-

theless co-operators experimented for many years before evolving them and acting on them with confidence. Perhaps the main reasons for this are their simplicity and the fact that they are fundamentally opposed to ordinary business methods.

Ordinary commercial associations, whether they are partnerships or joint-stock companies are formed for the purpose of securing dividends from the partnership or company. Co-operative associations are formed, not for the purpose of securing dividends through the association, but for the purpose of benefiting the industry.

Joint-stock companies, banks, loan associations and business partnerships are essentially autocratic. In these institutions the great majority of the shareholders take little or no part in the association. Co-operative associations are essentially democratic. The management is in the hands of the members.

In ordinary business associations voting is upon a money basis, and the men with the largest moneyed interest control the affairs of the association. In co-operative associations each member has a vote and no member more than one vote. To still further guard against the concentration of power in the hands of one man or a few men, no proxies are allowed.

In commercial or industrial concerns no limit is placed upon the amount of remuneration received by capital, and capital is employed for the sole purpose of securing this remuneration in the form of dividends. In co-operative associations the amount that is earned by capital is as strictly limited and as definitely stated before it is engaged as the wages of employees, and capital is used not for the purpose of securing dividends, but for the purpose of carrying on the business.

In competitive business, capital is master; in co-operative associations it is the servant.

Canada's Fruit Crop.

The first Fruit-crop Report for the season has just been issued by the Fruit Division of the Dominion Department of Agriculture. The winter of 1912-13 was particularly favorable for both small and tree fruits. Conditions of growth the latter part of the 1912 season are reported as excellent, but in some cases growth continued too late for safety. Telegraphic reports from the chief tender-fruit districts of Ontario would indicate that little injury was done by the May frosts, except perhaps on the north shore of Lake Ontario, between Toronto and Hamilton, and then only in small fruits, but it is safe to say that the full effects of such a frost cannot be fully estimated until some time has elapsed. Upon the whole the weather conditions for fruit generally have been good, but it must not be forgotten that complications may arise any time between now and harvesting. This is particularly true, for instance, with reference to the cherry crop, which promised last year to be very large, but was seriously injured by excessive precipitation, especially in Eastern Ontario, between the growing and harvesting months.

Apple crop reports are most optimistic. In British Columbia and Ontario, the bloom at the time the report was written, was sufficiently advanced to show that it was especially heavy, and an excellent showing has been made in Quebec and the Maritime Provinces. The season has been two weeks earlier than usual in many districts. Trees wintered well. Tent caterpillars are bad in a few districts.

The pear-growing sections of Ontario and British Columbia report conditions favorable. No winter killing is reported. In the Maritime Provinces only a medium pear crop is expected. The Kootenay District anticipates a heavy crop.

Plums have undoubtedly suffered much injury from the late spring frosts. The plum bloom is prolific, and it is not improbable that a sufficient number of buds will be left to make a medium, if not a large crop in Canada's plum district. British Columbia will have a heavy crop.

Peaches promise the heaviest crop on record, in Southern Ontario. Fall and winter conditions were practically good and the spring frosts appear not to have done any serious injury. Damage has been slight in British Columbia.

Cherries, owing to favorable conditions, promise a bumper crop, although some slight injury may have resulted from frost.

Grapes wintered well and if frost does not damage, promise a big crop, and all small fruits are in splendid condition to produce abundantly.

No new insect is offering any special problem. The aphid is likely to be troublesome in most sections.

The event of the year, though it is confined to a comparatively small portion of the country, is the infestation of the tent caterpillar. The ravages of this insect this spring are fully as serious as last year, and in many localities even more damage has been done than during last year. Throughout Eastern Ontario, Quebec

and parts of New Brunswick reports indicate that the situation which has resulted from the infestation of these insects, is a very grave one. The warm weather early in the season caused the eggs to hatch and the trees to leaf out rather earlier than usual, with the result that conditions became ideal for the development of caterpillars.

When stringent remedial measures have been adopted the damage has not been so great, but either through ignorance of these means of control or through lack of the necessary equipment, many growers have been unable to cope successfully with the invasion of caterpillars which has taken place during the last month, and in these cases much loss has been sustained.

Even at this date, if the trees are sprayed with a solution of four pounds of lead arsenate (or 6 ounces of Paris green and at least 12 ounces of lime) to 40 gallons of water, and the trunks banded with "Tanglefoot," much will have been done to check the spread of the insects. All tents should be destroyed, preferably towards the cool of the evening or in the morning when the caterpillars are within them. Only concerted effort on the part of the growers in a badly infested neighborhood will bring relief. Wild plum or cherry trees should be destroyed, whether in old fence rows near the orchard or in uncultivated land.

Mice have not been bad during the past winter, but protection is necessary each year, as their ravages are periodic and no one can tell when a serious outbreak may occur. Weeds and rubbish which harbors them should be destroyed.

Canker is reported from Nova Scotia and black knot is bad on cherries and plums in Nova Scotia and Quebec.

Fruit prospects in the United States and Great Britain are reported as excellent.

One correspondent says in the report "Markets in 1912 were no good for apples. Three-quarters of the crop was left to rot on the ground." Commenting on this the report says:

"This correspondent must be considered as speaking only for a very limited area in giving the quantity of apples left to rot, yet the truth remains that throughout Western and Southern Ontario in 1912 large quantities of apples were sold at an exceedingly low price or not sold at all.

"The reasons for this are not far to seek. First and foremost was the complete breakdown of the old system of itinerant buyers who, since the inception of the apple trade, have been the recognized means of disposing of the crop in Ontario. This failure of the itinerant buyers to appear upon the ground was caused partly by the Old Country firms refusing to make large advances which they had always done in former years, leaving these buyers without money to finance their purchases. Second, even in the case of buyers having funds, the co-operative associations have become so numerous that they cover the ground especially in the better apple districts, leaving only the inferior orchards for the outside buyer. Third, there was a distrust in the minds of many of the old buyers with reference to the condition of the apple market. The net result was that in many districts, where there are comparatively few large orchards and where the orchards for the most part are very poorly cared for, no buyer deemed it worth his while to visit them. Canadian apple dealers, with capital of their own, preferred to deal directly with the co-operative associations, where they could purchase large quantities of fruit of uniform grade, and with the grade marks guaranteed. It is not at all likely that any buyer with capital of his own to risk will, in the future, care to handle the small, ill-kept orchards, containing many varieties, of the ordinary farmer engaged in mixed farming. With individual selling it is not probable that these orchards will ever again become really worth while.

"The remedy lies in co-operation among these small orchardists, which would result, of course, in better care of the orchards and an absolute certainty of sale. In this connection, the publication of Bulletin No. 38, 'Co-operation and Fruit Growing,' of the Dairy and Cold Storage Commissioner's series, is timely. This bulletin contains specific information with reference to the formation of co-operative associations, as well as the general principles which underlie their successful operation. It points out how these small orchards may be handled successfully, proving not only good money-makers but, at the same time, attractive features in the home life."

Bulletin No. 38 may be obtained free on application to the Publications Branch, Department of Agriculture, Ottawa, or to the Fruit Division, Dairy and Cold Storage Commissioner's Branch, Ottawa.

Growing Cucumbers.

To produce cucumbers profitably, says a Michigan agricultural leaflet, by W. Postiff, requires a location near a good-sized town or a salting station, and where enough help to do the picking can be secured. If planted on soil that is inclined to be light and also deficient in humus, the yield may be shortened unless rain is plentiful during July, August and September. If planted on heavy clay, the plants may suffer in a wet year from the soil becoming hard and packed, caused by tramping while picking the cucumbers. A clay loam that is well supplied with humus or decayed vegetable matter is very satisfactory. If it is tile drained, so much the better for at picking time, one must get on the ground to pick no matter how wet the soil may be.

A clover sod plowed early, worked down and harrowed occasionally until planting time, makes a good seed bed. Timothy sod handled in the same way is also suitable if it is not too badly infested with cut worms. In fact, any soil intended for cucumbers should be plowed early, and kept well worked till planting time. Such a method of handling pays for several reasons:

It helps rid the soil of weeds. Keeping the soil well worked conserves moisture and enables the seed to germinate, no matter how dry the weather may be at planting time. Early plowing and frequent harrowing will put the soil in such a physical condition that it will not pack and bake after every rain. It will become loose, mellow and friable; rain falling upon it will drain away, leaving it in practically the same condition as it was before the rain, while a rain upon freshly plowed ground is quite likely to cause a crust to form. If seed has just been planted, or if the young plants are just up, such a crust will be very injurious.

Early plowing and frequent harrowing makes the plant food in the soil more available, and plant food must be in solution before plants are able to use it.

Cucumbers are not hard on the soil, but to be a successful crop the soil should be quite rich. They are quick growing plants, and have not the time to rustle for a living, nor can the grower afford to have them do so. The thing to do is to provide them with an abundance of plant food so that they may grow, as it were, at high pressure. On the average land, they should not follow sugar beets, cabbages, potatoes or oats, unless the land has, in the meantime, received a liberal application of barn-yard manure or commercial fertilizer.

No fertilizer material gives better results than well rotted stable manure. If it is plentiful it may profitably be spread broadcast and plowed under, but if the supply is limited, it will be most economical if applied in the hills.

Unless manure is to be used in the hills, a corn marker with teeth six feet apart is all that is necessary to mark the rows. Six by four feet is the ordinary distance when planting in hills is practiced, and if it is desired to cultivate both ways, simply mark both ways and plant at the intersections of the marks. When manure is to be used in the hills, mark in the same way, but the rows six feet apart will have to be furrowed out with a walking plow. Throw a forkful of manure in the furrow at each intersection, and cover with a hoe after having first packed the manure with the feet or the back of the hoe. The manure should be put in the hills as early as possible, but in harrowing the soil after they are made and before planting, care should be taken not to entirely fill the furrows so as to obliterate the rows.

When a large acreage is grown, the practice is to double furrow the row, that is, plow a dead furrow every six feet. In this furrow distribute the manure with a manure spreader, using the attachment to narrow up the discharge. Cover the manure by plowing a back furrow upon it. Roll as soon as possible, and drag the ridge with the rest of the field, dragging lengthwise of the rows. The seed may be planted in hills upon this ridge or a garden drill may be used, and a continuous row sown. There should be a plant every two or three inches, and these should be thinned to a foot or eighteen inches as soon as all danger from the cucumber beetle is over. A continuous row has some advantages over hill planting, but if the ground is inclined to crust, the young plants will have more difficulty in breaking through than if they were planted in hills. The ground is more evenly occupied, and the roots are not so crowded. Such a row is also easier to pick especially if, when the vines have run about two feet, they are placed at right angles to the row. Cucumbers should be cultivated to destroy weeds, and to maintain a dust mulch. Any cultivator suitable for corn will do the work, but the teeth should be set more shallow for cucumbers than for corn. It is better not to work too close to the plants with the cultivator, and if the soil crusts and there are weeds in the hills, they will

need one or two hand hoeings. Maintain a dust mulch.

Boston Pickling, Chicago Pickling and Snow's Perfection are the three varieties that are usually grown under contract. They are prolific yielders, producing their cucumbers in clusters. When cucumbers are grown to be sold direct to the consumer or to a retail grocer, some strain of the White Spine is generally grown. This is a prolific variety which yields fine, straight cucumbers, but which are a little too large in diameter to be suitable for bottling. This is also a good variety to grow when it is desired to produce early "slicers." Slicers are the large cucumbers suitable for slicing, and are eaten fresh.

Some of the Long Green strains will produce "slicers" of better quality, but not so early in the season as White Spine. They are freer from seeds and the flesh is firmer, and, when well grown, they will compare favorably with hot house cucumbers.

Usually cucumbers are planted about June 1st and picking will begin the latter part of July or the first of August, depending upon the thriftiness of the vines. The first two or three pickings will hardly pay for the gathering, but it is very necessary to remove them for the good of the vines. The fewer the cucumbers that are allowed to become full brown, the better will the vines bear. Very few growers realize what a bad effect it has upon vines to allow the cucumbers to become over-grown or the injury that may be done in careless picking, which results in tearing and breaking the vines. In average growing weather, forty-eight hours may intervene between pickings, and, later in the season, seventy-two hours may not be too long. One acre of vines that is kept well picked will produce more bushels, and, therefore, a much greater net profit than will two acres of as equally good vines which are only indifferently picked.

There are three or four insects which feed on the cucumber vine or its fruit. The striped cucumber beetle (*Diabrotica vittata*) attacks muskmelons and early planted cucumbers, but does not work extensively in the main or late crop plantings. Most growers plant four or five times as many seeds as they desire plants, which allows the beetles to take some without ruining the stand. If the beetles work too badly, the vines may be dusted, preferably while the dew is on, with nine parts air slacked, or still better, hydrated lime and one part arsenate of lead powder. Paris green should not be used, as it may burn the vines. Coating the plants with a spray of six pounds arsenate of lead paste to fifty gallons of water, makes them distasteful to the insects.

There is a plant louse which attacks cucumber vines. It is a sucking insect, so cannot be destroyed by applying a stomach poison, but must be killed by a contact spray if killed at all. If the first few hills affected are buried, vines and all, it will do much to control the pest. Keeping the vines thrifty is also a decided help, since the louse always prefers to feed on sickly and stunted hills. Eight pounds of whale oil soap to forty gallons of water makes a good spray, usually the enemies of the louse will hold it in check.

The Downy Mildew of the cucumber is a fungous disease (*Plasmopara cubensis*) which is most prevalent during a season of excessive rainfall, like the one of 1912. It is first noticed as small brown spots on the oldest leaves. These spots increase in size until nearly the entire leaf is affected, becoming dry and dead. The injury results from the plants losing more or less of their foliage. Spraying with a dilute solution of Bordeaux mixture, made of two pounds of copper sulphate and four pounds of lime to forty gallons of water, will control the disease to some extent, but the treatment must be thorough and is preventive rather than curative. Commence spraying when the vines have runners a foot long, and spray once a week until it is impossible to drive through the rows. In an average season, the loss from the mildew has not been serious, even when spraying is not practiced.

To make a success of growing pickles, observe the following conditions: Fit the ground thoroughly, use enough well rotted manure to produce thrifty, strong-growing vines; plant intensively rather than extensively; and aim by clean picking to prevent the forming of large cucumbers.

Fruit Growing in Alaska.

At the Sitka (Alaska) Experimental Station a hardy strawberry has been produced by crossing the cultivated variety with a wild native Alaska plant. The new variety appears to be well adapted to the climatic conditions of that region and gives far greater yields than either of its parents.

In the apple orchard which was planted ten years ago, ripe fruit was produced for the first time in 1911, possibly due to the exceptionally fine weather during September and early October

of that year. The fruiting varieties were all of crab descent.

Cherry and plum trees continue to prove unsuitable to the prevailing conditions; but currants, raspberries and gooseberries do well and are represented by a number of varieties.

Potatoes, cabbages, cauliflower, lettuce and radishes produce good crops of high quality, not only in the coastal region of Sitka, but also at the interior stations of Rampart and Fairbanks.

FARM BULLETIN.

Circumstantial Evidence.

By Peter McArthur.

Mr. Klugh's article on hawks in the issue of May 27th caused me some uneasiness, and after investigating I am afraid that I have been destroying some valuable friends. He said, "The hawks which commit depredations in the hen yard are very seldom seen. They are not birds of the open country or given to sailing in the air, but make a sudden descent from the cover of the woods and a sudden return with a chicken." The hawks whose housekeeping I have been breaking up regularly every spring for the past four years are given to soaring, and may be seen circling in the sky almost any fine day. I am not sufficiently familiar with hawks to know the chicken thieves at sight, and circumstantial evidence seemed convincing against the ones I have been persecuting. There is a tree on a neighboring pasture farm that has had a hawk's nest in the top of it since the memory of man runneth. When we moved in four years ago the hawks that were occupying that nest were certainly chicken thieves. They came just as Mr. Klugh describes, making a sudden rush and capturing a chicken. Before I got after them they had taken at least a score of broilers. I saw them in the act, but they were always too sharp to come within range of the shot gun. After getting a chicken they flew straight towards the nest, and there is no doubt that the broilers were taken to feed their young. If we were to have any chickens that year, this pair of "robber barons" had to be routed out, and getting a rifle I shot up the nest. As some of the bullets sent feathers flying it was quite evident that the young hawks were at home, and I made a thorough job of the work of destruction. The old birds hovered around screaming for a couple of days, and no doubt protesting against the application of the Mosaic law, by which the sins of the fathers are visited on the children. Then they disappeared, and we lost no more chickens that season. Next spring the nest was occupied again, and, acting on the very general belief that birds come back to their old nests, I decided that our enemies of the previous year were with us again. It is true no chickens were taken, but remembering that an ounce of prevention is worth a pound of cure, I sent several ounces of lead through the nest when the young hawks had reached a size where they could be seen stirring. Last week I performed this yearly function, but I am inclined to think that it was not only unnecessary but a mistake. The hawks that have occupied the nest this year have been particularly noticeable for their soaring, and they have never come near enough to the buildings to frighten the chickens. The evidence is all in their favor. As nearly as I can judge from descriptions, they are of the beneficial kind that are commonly called hen hawks. After reading Mr. Klugh's article I tried to find out something more about hawks and their habits, and learned from C. W. Nash's book, on The Birds of Ontario, that "Cooper's Hawk," the worst chicken thief in the lot, very often takes the nests of other large birds instead of building for itself. I am now inclined to think that the occupants of the nests four years ago were a pair of these destructive birds, and that since then it has been occupied by harmless varieties. If my suspicion is true, we have, in this, another proof that circumstantial evidence is not to be relied on.

"What if my house be troubled with a rat," asks Shylock, and there is only one answer. The rat must be killed. This spring there has been a veritable plague of rats in this district. Every time old boards or rails are removed or a stack bottom cleaned up, the dog has a few seconds of excitement killing rats. This morning a manure pile yielded twelve, and one big wily one got away. A barn that was moved in the neighborhood a couple of weeks ago yielded an incredible number. Over three hundred were killed when the foundations were shifted. As rats are dirty, destructive and disease-bearing, something should be done to stamp them out when they become so plentiful. This year we are fairly free from those winged rats, the sparrows, because an active boy with a rifle has been making things lively for them ever since

Santa Clause visited us last Christmas. As no other birds have been interfered with, they are unusually plentiful in the orchard and among the shade trees. There are orioles, blue birds and song sparrows all about the place, and I understand that the sparrows are accused of driving away these native birds. Mistress Jenny Wren is now occupying a vacant sparrow's nest, and by the way, this has raised a question which I am unable to answer. If Mistress Wren's name is "Jenny" what is Mr. Wren called? And what does he look like? We never see but one at a time. That one is always either singing frenziedly, or popping in and out of the nest. Is it Mr. or Mrs. Wren? We are all anxious to find out. While working in the orchard this spring I noticed something in favor of the song sparrows which I have not seen recorded. I saw a couple of them very busy among the blossoms, and by watching them with an opera glass decided that they were eating the aphids. This shows that it is a wise move to drive out the sparrows, and give our little native friends a chance.

This week we had a visit from Mr. Whale, our district representative, and Mr. Neilson, of the Fruit Branch. They were making a round of the orchards hunting for the San Jose scale, and I was delighted not to be able to provide them with any specimens. They were surprised, however, to find how severely our orchard had been affected by the frost. Yesterday I had a letter from Mr. Whale in which he said that our orchard had been damaged more than any they had visited. We had a wonderful showing of blossoms, but it hardly seemed worth while to give the third spraying. We gave it, however,

fact that it was his custom to haul out the manure to his orchard in the winter. He would put a thin layer on the snow, around the trunks of the trees. This would keep the snow from melting, and his orchard would not bloom until a week or two later than other orchards in the district. That reminded me that a couple of years ago I noticed some trees in a neighboring orchard that were in bloom a couple of weeks after all the other blossoms had fallen off. On asking the cause I learned that a snowdrift several feet deep had gathered along the fence under these trees during the winter. These things led me to believe that it might be a good idea to do something to delay the blossoming of the apple trees in the spring. I shall try to find out about it before next spring, for we have certainly been hit hard this year.

Road Management.

Many roadmakers make the serious mistake of omitting to allow sufficient for cost of maintenance. A United States bulletin on "Repairs and Maintenance of Highways," treats of the management of country roads in this manner:

The repair and maintenance of public highways has suffered greatly from poor administrative systems. Such work is necessarily of a more routine character than the work of new construction, and the failure to recognize its importance has in the past led road officials to subordinate it to the execution of new work. It would seem that at just the point in road operations where stimulus of effective organization was most needed it has been absent. The only successful attempts at systematic repair and maintenance that are on record are those

attempts which have been managed with skilled and strong central control. Almost without exception, those States which have undertaken State aid in any form for road building have, in the annual reports, reiterated the necessity of removing the responsibility of repair and maintenance of such roads from local authorities. In a number of States this change has been made, and the results have been an immediate improvement.

Viewing public roads as a whole, the defects of subdivided administrative units are conspicuous. The number of men who have more or less authority and personal direction over road matters in some sections of the country is extraordinary. There are at least 150,000 such road officials in the United States. The term of office of these men is but a year or two, and rotation in the office tends to be the rule.

A fundamental difficulty with the organization of road systems, which must handle repair and maintenance appears to be the failure to recognize that road work is a trade which requires training. Training for road work must necessarily be obtained at the expense of the community. As a rule, road officials are not in office long enough to mature their experience, and there is constant economic waste of road funds.

Repair and maintenance operations upon all public roads necessarily extend over a period of years. In order to secure sufficient execution of such operations, a comprehensive plan for several years is necessary. The work for each season must be carefully laid out in advance as far as possible. When maintenance work has been seriously undertaken under such a system it has responded with gratifying results. Whatever the civil subdivision may be which constitutes the administrative road unit, a good road map showing all the various classes of roads is desirable.

It has been found that the best results fol-



Easily Satisfied—That's All He Wants.

so that even if we have only eating apples they may be clean. The heavy frost may perhaps be explained by the fact that part of the orchard was on low ground, and none too well drained. It is protected from the north by a thick row of maples, while the south side is exposed to the sun. As the ground was well worked last year and manured again this spring, it is probable that the blossoms were more advanced than in other orchards, and in that way more liable to damage by frost. As nearly as I can find, by examining the trees, all the Peewaukees, Ben Davis and Red Astrachans were killed. The Spys, being later in blossoming, did not suffer so severely, and there seems to be a scattering of fruit on the Baldwins. Anyway, it is not likely that I shall have to do any thinning this season. The experience has brought me some news that may be worth considering. A farmer, who used to live some miles from here, always had apples, even when his neighbors lost theirs through spring frosts. This is attributed to the

low in an administrative district where the mileage of roads is sufficient to warrant the continuous employment of a man who is either a highway engineer or a competent road builder, whose interest is primarily in road work, and who has charge of road matters in his district. Where such a man is employed from year to year he can select competent men for road work, and he is able to plan with confidence systematic improvements, which must wait for successive annual appropriations. Good business organization in road work demands an adequate book-keeping system from which unit prices for various classes of work can be easily derived. Too frequently road accounting presents an accurate list of men to whom money has been paid for material or labor, but from which no estimate of the cost of future repair and maintenance work can be established.

It will be more and more necessary in the future to study the service of various roads by accurate traffic censuses. From the investigations that have already been made, it appears that for any civil subdivision a relatively small percentage of all the roads carry nearly all the travel. In France a traffic unit called the "collar" is used. The "collar" is a single horse harnessed to a vehicle, and all other traffic is reduced to "collars," including automobile traffic. The "collar" has not been adopted in the United States as a traffic unit. It is unfortunate, moreover, that no agreement exists among road men at present as to the detailed method of measuring traffic. It is well established that an improved road draws to itself increased traffic. To determine the future use of roads, it will be necessary not only to know the travel passing over the road before improvement, but also to know the increase of travel which is likely to be diverted to the road when it becomes improved. It is undeniable, moreover, that travel upon roads in general is rapidly increasing numerically in tonnage and in mileage of travel radius. Preliminary study is clearly necessary, therefore, to enable road men properly to relate the first construction costs to probable maintenance charges. There should be an ample "factor of safety" in road design to allow for increased service.

Under a competent and continuous administration there are many details which can be worked out for road betterment, which are otherwise neglected. It is necessary for economy to have the location of deposits of all road material within a road district placed on the road map, and the quality of each deposit carefully recorded. The care of all road machinery should be in competent hands, and it should be housed and ready for use when the season commences. A gradual improvement in the grades of more important roads can be undertaken with an established profile toward which some work is directed each year. It is quite probable that the prevailing lack of permanent culverts and bridges on highways is partly due to the unwillingness of short-term road officials to spend a considerable amount of money in one place. Under a continuous administration some permanent culvert or bridge work may be undertaken from time to time along a plan which contemplates the final improvement of all such structures. Concrete culverts and bridges require almost no maintenance charges, whereas wooden bridge floors and culvert bridge floors must be renewed every few years.

Whatever system of road labor is adopted, the work should be organized early in the year, and experienced men developed and retained as far as possible. The foreman of a repair gang on road work should have sufficient knowledge and experience to justify spending his entire time in supervising and planning the work without attempting to labor with his men. The element of thoroughness in details, such as complete cleaning of mud holes, sufficient material, swift repair of water-breaks, etc., can not be over emphasized. There is always enough necessary planning and supervising to keep a good foreman occupied.

On the continent of Europe, where road repair and maintenance have been conspicuously successful, it has been the practice to issue printed instructions covering the smallest detail to all men engaged in the work. It is also the plan to require reports of work done, and quantities of material used at frequent intervals, and sometimes daily. Roads are frequently inspected, and accurate estimates of all quantities of work are made from year to year.

Larger jobs of repair are usually more advantageously handled by contract. Contract work must, however, be done under competent inspection and with proper plans, profile and written specifications. When road work is in continuous charge of one competent man, it is possible for him to gain information from time to time which fits him to draw up proper specifications, avoid the repetition of mistakes, and benefit by the experience of other highway engineers. With a rotation of road officials there is little incentive

for a man to familiarize himself with the best practice. He is not interested primarily in road matters and cannot be expected to educate himself by reading road journals or attending road gatherings. Repair and maintenance have not been given sufficient consideration in planning road finances.

Increased knowledge is needed of the actual relations between first cost and interest, and of the life, service, and maintenance cost of the road. In future investigations for determining the type of road to be built it will be necessary to provide for larger increases in traffic and carefully to balance the advantages of long-lived road surfaces, such as concrete and brick, with low maintenance costs, against the lower-cost road surface, with little or no factor of safety and immediate and high maintenance costs.

A Star Fakir.

Editor "The Farmer's Advocate":

I feel it my duty to inform your readers about a fakir who is going about just now imposing on farmers, claiming to be an employee of the Dominion Geographical Survey Co. He was carrying a field-glass and a telescope, pretending to be a very busy man among the stars. He was of medium height, with black hair turning grey, and long dark mustache. Has been in Mono and Adjala Townships for a week or more giving his name as a nephew of Arthur McCarron of Mono. If any farmers or townsmen meet with this character, let them not spare the sole leather as long as their wind, stays with them.

Simcoe Co., Ont. S. McCULLOCH.

Trees as Fence Posts.

Editor "The Farmer's Advocate":

I notice enquirers in "The Farmer's Advocate" re using trees as posts for wire fence. I have more than two miles of wire fence on trees. I put a strip of 2 x 4 x 5 feet long of cedar or its equivalent, and fasten same to trees by two six-inch spikes, driven through a hole in an elongated washer made from old wagon tire, the washer being slightly curved towards the tree and full width of the strip for preventing the strip from splitting by stress of wire, and as the tree grows, the washer being strong will draw the spike out and will make a permanent and tasty job.

Oxford Co., Ont. N. SILVERTHORNE.

The addition of small quantities of quicklime to field and garden soils, according to a British investigator, stimulates general bacterial growth, but large quantities cause an initial depression in the numbers of bacteria and the destruction of a certain protozoa, and a cessation of all biological process. Conversion of the lime from the caustic form into the carbonate, or combination with soil compounds, is followed by a great increase in the numbers of bacteria and increased ammonification of soil compounds. The length of the period during which the bacterial growth is suspended, would appear to be determined by the quantity of lime applied, the initial reaction of the soil and the amount of organic matter present.

Few race horses last as long as Caper Sauce, and none have equalled his record of winning the same race for eight consecutive years. He is now in his eleven-year-old form, as sound as a bell, and on Wednesday last galloped home at the Woodbine with the Whitby stakes for the eighth consecutive time. He is a Canadian-bred horse, having been foaled the property of Jos. Seagram at his Waterloo stables. He has changed owners three times, and is now the property of Sol. Mintz, of Hamilton. His winnings have been spread over nine years and more, and have been very consistent. He pulled down his largest haul at eight years of age, when he won, all told, \$4,605. His grand total winnings now amount to \$19,060.

E. A. Howes, B. S. A., a graduate of the Ontario Agricultural College, in 1911, and afterwards connected with the Dominion Seed Branch, a position which he left to become Professor of Field Husbandry in the University of Nevada, at Reno, is to return to Canada, having been appointed principal of the Provincial School of Agriculture at Vermilion, Alta. Professor Howes was for four years prior to his graduation from the O. A. C., principal of the Macdonald Consolidated School, Guelph, Ont.

A Better Farming Special in Ontario.

Last week there started out through Western Ontario from the Ontario Agricultural College and over the rails of the Canadian Pacific, two specially equipped coaches, travelling from place to place where stops of a day's duration are made to allow the specialists in charge to show the people by actual demonstration a few of the thousand and one things which make up "better farming." "Farming specials," are not strictly speaking a new departure, but they have not as yet been worn threadbare, and all those within a reasonable distance of one of this train's stops should lay aside the work in hand and spend a day with the train. If it is scheduled to stop in your district you will already have received, or will very soon receive through the mail a notice, or will be informed by posters in conspicuous places as to the exact time and place of the demonstration. The coaches, when visited by a representative of "The Farmer's Advocate" in London last Friday, carried three Yorkshire and three Berkshire pigs, three Leicester and three Shropshire yearling lambs, one Holstein, an Ayrshire, a Jersey and a Shorthorn cow, and a cross-bred beef yearling, a Percheron and a Clydesdale filly, together with poultry and poultry appliances, dairy demonstration apparatus, facts, figures, and equipment on farm drainage, and examples of weeds, grains, and grasses together with comparative yields in the case of the latter two. One or more specialists are in charge of each branch included.

The train is meeting with good success, but morning meetings have not been very well attended. Afternoon and evening sessions are most in favor. This is so no matter what the meeting. People do not very often turn out in a body before noon, but in this case if the train is in your section no matter whether there is a crowd in the morning or not it will pay to visit it then. In many cases more of the information which is wanted on the problems confronting different individuals may be threshed out personally with the men in charge to even better satisfaction than when a large crowd is present.

The London stop also proved that to meet farmers the centre of a large city is the poorest location possible. In these days of rush of work the train must be taken as closely as possible to the farmer. But if those actually engaged in agriculture were not as numerous as they might have been there was a large crowd at the London demonstration composed chiefly of school children and teachers in training at the normal school. The interest which these young people manifested must have been very gratifying to the different speakers and the ideas which they carried away with them could not do otherwise than elevate their opinions of agriculture, because to know it is to like it, and they were given the solution of many farm problems in the course of their short sojourn in the coaches. To reach the rising generation is one of the best works the train can do.

The live stock is taken out of the cars at each stop and the various points of distinction in types demonstrated and explained to the crowd in attendance, as they are comfortably seated on elevated seats carried along for the purpose. This is an excellent opportunity for live-stock enthusiasts.

The department devoted to the products of the field contains samples of varieties of grains in the straw and threshed. Such good varieties as mammoth winter rye, giant millet, Japanese panicle millet, O.A.C. No 72 oats, O.A.C. No 21 barley and many others being in evidence. The different yields from seed selection are interesting. Large, small, shrunken and broken seeds were used in comparison. The yields in bushels being as follows:

Grain.	Large.	Small	Shrunken.	Broken.
Barley.....	53.8	50.4	46	43.2
Oats.....	62.0	54.1	46.6	
Winter Wheat.....	46.9	40.4	31.9	9.1

The results from seeding on six different dates, a week apart after the earliest possible time each year at which the land will work are also valuable showing early seeding to advantage. The following is the comparison in bushels:

Grain	1st	2nd	3rd	4th	5th	6th
Spring wheat.	21.9	19.2	15.4	13.0	8.4	6.7
Barley	46.2	45.9	39.8	37.1	27.6	18.4
Oats	75.2	76.0	64.2	55.8	45.2	37.0
Peas	25.4	28.8	28.5	25.0	21.5	19.5

Tubes are carried showing the comparative yields of the various mixtures, and oats and barley are shown to give the highest yield of grain. Annual and permanent pasture mixtures are also shown.

The poultry department contains 50 young Leghorn chicks in a hover. Water troughs, house models and feed hoppers of all the approved kinds are carried, and the different rations for laying and fattening stock shown. For fattening, a mixture of butter-milk, ground oats,

ground buckwheat, low grade flour and cornmeal is recommended. A growing ration for young chicks is given as follows: buttermilk, chick feed, grit, hulled oats, wheat and alfalfa. And the laying ration advised is buttermilk, corn, rolled oats, grit, oyster shell, alfalfa and beef scrap.

The drainage exhibit shows the amount of evaporation from different types of soils under different mulches. A clay-loam soil with no mulch loses 21.810 inches of moisture by evaporation, while the same soil with a one-inch mulch loses only 11.130 inches and with a two-inch mulch 8.652 inches and 7.852 with a three-inch mulch. In sand the evaporation with no mulch is 6.548 inches with one-inch mulch, 3.3 inches, two-inch mulch 2.996 inches, and three-inch mulch 2.589 inches. The proper and improper tile-drain junctions are shown, the former being made at an angle, the latter at right angles. Reports from farmers, who have underdrained, show that corn yields 24 bushels, oats 23 bushels, barley 17½ bushels, fall wheat 20 bushels, spring wheat 10 bushels, and peas 10 bushels more per acre on drained than on undrained land and the yield of straw on the drained soil is nearly double in all cases.

The dairy department carries many charts showing the value of cow-testing and milk records, and also has a number of dairy appliances including milk and cream-testing outfits, cooling vats, hoists, etc. Milk is shown as it becomes contaminated from various sources as straw, cow hairs, hay, road dust, and cow manure.

These are only a few of the interesting things in each department. Many of our most noxious weeds are shown, and the best method of eradication explained. Insect pests and their work in connection with orcharding are also a part of the exhibit. A sufficient number of men are in charge to look after the needs and answer the questions of all who may visit the train, and the lectures given on each subject are instructive and helpful in every way. Let the horses rest a day and take some valuable recreation yourself, and visit the train which the C. P. R. and the Ontario Government have placed at the disposal of the farming public. Everything shown is practical, and farmers, their wives, sons and daughters should not fail to take advantage of this opportunity.

With the advent of the automobile and the parcel post, there is an intimate connection between centers of population and the surrounding country, and city people are more directly benefited by such country road improvement than ever.—United States Office of Public Roads.

Questions and Answers.

Veterinary.

Mare with Cough, Etc.

1. Five-year-old mare has a cough. She coughs more after drinking than when at work. I dampen her food, wrap bit with rag saturated with pure tar, and give her a spoonful of pine tar every night and morning.

2. I have two ewes with two lambs each. The lambs are a cross between Leicester and Southdown. Would it be wise to keep one for a stock ram?

T. R.

Ans.—1. Chronic coughs are very hard to cure. Give her every morning 1 dram each of powdered opium and solid extract of belladonna, 1 dram camphor, and 30 grains digitalis, with sufficient oil of tar to make plastic. Roll in tissue paper, and give as a ball, or dissolve in warm water and give as a drench. Dampen her food with lime water, and continue the tar on bit and in evening.

2. We do not consider it wise to use any, but a pure-bred ram. While the first result of cross-breeding may be satisfactory, the progeny of the cross-bred animal is usually unsatisfactory. V.

Miscellaneous.

Mare Lost Foal.

I have a mare that aborted last fall, and this spring she does not come in season regularly. I would like to know whether I should give her a physic to clean her out.

W. W.

Ans.—If the mare is run down in any way, a purgative of aloes might help. Would suggest that you feed her well, turn on good pasture, and breed her to

"Knowledge Comes, But Wisdom Lingers."

Editor "The Farmer's Advocate":

In an editorial you quote Tennyson: "Knowledge comes but Wisdom lingers," and you add: "Sometimes Knowledge seems to linger a good while too." By this you mean that it is a long time in arriving, which I suppose is the usual interpretation of "linger" as used in Locksley Hall. But it always gave me a different impression, as much as to say: "Knowledge comes (and goes) but Wisdom, once attained, is a permanent acquisition. Probably I am altogether wrong, but the phrase occurs in two successive couplets, thus:

"Knowledge comes, but Wisdom lingers, and I linger on the shore,
And the individual withers, and the world 'is more and more."
"Knowledge comes, but Wisdom lingers, and he bears a laden breast,
Full of sad experience, moving toward the stillness of his rest."

The second couplet seems to bear my construction, and the idea is by no means contemptible. I make the suggestion for what it is worth.

WILLIAM Q. PHILLIPS.

Closing Weak Banks.

The Monetary Times, of Toronto, quotes a United States authority as follows upon the subject of weak banks:

"A weak bank in the financial system of any state has no more right to continue in business than has a weak bridge in a public highway. The duty of the public authorities and of public opinion in the one case is the same as the other. Once an element of weakness has developed, the defect in the structure is to be remedied without delay, so as to make it capable of bearing the full weight of its proper burden, or the thing should be closed up. The weak bank takes away legitimate business from the bank that is safe, and does injury to the business as a whole by spreading general distrust. It should, therefore, be put out of existence with no less expedition that we put out a fire or block up a highway, or suspend traffic on a tumbled-down bridge."

Quite true; but who should have the authority to force its suspension—its competitors as represented by the Bankers' Association or an outside Commission representing the people?

a vigorous horse. Irregular oestrus may be due to disease of the ovaries, and if so, cannot be cured.

Line Fencing.

1. If I put a wire fence on line fence, which side should I fasten wire on, my side of posts, or on my neighbor's side?

2. Would I be allowed to put up barbed wire fence as a line fence? A. M.

Ans.—1. It should not make any difference which side of the posts the fence is placed on, provided it is on the line. To allow of the work being done from your own side, the fence would be stretched on the side next your own property.

2. Barbed wire is not lawful on a line fence, but is often used as a top strand for wire fence, where both parties interested are agreed.

Worms in Chickens.

What is the matter with my chickens? They twist their necks right upside down. First they get mopy, and then their necks are affected, and die in a short time.

K. C.

Ans.—I wish your correspondent had stated whether her chickens were 1912 or 1913 stock. I judge from the tone of his letter they are the latter. Old stock sometimes show symptoms similar to these when they are affected with intestinal worms. These can be gotten rid of by giving the birds any worm powder, or a small dose of turpentine. The same will apply to little chicks, only it would have to be given in a smaller quantity. The druggist could probably suggest the proper dose. With little chicks, it is sometimes caused by indigestion, or if the chicks are hatched that way, which is not uncommon, I am inclined to believe it is hereditary. I have seen birds when four or five months of age, develop symptoms similar to

these, for which we can find no cause or cure. When a post-mortem examination was held, the birds appeared to be perfectly normal. Remove the droppings, and use lime freely; also clean drinking water. Well water is common source of the trouble, and barnyard water is worse. The common remedy for worms is a piece of chewing tobacco about the size of a hickory nut, to a grown bird.

W. R. GRAHAM.

Gossip.

Eggs from prizewinning, heavy-laying, Single-comb White Leghorn stock, are advertised in this issue by Geo. D. Fletcher, R. R. No. 2, Erin, Ont.

SALE DATES ANNOUNCED.

June 4th.—John D. Duncan, Howick, Que.; Ayrshires.

June 25th.—T. E. & H. C. Robson, Ilderton, Ont.; Shorthorns.

At Shelbyville, Kentucky, May 27th, W. R. Spann & Sons sold at auction 102 head of Jersey cattle, for \$37,385, an average of \$373. The bull Noble Eminent Lad, brought the highest price, \$1,500, purchased by E. C. Laster, of Texas, who also secured the show cow, Gipsy's Premium Lily, at \$1,000, and another show cow, Noble's Carnation Maid, at \$950. The average included many calves.

Four pure-bred registered Ayrshire bulls, ready for service; four Ayrshire bull calves, and three yearling Ayrshire heifers, also two Jersey bulls and ten registered Holstein calves, all from heavy-milking strains, most of which are in the Advanced Registry, are advertised for sale on another page by Lincolndale Agricultural School, Lincolndale, New

Ditching Machine Repairs Still Dutiable.

It seems that the removal of the tariff on traction ditching machines for farm purposes does not extend to parts for repairs. As the repairs for heavy machinery of this class are necessarily somewhat numerous and expensive the duty will be quite a handicap, bearing especially hard upon owners of the fifty or sixty machines already in the country, which will now have to compete with machines purchased duty-free at a lower price. Representations recently made to the Minister of Finance have been met with the explanation that if parts of the machines were to be admitted free of duty, difficulties would be experienced by the Customs Department in administration.

O. A. C. June Excursions.

The Ontario Agricultural College authorities have announced their list of excursions from the various counties in the province. The list is as follows:

Friday, June 13.—Prince Edward County Lennox and Addington, Hastings and South-Wentworth.

Saturday, June 14.—West and North Bruce, North Grey, Lincoln and West Huron.

Tuesday, June 17.—Haldimand, North and South Norfolk, Centre Simcoe, West Wellington and Halton.

Wednesday, June 18.—North and South Brant, Welland and North Perth.

Saturday, June 21.—Dufferin, Centre and South Grey, and North Wentworth.

Monday, June 23.—Peel, South Perth, Centre and South Bruce, East Huron.

Tuesday, June 24.—West and South Simcoe.

Wednesday, June 25th.—Manitoulin Island, West Lambton, Middlesex and North Oxford.

A dry, cold spring has prevailed over the Canadian West. Most of the grain started, but has come very slowly, and there are numerous reports of its having been cut by frost. It is said to be rooting well, however. In the East growth has also been somewhat backward since the early spring, but mild weather at the end of May and first of June improved prospects considerably.

The fifteenth convention of the Canadian Forestry Association, for the presentation of addresses and papers, and the discussion of forestry questions, will be held in Winnipeg, July 7, 8 and 9, 1913. Special attention will be given to prairie conditions. For programs correspond with the Secretary, James Lawler, Canadian Building, Ottawa.

York. If interested, see advertisement, and write for further information.

H. M. Vanderlip, importer and breeder of Shorthorn cattle and Berkshire pigs. Cainsville, Ont., informs us that the past season has been a record-breaker in sales, all the Berkshires being sold some time ago, and enquiries are still coming. A choice imported lot were just recently received from quarantine, and another importation is expected this month. These will place him in a strong position to supply customers. At the head of the Shorthorn herd has been placed the imported bull, Royal Warrant, a two-year-old roan Rosebud, by Newton Crystal, sire of the \$3,000 calf, Bandmaster. His dam was by the \$3,700 Victor Royal. He is bred in the purple, tracing in a direct line to the great Scottish Archer, and Gravesend. No better blood could be found. All the young bulls of serviceable age have been sold, but a grand bunch of youngsters by the good-breeding bull Chancellor's Model, are coming on. Mr. Vanderlip guarantees satisfaction or money is returned.

Trade Topic.

The prize list of the Canadian Central Exhibition is just ready for distribution. The exhibition is to be held from September 5th to 13th, inclusive, and substantial prizes are offered in all sections. Cash prizes have been increased, and arrangements have been made to pay freight on live-stock exhibits. Entries close August 29th. Write E. McMahon, Manager and Secretary, 26 Sparks St., Russell House Block, Ottawa, for prize list.

Markets.

Toronto.

REVIEW OF LAST WEEK'S MARKETS

At West Toronto, on Monday, June 2, receipts at the Union Stock-yards numbered 84 cars, comprising 1,740 cattle, 16 hogs, 109 sheep, 29 calves, and 17 horses; no business transacted. At the City yards, there were six carloads, comprising 116 cattle, 68 hogs, 9 sheep, and 23 calves. Trade was active in butchers' steers and heifers, at \$6 to \$7; cows, \$5.25 to \$5.85. Sheep, lambs, and calves, unchanged. Hogs, \$9.65 f. o. b. cars.

The total receipts of live stock at the City and Union Stock-yards last week were as follows:

	City.	Union.	Total.
Cars	21	317	338
Cattle	421	4,511	4,932
Hogs	289	5,848	6,137
Sheep	324	620	944
Calves	241	624	865
Horses	—	65	65

The total receipts of live stock at the two markets for the corresponding week of 1912 were as follows:

	City.	Union.	Total.
Cars	194	235	429
Cattle	2,007	2,862	4,869
Hogs	4,347	5,372	9,719
Sheep	1,001	336	1,337
Calves	1,269	231	1,500
Horses	1	189	190

The combined receipts of live stock at the two markets, show a decrease of 91 cars, 3,582 hogs, 393 sheep, 635 calves, and 75 horses; but an increase of 63 cattle, compared with the corresponding week of 1912.

Receipts of live stock at the two markets were moderate, and not nearly as large as for the corresponding week of 1912. There was, however, just enough to cause a good, active trade, at firm prices. If there had been fifty carloads more on sale, prices would have certainly declined. Last year there were more cattle being exported than at the present time, which explains the situation at present existing in the cattle trade of Toronto. Receipts of sheep, lambs, calves, and hogs, were scarcely equal to the demand, and this caused an active trade, at firm prices, in all these different classes, and, in fact, the hog market was a little firmer.

Exporters.—On Tuesday, William Howard, buyer for Swift & Company, of Chicago, bought 127 export steers as follows: For London, 82 steers, 1,280 lbs. each, at \$7.15; for Liverpool, 45 steers, 1,200 lbs., at \$7.05. On Wednesday, Mr. Howard bought 100 steers for London, 1,280 lbs. each, at \$7 to \$7.25; and for Liverpool, 150 steers, 1,285 lbs. each, at \$6.90 to \$7.15. This makes a total of 377 cattle bought for export.

Butchers.—Choice steers of export weights and quality, for local killing, sold at \$6.90 to \$7.25, and in one instance \$7.32; was paid for the best load of cattle seen on this market this season; good to choice butcher, \$6.60 to \$6.85; medium, \$6.15 to \$6.50; common, \$5.75 to \$6; choice cows, \$5.50 to \$6.25; good cows, \$5 to \$5.60; common cows, \$4 to \$4.75; choice bulls, \$5.50 to \$6; medium to good bulls, \$5 to \$5.50; common bulls, \$4.50 to \$4.75.

Stockers and Feeders.—The demand for stockers and feeders was greater than the supply. Steers, 800 to 850 lbs., sold at \$6 to \$6.35; stockers, 600 to 700 lbs., \$5.25 to \$5.85; stock heifers, 580 lbs. each, sold at \$5.

Milkers and Springers.—Receipts of milkers and springers were light all week, and more would have sold, as good to choice cows are in demand. Prices ranged from \$50 to \$75 each.

Veal Calves.—The market for veal calves was firm during the week, owing to light receipts. Good to choice calves sold at \$8 to \$8.50; medium to good, \$7.50 to \$8; common veals, \$6 to \$6.50 per cwt.

Sheep and Lambs.—Light receipts of sheep and lambs caused prices to be firmer than at the close of the previous week. Sheep, light, \$6 to \$6.75; heavy ewes and rams, \$4.50 to \$5.75; yearling lambs sold at \$8 to \$8.50 per cwt.

spring lambs sold at \$5 to \$8 each, for the bulk of those on sale.

Hogs.—The hog market was strong all week. Selects, fed and watered, sold at \$9.85 to \$9.90, and \$9.50 to \$9.60 f. o. b. cars, and \$10.10 to \$10.15, weighed off cars.

Horses.—There was a fair trade in horses at the Union Horse Exchange, Union Stock-yards, last week, but not as brisk as for the previous week. One carload was bought and shipped to Montreal, and several minor shipments to outside points in Ontario. The local demand was not as large. Prices were about steady with our last quotations. Drafters, \$175 to \$250; general-purpose horses, \$150 to \$225; express and wagon horses, \$160 to \$225; drivers, \$100 to \$150; serviceably-sound horses, \$45 to \$90 each.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 95c. to 97c., outside; inferior grades down to 70c.; Manitoba, No. 1 northern, 99c.; No. 2 northern, 97c.; No. 3 northern, 95c., track, lake ports. Oats—Ontario, No. 2, 33c. to 34c., outside; 38c., track, Toronto; Manitoba oats, No. 2, 40c.; No. 3, 38c., lake ports. Rye—No. 2, 60c. to 63c., outside. Peas—No. 2, 90c. to 95c., outside. Buckwheat—51c. to 52c., outside. Barley—For malting, 51c. to 53c.; for feed, 43c. to 48c., outside. Corn—No. 2 yellow, 59c.; No. 3 yellow, 58c., Midland. Flour—Ninety-per-cent. Ontario winter-wheat flour, sold at \$4 to \$4.05; Manitoba flour—Prices at Toronto are: First patents, \$5.40; second patents, \$5; in cotton, 10c. more; strong bakers', \$4.80, in juve.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, \$12 to \$13 for No. 1, and \$10 to \$11 for No. 2.

Straw.—Baled, car lots, track, Toronto, \$9 to \$10.

Bran.—Manitoba bran, \$17 per ton; shorts, \$19; Ontario bran, \$17 per ton; shorts, \$19, car lots, track, Toronto.

COUNTRY PRODUCE.

Butter.—Market was again easier. Creamery pound rolls, 27c. to 30c.; creamery solids, 26c. to 27c.; separator dairy, 25c. to 26c.; store lots, 22c. to 24c.

Eggs.—New-laid, per case, 21c. to 22c. Cheese.—New, twins, 13c.; large, 13c.; old, twins, 15c.; large, 14c.

Honey.—Extracted, 13c.; combs, none offering.

Beans.—Broken car lots, hand-picked, \$2; primes, \$1.90, ranging down to \$1.50 for poor quality.

Potatoes.—Market firmer; Ontario, 70c. to 80c.; New Brunswick Delawares, 90c. to \$1 per bag, track, Toronto.

Poultry.—Receipts still continue to be light, but prices are firm. Turkeys, 22c.; chickens, last year's birds, 22c. to 23c.; spring chickens, broilers, firm, at 50c. to 55c. dressed, and 45c. alive; hens, 16c. to 18c. alive, and 18c. to 20c. dressed.

HIDES AND SKINS.

No. 1 inspected steers and cows, 13c.; No. 2 inspected steers and cows, 12c.; city hides, flat 12c.; country hides, cured, 12c.; country hides, green, 11c.; calf skins, per lb., 16c.; deacons, each, \$1.10 to \$1.25; lamb skins and pelts, 15c. to 25c.; sheep skins, \$1.50 to \$1.85; horse hair, 37c.; horse hides, No. 1, \$3.50; tallow, No. 1, per lb., 5c. to 6c.

WOOL.

Coarse, unwashed, 15c.; coarse, washed, 24c.; fine, unwashed, 17c.; fine, washed, 26c.

FRUITS AND VEGETABLES.

Apples—No. 1 Spies, \$5; Spies, No. 2, \$4 to \$4.50; other varieties, \$3 to \$3.50; cabbage, new, per case, \$3; new potatoes, \$7 per barrel; beets, per bag, 30c. to 40c.; parsnips, per bag, 60c. to 75c.; American strawberries from Maryland and Delaware, sold at 15c. to 17c. per quart by the case lot.

Cheese Markets.

Kingston, Ont., 11c. to 12 1-16c.; Listowel, Ont., 12c.; Ottawa, Ont., 12c.; Cornwall, Ont., 12c. to 12c.; London, Ont., 12c.; Watertown, N. Y., 13c.; Belleville, Ont., 12 1-16c. to 12c.

Montreal.

Live Stock.—The cattle market showed very little change last week. Tone was firm, owing mainly to the limited supply coming forward, although this was sufficient to supply buyers with their requirements. There was some purchasing of dressed beef also. Choice steers sold at 7c. per lb., while fine brought 7c., and good sold at 6c. to 7c. Medium quality cattle brought 6c. to 6c., and common sold as low as 4c. per lb. There was a very good demand for small meats, and prices held firm all the way through. Old sheep sold at 6c. to 6c. per lb., while yearlings brought 7c. to 8c. per lb. There was a good trade in spring lambs, and the price ranged from \$5 to \$10 each. Calves were about steady. Poor stock sold at \$2 to \$5 each, and good up to \$10 each. There was a firm tone to the market for hogs, and selects sold at 10c. to 10c. for choicest. Secondary quality was 1c. less, and stags sold at 4c. to 5c. per lb., weighed off cars.

Horses.—Dealers spoke cheerfully of the market, saying that the past month, on the whole, brought out a very satisfactory business. Supplies were not heavy, and were readily absorbed by buyers. Heavy-draft, 1,500 to 1,700 lbs., \$300 to \$350; light-draft, 1,400 to 1,500 lbs., \$225 to \$300; light horses, 1,000 to 1,100 lbs., \$125 to \$200 each; broken-down, old animals, \$75 to \$125, and choicest saddle and carriage animals, \$350 to \$500.

Poultry.—There was a light trade passing, and prices were unchanged, as follows: Turkeys, 23c. to 24c. per lb.; geese and fowl, 15c. to 17c.; ducks, 20c. to 22c., and chickens, 18c. to 19c.

Dressed Hogs.—A moderately active trade is passing in dressed hogs, and prices held steady, at 14c. to 14c. per lb. for abattoir, dressed, fresh-killed. Cured meats are in good, steady demand, and prices are holding firm. Medium weight hams sell at 19c. to 19c., while breakfast bacon ranges at 22c. to 23c. per lb. There is a very good trade in lard, and pure leaf grades are selling at 14c. to 14c. per lb., while compound lard sells at 9c. to 10c. per lb.

Potatoes.—Stocks becoming lighter. Green Mountains, carloads, 70c. per 90 lbs.; Quebec potatoes, 55c. to 60c. Sales in a smaller way at an advance of 25c. to 35c.

Syrup and Honey.—Maple syrup in fairly good demand. There is no change in prices, however, these being 85c. to 90c. per tin, and 7c. to 8c. per lb. in wood. Maple sugar sells at 11c. to 12c. per lb. Honey—White-clover comb, 16c. to 17c. per lb., and extracted, 11c. to 12c.; dark comb, 14c. to 15c., and strained, 8c. to 9c.

Eggs.—Receipts of eggs in the city are not very satisfactory, being apparently smaller than those of a year ago. There is a good demand, and prices of ordinary stock held about steady; also selects are now beginning to be asked for. Prices 21c. to 23c. per dozen, according to quantity for straight receipts. Selected lots of eggs about 25c. per dozen.

Butter.—The tendency of prices is rather upward than otherwise. Finest creamery is quoted at 26c. to 27c. in a wholesale way, while choice stock may be had at about 1c. less, and secondary grades at 25c. to 25c. Dairy butter, steady, at 22c. to 23c.

Cheese.—Prices of cheese also continue to advance slightly, and at the present time Western Ontario cheese is quoted at around 12c. per lb., Easterns being 1c. under this figure. Evidently, there is a fair demand.

Grain.—Prices slightly lower. Oats quoted at 41c. to 41c. ex store, for No. 2 Canadian Western, and 41c. for No. 1 extra feed; 40c. to 40c. for No. 1 feed. Ontario malting barley, 61c. to 64c. ex store. Manitoba No. 3 barley, 56c.; No. 4, 55c., and feed, 49c. to 50c. Flour.—\$5.40 per barrel for Manitoba first patents, in bags; \$4.90 for seconds, and \$4.70 for strong bakers'. Ontario winter-wheat flour, \$5.25 for patents, and \$4.75 to \$4.85 for straight rollers.

Millfeed.—There has been a decline of \$1 a ton in bran, and of \$2 a ton in shorts during the week. Bran is now \$17 a ton in bags, and shorts \$19, while middlings are \$22 to \$23. Mouille is quoted at \$32 to \$33 per ton for pure, and \$26 to \$29 for mixed.

Hay.—\$13 to \$13.50 per ton for No.

1 baled hay, car lots, track; \$11.50 to \$12 for No. 2 extra; \$9 to \$10 for No. 2 ordinary, and \$8 to \$9 for ordinary. Hides.—Steady. Beef hides, 11c., 12c. and 13c. per lb. for Nos. 3, 2 and 1 hides, respectively. Calf skins, 17c. and 19c. per lb., respectively, for Nos. 2 and 1. Lamb skins, 15c. to 20c. each, and sheep skins, \$1.15 each. Horse hides, \$1.75 and \$2.50 each. Tallow sells at 1c. to 3c. per lb. for rough, and 6c. to 6c. for rendered.

Buffalo.

Cattle.—Prime steers, \$9.15 to \$9.85; shipping, \$7.75 to \$8; butchers', \$7 to \$8.25; cows, \$8.75 to \$7.50; bulls, \$5.75 to \$7.75; heifers, \$6.50 to \$8; stock heifers, \$5.50 to \$6.50; stockers and feeders, \$6 to \$7.75; fresh cows and springers, \$35 to \$36.

Veals.—\$6 to \$10.75. Hogs.—Mixed, Yorkers and pigs, \$9; roughs, \$7.75 to \$7.90; stags, \$9 to \$7; dairies, \$8.75 to \$9.

Sheep and Lambs.—Lambs, \$4.50 to \$7.40; yearlings, \$6 to \$7.75; wethers, \$6 to \$6.15; ewes, \$8 to \$5.50; sheep, mixed, \$5.60 to \$5.86.

Chicago.

Cattle.—Beoves, \$7 to \$8.90; Texas steers, \$6.65 to \$8; cows and heifers, \$3.60 to \$7.80; calves, \$8 to \$11.

Hogs.—Light, \$8.55 to \$8.85; mixed, \$8.50 to \$8.85; heavy, \$8.25 to \$8.80; rough, \$8.25 to \$8.40; pigs, \$6.65 to \$8.40.

Sheep and Lambs.—Sheep, native, \$5.10 to \$5.75; yearlings, \$5.75 to \$6.85; lambs, native, \$5.65 to \$7.40; Western, \$6 to \$8.75.

British Cattle Market.

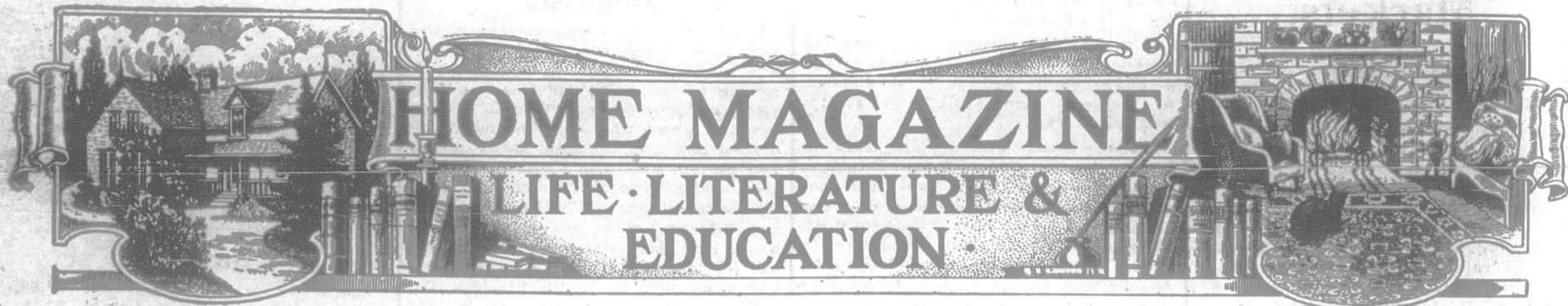
John Rogers & Co. cable Irish steers selling at from 15c. to 16c. per pound.

Trade Topic.

A CONTEST FOR FARM TRACTORS.—The farm-tractor contest to be held at Winnipeg, Manitoba, July 4th to 10th, of this year, should be of interest to practically every farmer. The Winnipeg Motor Contest has done more toward the rapid development of the farm-tractor industry in the past few years than any other one thing. The first one was held at Winnipeg in 1908. Each succeeding contest has shown marked improvements, both as to types of engines best adapted to farm work, and to reliability. The farm tractor has practically passed the experimental stage, and at the present time we find a number of reliable machines on the market. These contests mean much to the manufacturer. It gives him an opportunity to observe and study the performance of his own and his competitors' machines working together under the same conditions. In this way, as in no other, he is brought to see both the strong and weak points of his product. He gets many new ideas by coming in contact with other manufacturers that will help him to make new improvements on his engines. The next year finds him coming out with a better and more practical tractor. In the Motor Contest this year, among the many tractor manufacturers that will compete with their engines is the M. Rumely Company, of LaPorte, Indiana, whose Oil Pull Tractors, in last year's contest, scored higher in economy, overload capacity, and total number of points, than any internal-combustion tractor in the competition.

EXHIBITION DATES.

International Horse Show, Olympia, London, Eng., June 19 to July 1.
Royal Show, Bristol, Eng., July 1-5.
Canadian Industrial Exhibition, Winnipeg, Man., July 8-16.
Dominion Exhibition, Brandon, Man., July 15-25.
Regina, Sask., July 26 to August 2.
Saskatoon, Sask., August 5-8.
Edmonton, Alta., August 11-16.
Coburg Annual Horse Show, August 12-16.
Canadian National, Toronto, Ont., August 23 to September 8.
Canada Central, Ottawa, Ont., Sept. 5-13.
Western Fair, London, Ont., Sept. 5-13.



Antonio Stradivari.

(Requested.)

To mention Cremona is to think of Antonio Stradivari, for this town forty-eight miles south-east of Milan, derives its fame from the life-long residence there of the great violin-maker.

Stradivari was born in 1644, and at an early age was a pupil of Nicholas Amati, a maker of viols (the viol was the immediate ancestor of the violin), and of violins. Amati, a music-lover himself, improved somewhat on the violin-models developed by his father and his grandfather, but it remained for the young pupil to bring this exquisitely sensitive instrument to the highest perfection that has ever been attained.

Himself musical and endowed with a fineness of ear and sensitiveness to timbre that spelled positive genius, Stradivari was soon making violins on his own account, the first following somewhat the Amati models, small, sturdy, and covered with a thick, yellow varnish. But he was not satisfied. He had dreams of an instrument more responsive than this, one that should be the speaking soul of the performer, as ready to weep and to sigh as to burst forth in triumphant paeans. And so he worked on, experimenting with form, with various woods, and their position in the instrument to ensure the greatest resonance, with design and material of sound holes and bridge, with materials for strings that should be of requisite smoothness and lightness.

By 1684 he was making a larger model, with deeper varnish and finer finish; by 1700 he had settled upon a broader design, and by 1715 he had accomplished the "Alard," the most exquisite violin that has ever been produced. For there are Stradivaris and Stradivaris, and it was, no doubt, because of his realization of this, that the great maker named his best instruments, beginning with the "Hellier" in 1679, through a long list, ending with the "Muntz" in 1736.

Stradivari discovered that the number of pieces of wood required to bring out the perfect musical tone and responsiveness is about seventy. The exact principal dimensions of a very fine specimen of his work, yet in excellent condition after two hundred years, are given as follows:

Length of body—14 in. full.
Width across top—6 11-16 in. bare.
Width across bottom—8 1/4 in.
Height of sides (top)—1 3-16 in.
Height of sides (bottom)—1 7-32 in.

The back of this instrument is in one piece, and its finish is a fine orange-red oil-varnish, left just as the master-hand applied it. It is to the varnish, indeed, that much of the peculiar quality of tone of the Stradivarius violin has been ascribed, but the secret of its composition went into the grave with the great maker.

After his death, in 1737, the craft was still carried on by the sons of Antonio, Francesco, and Omobono, and the shop still was filled with promise in the viols, violoncellos, and violins, that hung upon its walls, but never again was an instrument produced that so reflected and carried on down the long years the loving touch of genius.

Antonio had, however, revolutionized the making of the violin, for after his day all violins were based upon his models.

In these days of piecework and quickly-drying spirit varnishes, of hurry and greed, the soul of the violin has well-nigh slipped off into the great Outside of All Things. Perhaps some day it will come back at the summons of some

gentle, loving spirit, who, incarnated, shall, with fine and tender fingers, and with infinite patience, put piece to piece, and rub and listen and experiment, as did Antonio Stradivari, of Cremona.

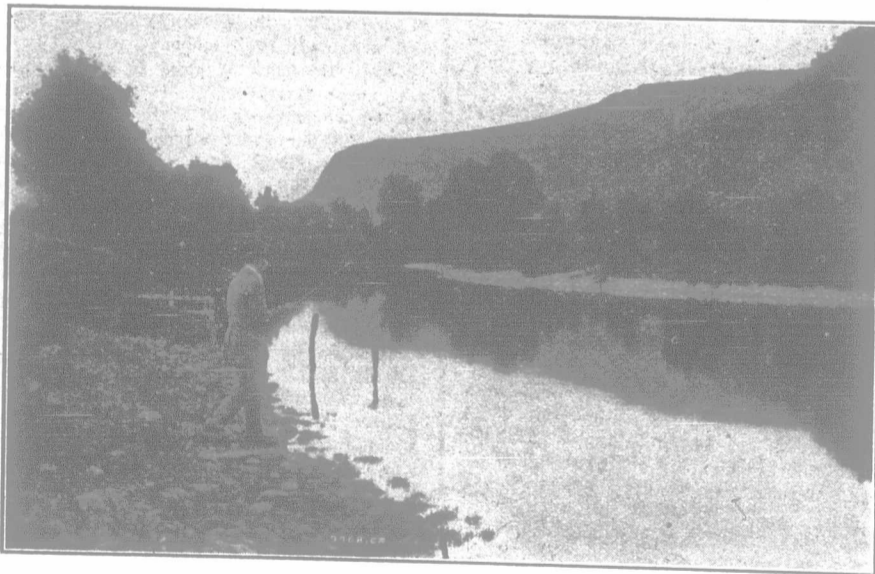
True, the days of Stradivari were days in which the highest in the countries of Europe essayed to be musicians, days in which kings paused at Cremona and Brescia, to buy from the Italian masters of instruments, but such creations of those of Stradivari could never, either in his day or ours, proceed from any other hand than that bent on producing a perfect whole, an emanation of mind, and expression of soul. In this twentieth century, we plume ourselves upon progress. It might profit us to question whether, in our zeal for speed, in our over-division of labor,—in our apportioning of one part to one man, another to another, a wheel to one, a screw to another, and the dropping of the wheel upon the screw to a third in endless reiteration,—we are not losing something, gaining perhaps in quantity, but losing in quality and in men. Does not the history of Stradivarius teach us that in some things, at least, the patient, loving touch, from start to finish, the working out of a vision, the expression of an idea through the craft of the hands, may be necessary to the perfect production and to the needed satisfaction and development of the individuality of the producer? So individuals, so nations.

Hospital Nursing at Home.

(By Elisabeth Robinson Scovill, late Superintendent of the Newport Hospital.)

SEMI-SOLID FOOD.

When convalescence begins, and often before, if the illness is not an extremely serious one, the sick person is allowed to have food that is partially solid—



In the Spring o' the Year.

"Angling is somewhat like poetry, men are to be born so."—Izaak Walton.

jellies, blanc mange, and creams stiffened with gelatine. Liquids pall after a time, and the sufferer turns with disgust from milk, which he sometimes declares he never wishes to see again.

Made into a solid with cornstarch, Irish moss, or gelatine, sweetened and flavored, he will not recognize his old enemy. Nevertheless, it is there, with all its possibilities of nourishment, only being in a new dress it is welcomed instead of being swallowed grudgingly, if not refused altogether.

The preparation of food in such a way that it will be eaten instead of being rejected, is one of the most important duties of the nurse. The tissues, wasted

by illness, must be built up and restored, and this can only be done by means of proper food.

MILK AND EGGS.

Milk and eggs contain all the elements necessary to begin the process; it is only needful to present them in such a form that they will tempt the appetite to desire them, and can be easily digested and assimilated once they are safely in the stomach.

The capacity for food varies greatly in different individuals, and at different ages. Too much upsets the digestion, and makes the invalid uncomfortable, besides being only so much waste material to be got rid of, absolutely useless to the body. Too little nourishment weakens the frame and retards convalescence. Each case must be judged by itself, and the happy medium found.

It is better to give food more frequently, and in smaller quantities, rather than to overload the stomach with too large a portion at one time. A little thoroughly digested and taken up by the tissues, is of far more benefit than a larger mass which overtakes the digestion and cannot be converted into such a form as to be easily dealt with by the tissues, crying out for fresh building material.

Enough, and not too much, is sometimes a problem that taxes all the ingenuity of the nurse. The doctor cannot be of much help here.

GELATINE.

Gelatine is the substance that causes jelly to stiffen and retain its form. It was once thought to be useless as a food, but later experiments have proved that it prevents the waste of other elements in the diet and, therefore, is important as a building material. If it is not given in sufficient quantity, the flesh-forming substance in the food is

can be stiffened with gelatine and seasoned with pepper and salt.

A quarter of an ounce of gelatine will stiffen a small cupful of liquid in ordinary weather. If it is very hot, or very damp, more is required; in cold weather less will answer the purpose.

When economy is an object, it is best to make only a little at first, then, if it is not liked, the waste is small.

CREAMS.

This introduces another valuable class of food for the invalid. The basis is milk, with sometimes a little cream added, flavored, and slightly sweetened, the whole made into a semi-solid with gelatine. Sometimes the flavoring also adds a little more nourishment, as when chocolate, or cocoa, is used. A little less gelatine is required than for jelly.

Many different flavorings can be used, caramel, which is merely sugar melted and browned in a frying-pan, coffee, the juice of orange, essence of lemon, or almond, vanilla, rose water, a little syrup from preserved ginger, pineapple, or peaches.

The white of an egg beaten stiff can be added to each cup of liquid. The milk and cream is heated, the gelatine, flavoring and sugar added, and the mixture poured on the beaten egg, well stirred, and set aside to cool.

If it can be borne, and is not too rich for the invalid, the yolk of the egg can be added to any of these creams. In this case, it is cooked with the milk until the mixture thickens like custard, and then poured on the beaten white.

ICE CREAM.

There is no more palatable way to give milk, cream, and eggs, if desired, to the invalid, than in ice cream. A part of the daily ration can easily be taken in this form, even when milk is disliked, and children are especially fond of it.

A small ice cream freezer, holding about a pint, is very convenient, but ice cream can be made without it. Put the liquid in a small tin, stand this in a larger one, or in a pail, pack the space between with crushed ice two parts, coarse salt one part, and stir the liquid frequently, scraping it from the side of the tin as it freezes. When frozen, cover, and let it stand for fifteen minutes.

The white of an egg can be added if desired, or a whole egg, well beaten before stirring it in. This, of course, adds to the nourishment. Be sparing with the sugar. Any of the flavorings mentioned for creams can be used, also the juice of fresh strawberries, raspberries, and blueberries.

When it is very desirable to add fat to the diet, and there is difficulty in persuading the patient to take it, two level tablespoons of fresh butter can be used to each pint of milk and its presence will not be perceived.

SHERBET.

When milk and cream cannot be digested, as is sometimes the case, an egg can be given in a water-ice. Beat the white, or the whole egg, slightly, add half a cup of cold water, a little sugar, and any flavoring preferred, pour in a cup of boiling water, and freeze when cool.

Oyster liquor and clam liquor can be strained and frozen also. It need not be solid, the coolness is grateful to a patient with fever, even if lightly frozen.

Milk sherbet is made by freezing milk, sweetened and flavored, usually with the juice of a lemon. Allow one small lemon to each cup of milk, and mix the juice with the sugar before adding it to the milk.

BLANC MANGE.

Blanc mange is the French for white food, but the term is used to cover

every preparation of milk, thickened with cornstarch, and variously colored, according to the other ingredients. It is a valuable food for the convalescent, as beside the milk there is a certain amount of nourishment in the corn flour. Recipes for making come on the package in which it is put up.

The ingenious cook will devise many variations. A well-beaten egg can be added to each cupful of milk used to increase the nutriment. If coconut is liked, and can be digested, a dessert-spoonful can be used to each cup of milk. Grated chocolate, or cocoa, is frequently added.

IRISH MOSS, ETC.

Irish moss is a seaweed. Iceland moss is a lichen, and when dried, is said to contain more starch than potatoes, and more flesh-forming material than oatmeal or corn. Ceylon moss is also a seaweed used for food, but is seldom seen in this country. They all may be utilized in the preparation of delicate dishes for the invalid.

To make Irish moss blanc mange, soak a quarter of a cupful of the moss in two cups of milk, having first washed it in cold water. Add a very little salt, as much sugar as desired, and flavor with lemon, or vanilla, if preferred. Some persons like the peculiar flavor of the moss without any addition.

Irish moss jelly is made by soaking the same quantity of moss in cold water until soft. Put it in one cup of boiling water and simmer until it is dissolved. Flavor with lemon juice, and sweeten. Strain through cheesecloth into a mould.

Cream may be eaten with any kind of blanc mange. If the invalid can take it, whipped cream makes the plainest dish more appetizing.

TAPIOCA.

Tapioca jelly is much liked by some persons. It is made by cooking a quarter of a cup of pearl tapioca in one pint of milk or water until it is entirely dissolved. Sweeten it, and flavor to taste with lemon, vanilla, or almond. A beaten egg can be added to the milk before it is cooked. Farina, rice, and arrowroot, can be made into jelly, or blanc mange, in the same way.

It should be remembered that tapioca, which is made from the root of the cassava, a South American plant, and rice and arrowroot are composed chiefly of starch, and, therefore, require the addition of milk, cream, or eggs, to make them of much nutritive value. Starch furnishes heat and energy to the body, but cannot supply the flesh-forming material. Starch is of great value in its proper place in the diet.

OATMEAL.

Well-prepared oatmeal, served with milk or cream, is an ideal food for the convalescent. Put one cup of oatmeal in a double-boiler with a little salt and three cups of boiling water. Do not stir, and let it cook for three hours. A short time before removing it from the fire, take off the cover to let the steam escape. All cereals require long cooking; even the steam-cooked cereals should be cooked at least twice as long as is directed on the packages.

A double-boiler can be improvised by setting a tin pail, or tin can with a tight cover, in a saucepan of boiling water.

Corn meal and barley flour can be used to make porridge and give variety to the diet. Farina is made from wheat, and is delicate and delicious if properly cooked.

Figs, prunes, and dates, stewed until soft, can be cut in pieces and mixed with any of the cereals before serving them.

CURDS.

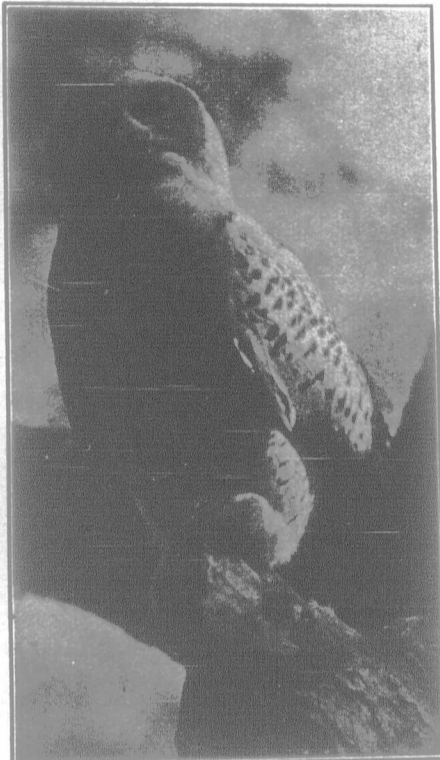
Milk contains an element called casein, which is coagulated, or rendered firm, by rennet, a substance prepared from the lining of a calf's stomach. It is sold either in liquid or tablet form.

To make curds, or rennet-custard, warm a pint of milk until just lukewarm,—if too hot the rennet will not act on it. Sweeten it slightly, and flavor with vanilla if liked. Add half a tablespoonful of liquid rennet, or half a rennet tablet. Pour it into the dish in which it is to be served, and let it stand until firm. It should be eaten with a little cream.

EGG JUNKET.

To render curds still more nourishing, eggs can be added. Separate two eggs, beat the whites until stiff, and the yolks until they are thick, add them gradually to the whites, beating constantly. Heat one pint of milk lukewarm, with two tablespoonfuls of sugar and any flavoring preferred, vanilla, lemon, cinnamon, or nutmeg. Pour this over the beaten egg and stir in half a junket tablet dissolved in cold water. Serve cold.

It will be seen that many nourishing dishes can be prepared for the invalid with comparatively little trouble. He need not be offered plain bread and butter, with jam, or cake added, when there is such an abundance of more suitable food to choose from.



A Visitor from the North. Arctic Snowy Owl.

The Windrow.

A \$100,000 hotel in El Centro, California, is to be named "Barbara Worth," after the heroine of Harold Bell Wright's novel, "The Winning of Barbara Worth."

All nations have been invited to participate in the celebration that will mark the end of the century of peace between Great Britain and the United States:



The Egret in a South Carolina Forest.

It is stated that moving-picture houses are driving saloons out of business in parts of the United States.

"The United States cannot compare with Great Britain in the rate in which it is reducing its national debt. While the annual budget which Mr. Lloyd-George has to provide is nearly one billion dollars, out of this \$60,000,000

is put aside every year to reduce the debt. Fifty years ago it was \$4,100,000,000, while now it is \$3,800,000,000. At the present rate, it will take fifty-five years to extinguish the debt, if there is no war."—The Independent.

Mrs. Julia Ann Henson Wheeler, daughter of Rev. Josiah Henson, the original of the character "Uncle Tom," in Harriet Beecher Stowe's story, "Uncle Tom's Cabin," died at Flint, Mich., recently, at the age of seventy-two years. Mrs. Wheeler spent most of her life at Chatham, Ont.

At the last International Anti-tuberculosis Conference held in Brussels, Belgium, the belief seemed to be very general that children are most susceptible to infection by tubercle bacilli, and that a large percentage of infections take place in childhood, even though the disease may not develop until adult life. It was pointed out that the conditions which predispose an individual to tuberculosis are want of proper food and air, unhealthy trades, and the like, which prevent the individual from producing a sufficient quantity of good blood to nourish the body and defend it against the bacilli. Dr. Bruck, of Berlin, also called attention to the fact that bad teeth, which impede the absorption of food, and adenoid growths in the nose, which prevent proper breathing, both contribute to infection by tuberculosis, particularly in children.

The word that stands at the center of what has to be done is a very interesting word indeed. It has hitherto been supposed to be a word of charity, a word of philanthropy. This word is "service." The one thing that the business men of the United States are now discovering, some of them for themselves, and some by suggestions, is that they are not going to be allowed to make any money except for a quid pro quo; that they must render a service or get nothing, and that in the regulation of business the Government must determine whether what they are doing is a service or not. Everything is business, and politics will be reduced to that standard. The question is, "Are you giving anything to society when you want to take something out of society?" A large part—too large a part—of the fortune-making of recent decades has consisted in getting something for nothing. I do not include brains in the category of "nothing." A man is entitled to the earnings of his brain. I want to declare for my fellow citizens this gospel for the future, and the man who serves will be the man who profits.—Woodrow Wilson, President, U. S. A.

Wild Birds, Their Relation to the Farmer.

"A canary a-tilt on a thistle is fit for a poet's dream." To a farmer with eyes to see he is more. That farmer will say, "Go ahead, my boy; there's a streak of yellow in you, but it's pure gold." For, you see, the thistle is the gold-finches' combination orchestral chair and

dining-table, and the farmer can afford to be generous in giving away thistle-seed. As eaters of weed seed, the finches are joined by some fourteen species of sparrow. To you, oh healers of our plague, is hereby tendered the gratitude of our spud and us! For, from our attention to the new and lusty weeds, we cannot well spare time to shape these notes to the dignity of an article. Without our helpers, we should be—under the weeds.

And then to the insect-eaters. If we were a poet we might begin:

I've seen grubs crawl'n,
Full many a fall in,
Their wicked way squirming o'er wood-
land and lea—

But we're not a poet. It won't do. Still, the "varmints" are there. There would be more of them without vermivorous birds. There would be fewer if we had more birds.

To name a few of our insectivorous birds, first, in the fields, are the sparrow tribes again, the meadowlark and sandpipers; in the orchard and woods, the chickadees, nuthatches, woodpeckers, and thirty-three species of warblers, the waxwings, orioles, and six species of vireos. These are but examples from long lists, for we have many birds, and practically all are insectivorous, even to the owls in straits; seed-eaters feed their babies on insect and worm-meat. Then, man has some feathered guardians of his person to thank. These may also be called housemaids, who, however, do their work out of doors. Not to be mysterious, they are the swallows, the nighthawk, and whip-poor-will, that dine upon the ants that are such abiding visitors if once they reach the cupboard, the house, and other flies, and those maddening musicians, the "muskitties"!

For the mice, the much-abused owls and hawks are willing to do good service if unmolested. Justice is done to them by C. W. Nash, in a book that travelled out to us some time ago. Wholesome, in brown-paper covers, it is numbered, like a convict or an automobile, 173. This is "The Birds of Ontario in Relation to Agriculture," and is one of the few good things one gets gratis. We are indebted for it, of course, to the Ontario Department of Agriculture, Toronto.

But with all these protecting birds, we and our farms are not protected. Perhaps we are ashamed of the reasons. We allow our birds to be killed, or, not content with that, we take an active hand in the slaughter. They have enemies among themselves; of these, the cowbird, that bird without morals, deserves the least mercy, it would seem. But apart from themselves, we find blame laid on the domestic cat—a convenient article, always, to lay blame upon. But the worst of all bird enemies is the domestic cat that sallies forth in winter millinery of gorgeous plumage and stuffed birds. Statistics are shocking affairs sometimes; shockingly tiresome, you may say. When, in four months, New York dealers were supplied with 20,000 birds from a single village, don't you think it would be an active pussy that would keep pace in butchery with feminine vanity? The estimates of millions of dollars annually to different Provinces where insects have gained the upper hand, are believed by thoughtful persons to be too low. Common sense must come to the rescue, either in our laws or our women, or better, in both. Farmers' wives, with the butter-fattest purses, cannot afford birds in their hats at the price of grasshopper-eaten pastures. The study of birds, besides being of hard-cash farming value, is fascinating. One spring we became so enthusiastic over it that in our dreams we chased a wonderful bird, which, on being cornered, resolved itself into a mild form of barn-yard hen. Ornithology will lead naturally into entomology. In the latter study, also of vital interest to the farmer, we are not astoundingly learned, though some of us may have a glimmering idea that sawflies and cutworms, on which so many of our birds sharpen their appetites, may or may not belong to the same genus as swordfish.

But how are we to protect the birds? Plant trees near the house; keep cowbirds' eggs out of the nests that may be built there. Keep the cat in the barn at nesting-time. Keep our wives and

daughters in modest and lovely head-gear. Teach the school-children the usefulness of the birds, and our boys the legitimate use of their guns. Without dictating to our betters any longer, we would like to offer one more point from our notes, ill-arranged as they are.

If the hired man would only develop an appetite for all weeds which he often has for one, or if the hired girl could be persuaded that a diet of house-flies and mosquitoes would keep her hair in curl, we should have an easy solution of the "boarding-hired-help" problem. This is just the stuff Mr. and Mrs. Average Bird are asking, not only for board, but also for wages. Can we afford to do without such cheerful, beautiful, inexpensive, and industrious laborers? Not by a beak-full!

A LESSER SPARK.

Bruce Co., Ont.

Something More About Birds.

Those who have read the interesting article above on "Birds and Their Relation to the Farmer," will have been impressed with the necessity of bird-protection, were it for nothing more than their economic value as protectors of fruit and grain against the depredations of insects.

As a rule, however, people do not realize the thousand dangers that our feathered friends have to face, nor are aware of the fact that, under present conditions, but one bird in four survives over a few months at most.

Upon the long migration from South to North, and North to South, in spring and fall, thousands upon thousands fall by the way from causes that cannot be prevented. For instance, Anne Slosson tells, in *Bird Lore*, of thousands of birds dying of sudden cold upon one night of St. Valentine, so that next morning they were gathered up by the basketful in the streets of Miami, Florida. Flying as they do by night, many come into collision with the wires that now extend everywhere, and so the brave journey comes to a speedy end; others becoming bewildered by lights and storm, are dashed against tall buildings, and fall. But these dangers to the song-bird are but nothing to those that lurk in the evil menace of deliberate enemies. There are snakes and cats to be guarded against from below, birds of prey ever ready to pounce down from above. Indeed, as a noted bird lecturer has said, "Almost every moment of a bird's life is harassed by fear."

Nor are these all. Perhaps the deadliest foe to bird-life exists in the form of men and boys, who should know better, or be compelled to do better,—men and boys with their treacherous guns and snares, surely evil instruments to be directed against such entirely helpless, beautiful, timid, useful creatures. Indeed, the more one thinks of it the more one realizes that any man or boy who can deliberately shoot a song-bird for his own amusement is nothing better than a cad, and a senseless enemy to his country.

There are men and boys who shoot for "sport"!—But these are not all. Bobolinks and robins by the thousand are shot and eaten by negroes in the Southern States, nor do they fare better in almost any of the districts occupied by illiterate classes of foreigners. In a recent number of "Our Dumb Animals" appeared a picture taken from a photo of four robins caught in a single hair-trap set by an Italian; while only a year or so ago steps had to be taken to prevent "navvies" working on one of the railways of Northern Ontario from killing indiscriminately warblers and small birds of all kinds to make pot-pie.

Women, too, in spite of all their boasted tenderness of heart, have been wanton murderers so far as birds are concerned. If no woman would consent to wear wing or feather of any wild-bird on her hat,—ostensibly a trade, which Lord Curzon has stigmatized as "nefarious and abominable," would speedily cease. With that traffic going gaily on, such statistics as the following are afforded:

A dealer in birdskins last year killed, chiefly for the millinery trade, 11,000 birds in South Carolina alone. On investigation, it was found that this dealer sells, on an average, 30,000 birdskins a year. And so the story goes. In the same year, during four months, a single

Long Island village furnished 70,000 birds for New York millinery houses.

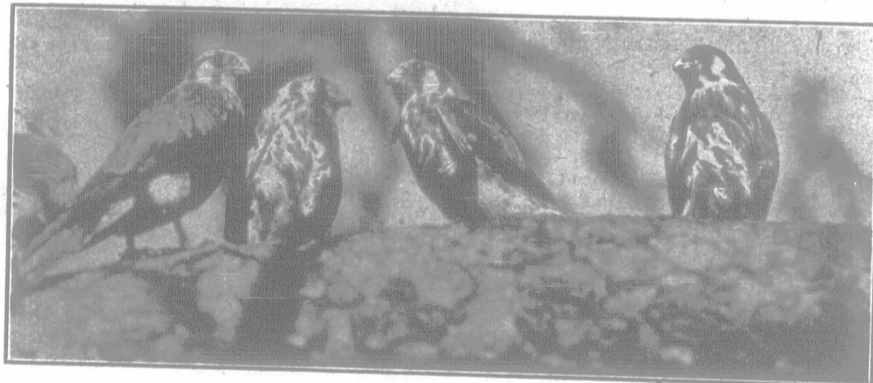
Little wonder, is it, that Holtz should exclaim in *Nature Study*, "We have our societies for the prevention of cruelty to animals. These are largely composed of women. Yet, many of these same women, who would have a man arrested for beating his horse, or for leaving it unblanketed in the cold, will contentedly, and with pleasure, wear hats adorned with the plumage of birds, plumage that was obtained by the death of the bird to which it belonged."

Surely women should be consistent. Surely women who desire to vote should have at least strength of mind enough to deny themselves this wicked adornment. A couple of weeks ago a hat was observed in one of our millinery stores that well illustrates the point. Its cost was \$25, and its chief ornament was a mass of graceful egret feathers. "Beautiful!" exclaimed the shop-girl, handling the delicate strands lovingly. No doubt some other woman is thinking the same to-day, as she self-consciously exploits the \$25 hat down the street.

But,—every egret plume of this kind is taken from the body of a parent bird, for only during the nesting-season do these filmy tufts, which alone are sought for the egret trade, appear. As a consequence, when a parent egret is shot, the chances are that a nestful of little egrets must die of starvation. In one district in the South, a law was passed some time ago to prevent the killing of these birds. But the trade was lucrative, and the hunters found a way to evade the law; the egrets were snared, and the tuft cut from their bodies!

Now, do women need to wear such things? If their beauty depends upon wearing feathers, can they not confine themselves to those taken from domestic fowl, which can be beautifully dyed nowadays, and to ostrich feathers, taken from birds kept for the purpose.

If not tender enough and aesthetic enough to wish to protect birds for their own sake, even women should be amenable to consideration of them for their immense value to farmers and fruit-growers.



Sparrow Hawks.

Practically all of our wild-birds are insect-eaters, and eaters of weed-seeds. The few cherries any robin claims as his own, cannot begin to be weighed in the balance with the protection which he exercises as "police of our crops." Mr. Judd has estimated that bobwhites in Virginia alone, annually destroy 573 tons of weed-seeds. Corresponding estimates have been made of the destruction of insects.

PROTECTIVE MEASURES.

In some places, steps are, indeed, being taken for the protection of birds, but the laws and their enforcement are as yet far from being general.

At present, Lord Curzon is asking for a law to prohibit the importation into England of humming-birds, birds of Paradise, and egrets, for millinery purposes.

Recently, too, Mrs. Russell Sage has donated \$150,000 to provide a perpetual home for birds in the New England States—an area of meadow and woodland from which guns and snares will be prohibited.

The Massachusetts Society for the Prevention of Cruelty to Animals, is offering twenty prizes of \$10 each, and forty of \$5 each, for evidence to convict persons of violating the laws of Massachusetts by killing any insect-eating bird, or taking eggs from its nest.

In New York State and in New Jersey, laws for protection of bird-life have been

passed, also in Texas, where it is unlawful for any person to "kill, catch, or have in his or her possession, living or dead, any wild bird other than a game bird, or to purchase, to offer or expose for sale, transport or ship, within or without the State, any such wild bird, after it has been killed or caught; and no part of the plumage, skin or body, of any bird protected by law, shall be sold, or had in possession for sale or otherwise."

This is rather comprehensive, is it not? The birds in Texas excepted from protection are, English house sparrows, hawks, buzzards, blackbirds, ricebirds, and certain species of owls.

In our own land, there have been a few efforts for the protection of birds, but nothing substantial has as yet been accomplished. Surely some agitation for definite steps should be taken by those to whom the presence of birds means so much—and to whom does it mean more than to the farmers? Farmers, as a rule, however, do nothing, and so must increase their expense and work in spraying year after year.

Woodpeckers and warblers keep trees free from borers. Flycatchers, meadow-larks, orioles, swallows, wrens, field sparrows, and robins, are almost wholly beneficial. There are others in legions of which the same must be said.

Wage war if you will on crows and blackbirds, cowbirds, and house sparrows, but wage war FOR these others, friends as they are.

Something may be done by educating boys to spare young birds and birds' nests, but more than that is necessary. The town boy, fired with zeal for "hunting" on a holiday, is a constant menace. You may meet him in squads in the vicinity of any city on such days. The country "scrub hunt," resorted to most frequently in fall, is another. Both could be prevented. Bird-life could be protected in Canada as in other places if the right steps were taken.

The Woodpeckers' Work.

More and more we realize the importance of planting trees and taking care of the forests we have, because they are

My Lady's Hat.

How many lives do you wear on your head,
Beautiful lady across the way?
How many chirpers are mutely dead,
That Beldame Fashion may smile to-day?

Beautiful lady, I hear them sing,
The delicate spirits that touch your hair;
They trill and chirrup of everything
Except the fate that has set them there.

They whistle and call on the treeless street,
These spirits of birds that are dead and still;
They circle and whirl above fields of wheat,
And dip in many a foaming rill.

But because their plumage was snowy white,
Or their breasts bore proudly a tuft of down,
Or because their wings flung a silver light,
Or their under-feathers were golden-brown:

Or because their necks rose in slender grace,
Or their crests were crimson or royal blue,
They lost in a brutal, unequal race
With death, that their beauty might garnish you.

How many innocent birds are dead,
That the street may gaze and approve to-day?
How many lives do you wear on your head,
Beautiful lady across the way?
—Lilla B. N. Weston, in "Our Dumb Animals."

The Language of the Birds.

(By Jake H. Harrison, Dallas, Texas.)
Birds love the country where they live,
And speak its language, too,
If you will notice, you will find
That what I say is true;
The birds of Holland sing in Dutch,
The Scotch birds Gaelic speak,
And I am told the birds of Greece
Still sing in ancient Greek.

The whip-poor-will, we know so well,
Speaks English—why, of course;
They say all birds in Germany
Sing German gutturals hoarse;
The oriole still sings in French
His sweet, enticing song,
Although in North America
He has been living long.

The mocking-bird a medley sings
Of all the languages,
And that is why such favorite
In all the lands he is;
And why the wanderer abroad
So loves his cheerful song—
He calls to mind the scenes of home,
All day and night along.

The strangest thing is yet to tell;
In Northern Texas here,
The whip-poor-will, sings "whip-poor-will!"
In English, sweet and clear;
But on the Rio Grande's banks,
He keeps his whistle wet
With dew, to liquify his notes,
And sings in Spanish yet.

For more than half a century
Our efforts have been vain
To teach this patriotic bird
To sing in English plain;
He loves the Spanish language best,
And will not let it go,
But warbles out "Guillermo mal!"
Still true to Mexico.

—Our Dumb Animals.

"It is half-past one o'clock!" severely said Mrs. G. "What kept you from getting home until this untimely hour?"

"I was detained at the office, making out statements, replied her husband. "And that is one of the statements, I presume?"

Feathers on Women's Hats.

If women must wear feathers on their hats, instead of the plumage of song birds, let them wear the wings of chickens, or of the national bird, the turkey. The number of singing birds of the country has been reduced almost half, because a few foolish and vain women who have no feeling whatever for the lives of birds, want to wear feathers on their hats.—David Starr Jordan (Pres., Leland-Stanford University).

Hope's Quiet Hour.

The Loss of Covetousness.

The love of money is a root of all kinds of evil: which some reaching after have been led astray from the faith, and have pierced themselves through with many sorrows.—1 S. Tim. vi. 10.

There was astonished grief in the camp of Israel one day. From morning until evening Joshua—the bold captain of the host—was lying on his face, with the chief men of Israel, before the ark of God. They put dust on their heads, and even lamented the progress that had been made in winning the Promised Land. Jericho had been conquered, and yet Joshua said that it would have been better to have settled down on the other side of Jordan; "for," he said despairingly, "the inhabitants of the land . . . shall compass us round, and cut off our name from the earth."

What was the cause of this despair? It was caused by the covetousness of one man. Jericho, being the first fruits of the land God had given to Israel, was devoted or consecrated to Him. The silver and gold, and the vessels of brass and iron, were publicly put into the treasury of the LORD, the rest of the spoil of the city was burnt. The people were solemnly warned that if they took any of the spoil of this first-conquered city for their own use, they would bring trouble and a curse on the whole camp. They were bound together by the closest ties, and the sin of one must affect the rest; as the disease which breaks out in one member of a body affects every other member.

Achan had seen among the spoil a rich cloak, a wedge of gold, and a quantity of silver. Covetousness sprang up in his heart. He watched for an opportunity, which soon came; and the rich treasure was his—or so he thought—safely buried in the ground under his tent. Covetousness had brought him riches—apparently—but a man who has dared to rob God is, in reality, desperately poor. The treasure could not be used, could not even be gloated over and admired. It must remain hidden, and the guilty conscience of the miserable man made him tremble with fear of discovery. Then loss came upon all the nation. Their warriors fled before the men of a little city. Plainly God was no longer fighting for and with His people. Only sin could have turned Him against them, so the lot was cast to discover the guilty one. How Achan must have feared as the circle was drawn closer and closer around him. First his own tribe of Judah was taken, then one family in that tribe, then a member of that family—the grandfather of Achan. By that time he must have felt hopeless of escape, and could hardly have been surprised when his father's name was called, and, after that, his own. Death was the swift result of his attempt to rob God. Yielding to covetousness he had not secured gain, but loss.

The prophet Malachi warned his people, many years later, that not only an individual here and there, but the "whole nation" had tried this dangerous sin of robbing God. They were keeping back the tithes and neglecting the free-will offerings. Those who did not dare to neglect the prescribed sacrifices entirely, considered it a weariness, a thing to be got over with as little sense of personal loss as possible. Unlike David, who had scorned to offer to the God he loved, a gift which cost him nothing, they picked out from their flocks the lame and the sick for sacrifice. They would give God what they did not want—anything would do for Him. So they chose terrible loss for themselves. There was outward loss, for God, Who only could give rain and fruitful seasons, refused to open the windows of heaven and pour down a blessing upon them. But, far worse than that, their own souls grew hard and degraded. God did not need their gifts, the cattle upon a thousand hills were His; but they needed to give. His punishments were sent in love, were intended to open their eyes to the cancerous disease of covetousness, before it had destroyed spiritual health

and beauty. We are told that God "loveth" a cheerful giver—is not His loving approval great gain?

Balaam coveted the great rewards promised by the King of Moab, if only he would curse Israel. He did his utmost to win the rewards—knowing that he was doing what God had forbidden—and through his wicked advice disaster came upon others, and a shameful death to himself.

Judas coveted the reward offered for a deed of awful infamy, and he did not even spend the thirty coins for which he had sold his Master. Despair drove him to commit suicide, and his name has been abhorred for nearly two thousand years. What advantage did he gain by his covetousness?

Don't you think St. Paul was right when he said that the love of money caused all kinds of evil in the world, and also pierced with many sorrows the people who reached after it as their greatest good?

How many people have been murdered because others coveted their money? Only God knows. So the love of money is the root of murder. How many thefts have been committed for the same cause? How many poor children are forced to grow up in hopeless ignorance because child labor is cheap? Uncounted millions of lives have been stunted and degraded because employers—in their determined effort to "get rich quick"—grind as much work as possible out of their employees, paying the lowest possible wages.

God knows how many men and women in the jails (and other refuges crowded with those who have sunk into vice and shame) have come there because men who coveted the position of millionaires trampled on their chances of earning a reasonable livelihood.

who are His brethren and ours, what then?

Such a course means that we are choosing loss of the worst kind, we are crushing down our own souls in degrading poverty, we are becoming hard and cold and selfish as a result of trying to rob God of our consecrated free-will offerings.

National life is in many ways becoming wiser. We have learned that to heap up riches through the unpaid labor of slaves means deadly loss to any nation. We have learned that money paid out freely for the education of the poor and ignorant means in the end national gain. We have learned that it is false economy and loss to be stingy in public grants to hospitals and refuges for the sick and helpless. We have learned that it pays to spend money lavishly in fighting diseases, such as tuberculosis. We are learning the value to the community of each human life. I have read that an investigation in Berlin some years ago revealed these facts: When whole families were forced to live in one-roomed homes, the death rate was about 168 per thousand, when a family occupied two rooms it was about 22 per thousand, while four or more rooms for each family brought down the death rate to about 5 per thousand. Unhealthy overcrowding is, therefore, national murder, and indecent overcrowding degrades the nation, spreading vice from class to class. A good kindergarten for the poorest children costs money, but it pays; a free education in vice on the streets may be cheap in the beginning, but it costs far more to the nation in the end (even in dollars), for it results in more criminals and greater destruction of property.

As it is in national life, so it is in individual life, for individuals make the nation. Our Lord warns us to beware



Vegetables from Lillian Garland's 1912 Garden.

Some families are forced to live and sleep in such overcrowded rooms that the babies lose their innocence, and the boys and girls their modesty.

In the tenth Psalm we read of a covetous man who oppresses the poor, thinking that it is quite safe to get rich swiftly at the expense of the helpless. He says in his heart that God has forgotten, He hideth His face and will never see it. But the cause of the helpless is championed by the King of kings, and covetousness is a sure road to misery and loss. The man whose way is happy and safe is the man who considers the poor and needy.—Ps. xli. 1-3.

Let us look at Achan again. He grasped for himself that which was devoted to God, the first fruits of God's own gifts to His people. The Israelites served God as His subjects. The tithes were required of them, and the temple tax was demanded as a right. But we serve God as His children. We should rejoice to give Him outward proofs of our loyal affection, we should not "pay," but "give" the tenth and the first fruits—whenever possible. He is our Father, and knows that it is not always possible. The poor who are nearest of kin must be considered first, as St. Paul says: "If any provide not for his own, and especially for those of his own house, he hath denied the faith, and is worse than an infidel."

But when we are covetous, making worldly prosperity our chief aim in life, and giving as little as we decently can to the cause of Christ, and to the poor,

of covetousness; and He explains, with wise, loving-kindness, that a man's life does not consist in the multitude of things which he possesseth. The only real wealth is character. To heap up riches and care nothing about spiritual growth, is to act like the rich fool, who filled all his barns with his harvest of fruit and grain—and then Died. His treasure was all stored up on earth, so he went out through the mysterious door of Death stripped of all he had hoarded so carefully. If "times are hard," it is poor economy to cut down the gifts to God first. It is not an advantage to a man to be able to say: "My religion costs me a very small proportion of my income." A religion that costs little is worth little. "God loveth a cheerful giver"—note that word "cheerful"—and His LOVE is unbounded wealth.

DORA FARNCOMB.

Save Sewing and Washing.

You will be interested, we are sure, in the pictures of the house-dress appearing with the advertisement of the Baldwin Garment Co., London, elsewhere in this issue. This dress slips on like a coat, two fastenings, one at back, one at throat, and the dress is on. It takes the place of both dress and apron; when one side of front is a little soiled reverse the front lap. Don't sew in hot weather when you can buy such a convenience ready-made. Good material, reasonable price.

The Beaver Circle

OUR SENIOR BEAVERS

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

When Peggy Plays.

Peggy's just the gardener's child
Lives down in our lane.
Once I went to play with her.
Want to go again.

Peggy hasn't any toys,
'Cause her father's poor;
Peggy always makes her toys.
My, they're jolly, sure.

Tea sets out of acorn cups,
Apple seeds her mice,
Wrinkled nuts for dollies' heads,
Round, and hard, and nice.

Flower girls with poppy skirts
Ready for a ball,
Burdock men, and pumpkin carts,
Peggy makes them all.

Peggy's dress is old and torn,
Peggy doesn't care,
All the woods are full, she says,
Of pretty things to wear.

Down her ragged gown she hangs
Trailing, golden leaves,
For her throat, a necklace green
Of grasses Peggy weaves.

On her tangled, yellow curls
Peggy twines a crown,
Barberries like rubies red
Set in russet brown.

Peggy's house is very small,
Just two rooms all told;
Peggy has another house,
Big, and wide, and old.
Velvet moss the carpet is,
Roof of azure sky,
Painted on the spreading walls,
Flowers and sunsets lie.

Field and forest are the rooms,
Full of treasure stores,
Peggy's just the gardener's child,
Owns the whole outdoors.

—Little Folks.

Senior Beavers' Letter Box

Dear Fock and Beavers.—As this year is the centenary of the birth of David Livingstone, I thought I would write and tell you something about this wonderful man.

He was born on March 19th, 1813, (being the second child of Nell Livingstone and Agnes Hunter) in Blantyre, Lanarkshire, Scotland. His parents were very pious and God-fearing, but they were very poor, so poor that they had to practice the strictest economy. It was for this reason that David left school at ten years of age, and began to work in a factory. But he studied himself, often sitting up till after twelve o'clock at night, although he had to be at the factory at six in the morning.

He worked himself through college taking a medical course at the same time, and was sent as a missionary to Africa, that dark continent of which so little was known then. He found the people very, very ignorant; they had no idea of God, except that a spirit existed who ruled everything, and who would punish them if they displeased him. At first they were suspicious of him, but as he dealt very honestly with them, besides having a wonderfully attractive personality, he gradually won all hearts to him.

But it was hard work, and he endured many hardships which would daunt another man. This he did because he believed it to be his duty, and he trusted in God to take care of him. He once had a terrible encounter with a lion, which all the world knows about. The infuriated beast sprang at him, crunching his arm, and, but for the interference of Mabalwa, his servant, he would have been killed.

Besides preaching the gospel Livingstone discovered lake Ngami, the Zambesi river, and many small rivers and lakes. He also took astronomical observations, drew maps of the country

in which he labored, and was constantly getting specimens of geology and zoology for his friends at home. It was about this time that the slave trade was started, and he fought against it fiercely, liberating any slaves which he could, and writing home accounts of its horrors.

His letters of the last few years being all destroyed by the treacherous Boers, nobody knew whether he was alive or not, so Henry Stanley searched for him and found him in 1871, nearly starved for want of food and water. He was supplied with these and went back to work. Not long, however, was the struggle to continue, for he was found dead kneeling beside his bed in a rude hut on April 30th, 1873. His remains were carried back over land and sea by his faithful followers and were laid in Westminster Abbey, with the honor that England accords only to her great sons. MYRTLE LINDSAY.

(Age 14.)

Lochwinnoch, Renfrew Co., Ont.

Dear Puck and Beavers.—As I have just been reading your charming letters I thought I would ask Puck a few questions, if it is no harm, so here they are: May we write on more than one page, or on as many as we like? And may I write again or may I join your garden competition? Will you please excuse this awful writing Puck, and will Annie Condy, age 14, please write to me? MARGARETTA WILLIAMS.

Larchwood P. O.

You may write on as many pages as you like, but only on one side of the paper. Certainly you may write again, and you may also enter our Garden Competition. I have entered your name.

Dear Puck and Beavers.—I would like to join your club. My uncle takes "The Farmer's Advocate" and I always get the reading of it. I want to tell you about a worm I saw, and would like if you could tell me its name. It was light-green in color about three inches long and about half an inch thick, light-yellow and dark strips on its sides cornerwise. It had a large neck and head. Seven yellow and black feet on each side, nearly half an inch apart. I found this worm on the lilacs so I broke off the branch, and when it was laid in the sun, the worm would go down under the leaves.

I have read a few books. Some of them are "The English Orphans," "Children on the Plains," "Gleaned from Life's Pathway," "Sheer Off," "Ellen Hart," "Snow Storms," "Richard Bruce," "Allen White," and some others.

My letter is pretty long, isn't it? But you'll just have to excuse me this time, for I'd rather tell my news than write it. Bye Bye.

Elphin, Ont. C. M. CAMPBELL.

(Age 13.)

The "worm" you found was probably the caterpillar or larva of one of the moths. If you find one again put it in a box pierced with small holes, put in a supply of leaves for food, and watch what will happen as the days go on.

Dear Puck.—I am very pleased with the last prize you sent me, and I wish to thank you for it with all my heart. It is a book which I wanted the most of all, and it shan't be put in a box only to be brought out on state occasions, as a great many prizes are. I have read and reread my bird books which you sent me, and you may be pretty sure that this one will share the same fate, especially in summer, as the birds and flowers claim most of my attention then. I often wondered why, in the summer, you did not have bird competitions as well as flower. Have the Beavers found out about the birds through the birds themselves, and not through books? There are so many things we could find out if we only would, but not only the birds and flowers. A few years ago I remember I came upon a mother snake enjoying the warmth of the sun with her little ones. When she heard my steps in the grass the mother called to her little ones, opened her mouth, in popped the little ones, and she glided away into the bushes. For a time I did not know what to think about it. To me it

seemed a strange thing to have a mother deliberately swallow her young, but I learned later that had I concealed myself till the mother snake thought the danger was passed, I would probably have seen the little snakes jump out of their mother's mouth as if nothing had happened. A short time ago I read an account of a gentleman who was in doubt as to whether the mother snake did swallow her young, so he killed a mother snake and found she had about two or three hundred living little snakes inside of her. He said that the mother snake had a special bag or pouch to keep her young in. He also found a snake's nest, and published a full description of it. From what I remember the eggs are very unlike those of the birds, the shells being very soft. They are laid in circles so that the mother can wind herself in around them, and one nest contains from two to four hundred eggs. The nest is about one or two inches below the ground, and is covered by the soil which helps to keep the eggs warm. I do not know the size of the snake's eggs, but I think they are white in color.

Did any of you Beavers ever see the frog change his suit? Watch him, and you will probably see him take off his old suit and swallow it. He will do it soon now, about May or June.

I. WINFRED COLWELL.

Brookville Stn., St. John Co., N. B.

Dear Puck and Beavers.—I have been reading the Beavers' letters in "The Farmer's Advocate," and I was tempted to write to your circle and see if I can join. I saw about "Hunting and Trapping," so I thought I would write. Hunting and trapping should not be done unless the animals are doing harm. Some boys think it good sport to kill squirrels and groundhogs, just for the fun of being smarter than some other boys. Last winter a mink was taking away our chickens. We set two traps side by side in the hole. When it came back it caught one hind leg in one trap, and one front leg in the other trap. Papa killed it and sold its hide, but it did not bring enough for the lost chickens, which amounted to eighteen in all. As this is my first letter I will close.

Troy, Ont. FLOYD JOHNSON.
R M D No 1. (Age 11, Sr. IV.)

Peter Rabbit's Lesson.

Peter rabbit
Had a habit
Of visiting the house;
And every night
When the moon was bright,
He crept along like a mouse.

But one night
He got a fright,
And you'd think he'd seen a bear;
For he started running
And he looked quite cunning,
As he hopped and jumped in the air.

But he soon got calm,
And he sat like a lamb,
At the foot of a great big stone,
As he thought about what he had seen;
And he began to feel kind of mean,
But he was glad he was all alone.

He soon turned around
And he sniffed like a hound,
As he quietly hopped to the box,
He smelt all around
In the air and the ground,
And crept up as sly as a fox.

He peeked in the door
And there, on the floor
Lay an apple so big and so red
That Peter Rabbit
Wanted to grab it,
As it sat there, as big as his head.

At last he went in,
But he knew it a sin,
And gingerly took a bite;
Bang—went the door,
While there on the floor,
Peter stared with all his might.

How nice he was caught!
For an apple he'd been bought.
But he thought of his mate,
As he blinked at his fate.
It was growing late,
But he still had to wait.

In the morning he ventured a peek at the door

And what he saw there, made him feel sore,

For the lock was not true, and the door did just close

And out with a bound, young Peter goes.

It is needless to say, that Peter Rabbit,
After this gave up the house-haunting habit.

HOMER FITZGERALD.

(Age 14.)

Thorndale, Ont. R R No 3.

Dear Puck and Beavers.—Here is another new Beaver to trouble Puck in his very busy occupation. I have been a very interested reader for a long time, and think, like many others, that Puck had a good head on him to give this circle a name like it has.

I certainly am going to try the "Garden Competition."

There are some very funny riddles sent by the Beavers, like the one Gladys Elsley sent. I agree with Vera Schweitzer that it was a watermelon.

I live on a farm of about four hundred acres, about two hundred under cultivation. We have a large sugar bush on it, and in the spring we make syrup and sugar. We sold all the syrup we could spare, and could have sold more.

Although I am a girl I am very fond of horses. Willie King gave me a new idea about teaching colts to lead. We have seven horses, three that can work and a pair of matched colts rising two years old, and a pair of foals, which my brother and I take great pain in training.

I have a sister who is very fond of drawing and painting, and she has made some very beautiful pictures. I am pleased to know that Dalphine Allen is a drawer, and I hope she will continue practicing and some day win great fame.

Well, I guess Puck will be getting tired enough so I will close, hoping to see my letter in print and wishing Puck and the Beavers every success in their future work. BESSIE CURRIE.

Lammermoor, Ont. (Age 14.)

Dear Puck.—I thought that I would write a story on a leaf of tea.

The first I can remember I was a little leaf under the ground, by and by I slowly began to grow, and soon I was above the ground. Then I began to unfold my leaf. My, what a beautiful world I saw before me. Over me was growing a beautiful tree, and I thought what a chance it had compared with me to see the world. I little thought that I would have all the chance I wanted before I was done with my travels. I grew and grew till I was quite a height, then with my brothers I was picked and dried. Then we were sent away to be put up in packages. When we got there we were culled over, and then put up in lead packages and labelled Salada tea. Then we were shipped to a little country store. There we sat on the counter. All the other packages were sold but the one I was in. Then one day a little girl came in and bought the package. I was at the top of the package, and when the little girl's mother opened it she took several of my brothers and myself out and put us in a teapot, then she poured hot water on us and allowed us to steep for five minutes, then she poured us in cups. I happened to be poured in a little boy's cup. The little boy was not feeling very well, and did not drink all of his tea. And I was left in the bottom of his cup. Then the little girl threw me outside. There I lay on the frozen ground for a while. But by and by it began to snow, and soon I was all covered over with a nice warm blanket. Then after a few months the snow began to melt. The grass grew green and the birds began to sing. And I again thought what a beautiful world, but did not add that I would like to see more of it, for I have seen plenty. I am now lying half hidden in the beautiful long grass, and am well content with my lot.

Wheeler, Ont. LYLIA HURST.
(Class 4th, Age 14.)

Browsings Among the Books.

FROM ESSAY ON "GAMES."

(By A. C. Benson.)

Then, too, I am afraid that I must confess to a lamentably feeble pleasure in mere country sights and sounds. I love to watch the curious and beautiful things that go on in every hedge-row and every field; it is a ceaseless delight to see the tender, uncrumpling leaves of the copse in spring, and no less a pleasure to see the woodland streaked and stained with the flaming glories of autumn. It is a joy in high midsummer to see the clear, dwindled stream, run under the thick hazels, among the rich water-plants; it is no less a joy to see the same stream running full and turbid in winter, when the banks are bare, and the trees are leafless, and the pasture is wrinkled with frost. Half the joy, for instance, of shooting, in which I frankly confess I take a childish delight, is the quiet tramping over the clean-cut stubble, the distant view of field and wood, the long, quiet wait at the covert-end, where the spindle-wood hands out her quaint, rosy berries, and the rabbits come scampering up the copse. The delights of the country-side grow upon me every month, and every year. I love to stroll the lanes in spring, with white clouds floating in the blue above, and to see the glade carpeted with steel-blue hyacinths. I love to walk on country roads, or by woodland paths, on a rain-drenched day of summer, when the sky is full of heavy, inky clouds, and the earth smells fresh and sweet; I love to go briskly homeward on a winter evening, when the sunset smoulders low in the West, when the pheasants leap trumpeting to their roosts, and the lights begin to peep in cottage windows.

Such joys as these are within the reach of everyone; and to call the country dull because one has not the opportunity of hitting and pursuing a little white ball round and round among the same fields, with elaborately contrived obstacles to test the skill and the temper, seems to me to be grotesque, if it were not also so distressing.

I cannot help feeling that games are things that are appropriate to the restless days of boyhood, when one will take infinite trouble and toil over anything of the nature of a make-believe, so long as it is understood not to be work; but as one gets older and perhaps wiser, a simpler and quieter range of interests ought to take their place.

FROM "HABITS."

(By A. C. Benson.)

How rare it is to meet a man who in the course of an argument will say, "Well, I had never thought of that before; it must be taken into account, and it modifies my view." Such an attitude is looked upon by active-minded and energetic men as having something weak and even sentimental about it. How common it is to hear people say that a man ought to have the courage of his opinions; how rare it is to find a man who will say that one ought to have the courage to change one's opinions.

FROM "RELIGION."

(By A. C. Benson.)

We look back upon our life, and feel that it has all followed a plan and a design, and that the worst evils we have had to bear have been our faithless terrors about what should be; and then we feel the strength that ebbed from us drawing back to sustain us; we recognize that our present sufferings have never been unbearable; that there has always been some residue of hope; we read of how brave men have borne intolerable calamities, and have smiled in the midst of them, at the reflection that they have never been so hard as was anticipated; and then we are happy if we can determine that, whatever comes, we will try to do our best, in our small sphere, to live as truly and purely as we can, to practice courage and sincerity, to help our fellow-sufferers along, to guard innocence, to guide faltering feet, to encourage all the sweet and wholesome joys of life, to be loving, tender-hearted, generous, to lift up our hearts; not to be downcast and resentful because we do not understand everything at once, but humbly and gratefully to read the scroll as it is unrolled.

Continued on page 1046.

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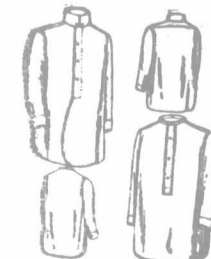
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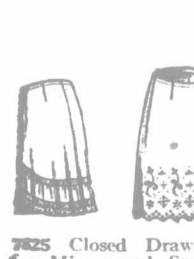
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We were sitting in the woods, two of us, on that delightful Saturday of which I told you last time, just drinking in the beauty of it and catching glimpses of the other two as they flitted about between the tree-trunks, armed with the telescope, in search of refractory birds.

They were bent on the identification of a certain songster, were these two, and as, from time to time, their faces came into view, interested, eager, the thought came to me, and I said it: "I have no sympathy whatever with those who say that knowing about nature spoils one's appreciation of it."

"Oh, no," returned my companion, eagerly acquiescent, "I am sure that the more one knows the more one enjoys," and her eyes followed her sister, one of the bird-hunters, as she spoke.

She "knew," and so did the sister, the scientific one, to whom every flower of the vicinity is a friend, known by name.

"'Tis murder to dissect," said a poet, but that poet did not know. How can one understand the marvels of the flower world without dissecting one here, one there, enough to discover the wonderful construction and establish the interesting relationship between plant and plant?

This, too, I have noticed a score of times: It is the unlearned in the flower-story, the mere unintelligent admirers, who carry off our wild flowers by the armful,—you have seen it as well as I,—huge bunches of trilliums and anemones and wood-violets carried off, but to draggle and die and be thrown out, all their brave endeavor to seed-production frustrated. The Understanding One, the "botanist," if you will, cannot thus desecrate. A few flowers she may pause to dissect, a few she may carry home as a souvenir of her wanderings, but she loves the fragile things far too much to help in the work of sweeping them off the face of the earth wholesale.

It was not botanists who have so rified the woods where they once grew plentifully, of the beautiful trailing arbutus. It is the botanists who are now agitating that steps be taken to prevent its extinction.

And so with the birds: It is not the one who knows the birds by name and can fix the bird-song to the bird, who can calmly sit down to a meadowlark pie or wear the body of a scarlet tanager, or the wing of a bluebird on her hat.

It is the one who knows—and so loves—who agitates to have laws passed for the protection of these sweetest of wild living creatures.

And so with all nature: It is not the one who stands aside who loves and is interested, but the one who knows, the one who has found that acquaintanceship with the things of garden and field, brook and wood, can make the world more interesting and life so vastly more worth living.

It is so often a source of wonder that mothers with little children about them do not take more pains than they do to see and know the "common" things all about, in order that they may "add to the eyes" of the little ones, who are always so ready to be interested in bugs and birds and flowers and little fishes.

"No time!"—Oh, dear, dear, always no "time"! Surely we ought sometimes to make time, and usually we can if we try. It might be worth while.

A teacher whom I know, a most enthusiastic nature-lover, while teaching in a schoolhouse near a swamp, used to have her class, a primary, come every morning at eight o'clock to get lessons—in the swamp. Bulrushes and wild asters grew there, Joe Pye weed and boneset, trailing clematis and bitter-

sweet, with watercress and arrowheads in the river, and turtle head and cardinal flowers along the banks; over all flitted woodpeckers and warblers, nut-hatches and blue jays, with red-winged blackbirds calling out over the marsh, and meadowlarks and plovers from the field across the way.

Were the children interested? One morning a friend of mine met a little weeping figure trailing along the road that led past the school. "What's the matter?" asked my friend. "I can't go to school—boo-hoo!" wailed the little disconsolate. "I've got to stay home to get clothes made!—Boo-hoo!"

All of a sudden she stopped, tears arrested, face full of interest, and pointed with a grimy finger towards the neighboring field: "There goes a killdeer plover!" she exclaimed.

Was this teacher wasting time? Did she make a mistake in not keeping those small tots always down to reading, 'ritin', and 'rithmetic? If you think so, I am pleased to be able to tell you that three years later the principal of this school stated that he could invariably know those pupils entering his room who had begun under Miss M., so thoroughly alert, so well-grounded in essentials were they.

Mothers may surely help in stimulating this interest as well as teachers. If there is not time to take many trips to the woods, the field and the orchard are near, and above all things, the garden.

And just here may we quote you a few paragraphs from an article written for "The Ottawa Naturalist," by Prof. W. T. Macoun, of the Central Experimental Farm, Ottawa. It may serve to emphasize the point that before the mother can teach or inspire, she must be at least an enthusiastic "amateur" nature student.

"The writer's main purpose in presenting this article is to show, if possible, that the amateur gardener, as a student of nature, combines the love for nature with the practical, in an almost ideal way. I do not refer to the amateur as opposed to the professional, but to the man, woman or child who grows and cares for plants mainly for the love of it; and it seems scarcely possible that one can be a true lover of nature unless, as far as his circumstances will allow, he prepares soil, sows seeds, and cares for plants; for it is only in this way he can come into closest communion with nature, and become best able to understand and appreciate the growth and development of the wild flowers and forest trees. From personal experience, he finds that some plants succeed best in heavy soil, and some in light; that some require much moisture and others comparatively little. His observation becomes keener, and he soon perceives that when growing in their native homes, some species of plants will be found under certain conditions of soil and moisture, and others under different conditions. From his experience with beneficial and injurious insects, he appreciates far more than he could otherwise do, the effect these have on the growth and development of plants. He is brought into daily and closer relation with the birds, and soon becomes familiar with their appearance, and can identify all commoner species.

"It is a small garden, indeed, in which a robin, or at least a chipping sparrow, does not build its nest. Hence, there is an opportunity for nearly everyone who has a garden, to study the habits of birds. On their arrival in spring their song delights him; then there is the mating and building of the nest to observe; the laying of the eggs, and the habits of the birds when brooding; the hatching, feeding and rearing of the young; the vacating of the nest; and finally the flight of the fledglings. What more delightful nature studies can we have than these? And these are what will draw us to the woods, where hundreds of such bird studies await us.

"The smaller animals, also, receive a share of the amateur gardener's interest and observation. A certain gardener found one morning this autumn that something had been digging holes in various places in his garden. He thought, at first, that some cat had done this, but when night after night new holes were made, he decided to investigate the matter further. He looked

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about carefully for footprints, and found some which did not look like those of a cat. He made a still closer examination, and in one hole a faint skunk-like odor was detected. But what could a skunk be making so many holes for? It was known that he fed on chickens and sucked eggs, but there were none of these here. Did he feed on the roots of plants? What could he be after? It was decided to ask someone who knew, and then the gardener learned that the skunk—which this turned out to be—which occasionally kills chickens and eats eggs, and sometimes annoys by his penetrating odor, is really a friend of gardeners, and destroys many injurious insects, among which are cutworms. And, if this skunk had been killed and examined, undoubtedly some of these insects would have been found inside it. On again looking at the holes, it was found that they were much more numerous in places where the soil was sandy and warm; and all gardeners know that in sandy soil cutworms are, as a rule, most numerous. Here was a nature study which would never be forgotten, and would lead to further studies of the habits of animals in the fields and woods.

"The amateur gardener's joys, which are perennial, receive an annual revival when New Year's seed and plant catalogues come in. What pleasant hours are spent in studying the names and descriptions of plants, from abronia to zinnia, only the lover of plants knows. And then those glorious days in spring-time when the thrill and ecstasy of life is in us and all about us! The turning of the soil and the feel of it in our hands! Even though our plants may later be destroyed by frost or cutworms, it is worth the labor just to feel that contact with the warm and steaming soil in spring. Then follows the sowing of the seeds, their germination, thinning to ensure perfect development, cultivation to conserve moisture, aerate the soil, and promote a healthy growth of the plant, the benefits of which are learned by experience, and hence are never forgotten. With what expectancy he watches the developing flower buds, and when, at last, the tender petals expand, what pleasure is derived from studying the form and color of the perfect flower!

"The vegetable garden furnishes ample food for thought as well as for the table. Its economic value is only of secondary moment to the true amateur. He grows his vegetables mainly for the love of it, and hence watches his crop with quite different feelings to the man whose livelihood depends on it. There are few methods of studying nature that are at once so practical and yet so delightful as gardening, for definite knowledge of nature's methods is here obtained by personal observation, which is one great object of nature study.

"Not only is the amateur gardener a true student of nature, but he is a public benefactor as well. His garden is a delight to all who see it. It improves the appearance of the city, town, or place in which he dwells, and even if everyone who attempts to follow his example does not catch his enthusiasm and the true spirit, he will exert a very powerful influence for good.

"One of the most hopeful turns which nature study has taken is the establishment of school gardens, where each child, with a little garden of his own, prepares the soil, sows the seed, cares for the plant, and where he should learn more about nature from his own practical experience than could possibly be taught him by another. If his garden is in a city, or town, the child will probably be more interested at first in studying the growth of ornamental plants and perhaps of fruit and vegetables, for these are what he has been brought most in contact with, and, in the teacher's effort to create a love for plants and a definite knowledge of how they grow, success will be quicker and surer if he begins with known rather than with unknown objects. In the country, where pupils are likely to become farmers or farmers' wives, special attention should be paid to economic plants, such as wheat, oats, barley, pease, corn, potatoes, grasses, and roots of various kinds, and fruit. Here nature study will, in part, take the form of elementary agriculture, although the main purpose, as elsewhere, should be to uplift the mind of the child to a nobler conception of life."

BLACK ANTS.

Kindly inform me, through your paper, how to get rid of large, black ants. SUBSCRIBER'S WIFE. Durham Co., Ont.

According to "Smith," there is no better plan for getting rid of ants than the use of carbon bisulphide. Pour a quantity into the openings of the hill, closing them up with the foot as treated. As carbon bisulphide is very inflammable, be careful in the use of it.

If the ants are in the house, and you do not know where their hill or colony is, get a couple of sponges, fill them with sweetened water, and put them where the ants congregate. As they become filled with the insects, drop them into hot water and repeat until the ants disappear.

LETTER FROM "PANSY" SIMPLIFYING WORK.

Dear Junia,—I have been a silent reader of your columns all winter, and have enjoyed them very much. I also received some very helpful hints.

I quite agree with "Gloria," from Kent Co., in her idea of a box for a baby. I have raised two that way, and now have a ten-months baby, and put her in one every day, and find it much better than allowing her to be on the floor. I am a town-bred girl, but have been on a farm for some years back. We live in a large house. I am not very strong, and as I have already said, I have three small children. I enjoy reading very much. My husband has always lived on a farm, and is still on the same farm he was born on. He is right at home with his surroundings and the community. I still do not feel "at home" in a great many ways, as I would in a town, and find it very hard to interest myself in the outside. I am alone with the work, and do all our plain sewing, and find my strength taxed to its uttermost. I have no time for flowers, reading, or much visiting. I have no relatives near me, but my husband is surrounded by his and is content in every way. Cannot you give me an idea or two to help me feel more at home on a farm? The two letters in the Mending Basket column of March 27th are splendid, only I do not quite agree with "Marie" in all her ideas. I think often a man expects his wife to work as hard as he does, when often she has not half his strength. The Good Cook says, "Man shall earn his bread by the sweat of his brow." I think it is a man's place to work hard for his family. If it takes every ounce of a Roman's strength to do her work inside the home, I think she is doing her duty. I believe in standing up for one's own sex every time.

Hoping this, my first attempt in writing to your column, will find a place and bring an answer that may help one who is sorely taxed at times.

"PANSY."

Northumberland Co., Ont.

Pansy, I think you are just a bit overtired. Of course, with three small children you must have plenty to do, and it may be that you will just have to wait for rest-time and leisure to read until the bairnies grow up a bit; yet, there are surely a few ways by which you can economize health and strength.

Let us think about it.—What about closing up a part of that big house for the summer. Could you manage that? And have you paint or linoleum on all your "bare" floors? If so, a dustless mop, or even a homemade one, made according to directions in to-day's Scrap Bag, should simplify that part of the work a little. As for other dusting, why not pack away a good many of the knick-knacks for the summer.

The laundering is always a heavy part of housework, so what can be done about that? If the weather should chance to be hot, what about letting the little ones run about in rompers and overalls most of the time? Then, eliminate ironing on everything possible. "Everyday" sheets, towels, tea-towels, stockings and knitted underwear certainly do very well without even the touch of an iron, while working dresses and shirts may be straightened out sufficiently to "do" by hanging them on the line, direct from the rinsing water, without wringing them at all, but taking care to pin them on so that the water in running off will follow the natural lines of the

garment when worn. By using cotton crepe (which scarcely requires the touch of an iron; a slight pressing with a warm one on the hems being sufficient) for afternoon dresses, blouses, and night-dresses, the process may be simplified still more.

In the kitchen, have a zinc top put on the work-table, and plan your cooking to make as little work as possible. It is easier to make simple things than elaborate things. A friend of mine in town here has brought about quite a revolution in this respect. Instead of pie and pudding, she now serves brown, raisin or currant bread, with fruit most of the time, and has found that the family like it even better. Cake, too, has almost disappeared from her table, upon which milk-soups with biscuits, lettuce with cream and sugar, green onions, vegetable salads, cheese, sliced tomatoes, egg-salad, and cold meats, give plenty of variety, with the inevitable fruit—raw, with sugar, whenever available—to finish. "More wholesome and less trouble," she says.

Of course, I do not know your circumstances, so do not know whether you can afford labor-saving utensils, etc., or not, but if you can afford them you will find them a great comfort. The blue-flame oil-stove, the steam-cooker, the fireless-cooker, the washing-machine, wringer, rubber or galvanized-tin bathtub (where porcelain cannot be had), carpet-sweeper, dustless mop, bread-mixer, plenty of pans and kettles, and knives and spoons for all purposes—who that has ever owned these would care to be without them?—to say nothing of a baking cabinet and refrigerator. If you are interested, you may find some ideas in a Women's Institute paper, by Mrs. Nott, to be given, nothing happening to the contrary, in an early issue of this paper.

You are not interested in the out-of-doors? That must be because you are too busy to find time for any of the interesting things,—too busy to fuss with a few flowers, or with little chickens, or with the vegetable garden. Perhaps a few books would stimulate your interest, if you can afford the money and time; a good poultry-book, Bailey's "Manual of Gardening," Neltje Blanchan's "Bird Neighbors," Alice Lounsbury's, "A Guide to the Wild Flowers." Many others might be mentioned. The happiest women I know take an interest in all these things.

Then there are the neighbors,—have you tried being interested in their interests, in being just your nicest, friendliest, sweetest, most generous self with them? If so, you must surely have touched a chord here or there. Perhaps they have been a bit afraid of you because you came from town, and so have been reserved, and you have been a bit reserved, too. If so, there may be a few barriers to break, but frank and kindly sincerity can do much.

Perhaps I have not answered very well your question, "How can I feel more at home on the farm?" but I do not know what more to say. Personally, I love the farm—when it is made a place for intelligent effort and the right balance of things rather than a place of mere drudgery—and I love the country, the animals, the birds, and the plants, so perhaps I have a different view-point.

THE RIGHT SPIRIT.

Dear Junia,—As Mr. Pearson has offered a prize again for Peel County flower-gardens, I wish to enter the competition, and hope I may be as successful as last year.

I hope you may receive at least 100 names for this competition. I cannot understand why all the farmers' wives and daughters do not show Mr. Pearson that they appreciate his generosity, by making as fine a flower-garden as possible, even though they may not be successful in winning a prize. Think of the pleasure they will have all summer watching the flowers grow. Wishing all the competitors success with their flowers.

A PEEL CO. COMPETITOR.

I have taken off the name of the writer of the above letter, not knowing whether she might wish it to appear or not. It certainly seems to me to express the right spirit in this competition, or in any other competition; it is not the prize, but the "game," that should count most.

The writer of the above has been en-

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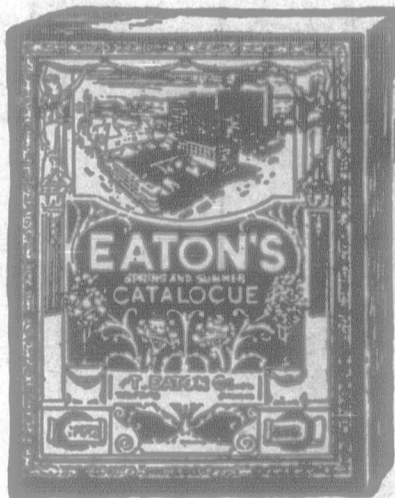
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tered as sixth, so far, in the Pearson Competition for Peel County. . . . Whisper it low—but one, single, solitary entry has been received from Halton County! What is the matter with Halton County? Surely it will have to do better than this, or Mr. Cox will be tempted to withdraw his very liberal offer.

I have a friend who is given to talking, rather inelegantly but very expressively, about "bucking up," meaning thereby, "holding her own" in certain circumstances. Well, it certainly seems as though Halton County should "buck up" in this matter, and, at least, come up to Peel County in the number and excellence of its gardens entered for competition. There should surely be a chance for rival or union flower-shows in these adjoining counties of Halton and Peel, but such a development can never come unless Halton County shows a little more interest.

Shall we give you one week longer in which to send in your applications, Haltonites?

SEALING MAPLE SYRUP.

"Greybird" writes:—"Regarding maple syrup, I always seal mine hot. I let it cool and settle, and boil up again the next day in the house. I have all the sealers sterilized, and seal the minute they are filled. I, too, have some of last year's as good as the day on which it was made."

NO NAME SIGNED.

Someone from Sanford, Ont., sent 10 cents for a pattern, but forgot to sign her name. Clearly, we cannot send the pattern without this information.

Seasonable Recipes.

Mint Jelly.—Boil 1 cup sugar and 1 cup vinegar five minutes. Add 1 tablespoon gelatine which has soaked for some time in cold water to cover. Also add ½ teaspoon each of salt and white pepper or paprika, and stir until the gelatine is dissolved. Next add ½ cup mint leaves chopped fine. Set the dish into ice-water and stir occasionally until

it begins to thicken, then turn into small moulds and set aside to become firm. Before serving, with lamb or cold meat, decorate with sprigs of mint.

Cheese Salad.—Dissolve 1 tablespoon powdered gelatine in 4 tablespoons boiling water; strain, then add ½ lb. cheese, grated, 1 pint whipped cream, and seasoning of salt and white pepper or paprika. Turn into a wet mould and set in a cold place to become firm (may take over night). Turn out on lettuce leaves and serve with salad dressing. These quantities will be enough for ten or twelve people.

Cocoonut Custard.—Blend ½ teaspoon cornstarch in a little cold milk. Heat almost a pint of milk in a double-boiler, and stir in the cornstarch. While cooking, beat up 2 eggs with 2 tablespoons sugar, pour the scalded milk over them and return to the fire to cook until creamy. Remove, set in cold water, and stir until almost cold, then add ½ teaspoon vanilla and ½ cup desiccated cocoonut. Serve alone, or poured over crumbled stale cake, cookies, or macaroons.

Whole Wheat Bread.—Scald 1 pint milk and add 1 pint boiled water. Cool, and when lukewarm add 1 cake compressed yeast dissolved in 4 tablespoons lukewarm water. Add 1 quart whole-wheat flour and beat well for five minutes. Set in a warm place to rise—about 2½ hours in summer. When light and spongy, add enough whole-wheat flour to make a dough. Turn this out on a floured board and knead until smooth and elastic. Divide into four loaves, place in pans, cover, and set in a warm place for an hour. Brush tops of loaves with a little warm water and bake in a moderate oven 45 minutes.

Fruit Potpie.—Stew any dried or canned fruit until soft, then make rich with sugar. Stew a while longer, then drop in dumplings made as follows: Sift 2 cups flour, ½ teaspoon salt, and 2 teaspoons baking powder together, add 1 cup rich milk, and beat until smooth. Drop by spoonfuls into the bubbling fruit and cover very tightly. Do not open for 10 minutes, then remove the cover and serve at once.

Moulded Prunes.—Boil 1 lb. prunes in



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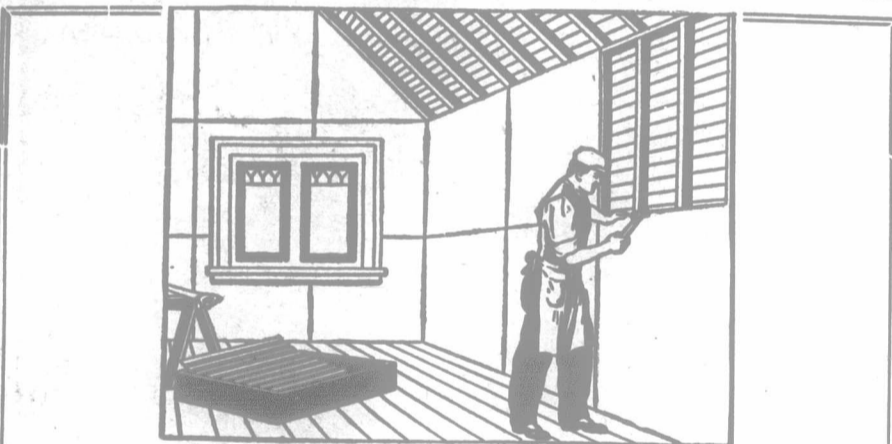
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1 pint water until soft, then take out the stones, crack the kernels, and add them with grated rind and juice of 1 lemon, 6 drops cochineal cake-coloring if you have it, and 1 ounce powdered gelatine dissolved in a little water. Stir all well, pour into a mould, and set in a cool place to stiffen. When ready, turn out into a pretty glass dish, and serve with cream.

Scrap Bag.

WORK TABLES.

Cover the kitchen work-table with zinc, and avoid the constant scrubbing necessary to keep a wooden table clean.

ECONOMICAL SERVERS.

If you have any old pictures with plain wooden frames stowed away in the attic, remove the pictures and substitute for them a piece of pretty chintz or cretonne under the glass. Now have a firm, wooden back, tacked on and handles added, and you will find that you have achieved very pretty and useful servers at very little expense.

A FLOOR MOP.

Slash old stockings in strips an inch wide to form a fringe. Stitch several thicknesses of this to a strip of cloth 3 inches wide and 10 inches long. Saturate with a good furniture polish, and fasten on a mop-stick. Use for taking the dust off hardwood or painted floors.

TO CLEAN PANAMA HATS.

Sprinkle the hat with well-dampened cornmeal, let stand 15 minutes, then brush with an old nail or vegetable brush. Repeat, if necessary.

CARE OF SHEET-IRON STOVE.

Rub the stove over once a week with a flannel wet with a little sweet oil or melted lard. This will clean it, and preserve it from rust.

TO REMOVE ICE-CREAM STAINS.

First sponge the stain carefully with clear warm water to dissolve the sugar, then use naphtha or ether for the grease. Have a pad of absorbent cotton under the spot, and rub with the naphtha in an ever-widening circle to prevent a ring. Use just enough naphtha to dampen the silk.

TO KEEP CORSET STEELS FROM RUSTING.

Cut a strip of chamois-skin the width of the inner steel, and sew it down securely on both sides, the whole length of the steel.

TO PREVENT MILDEW.

Put an open dish of quicklime in your damp cellar or cupboard, renewing it every week.

EASY LAUNDERING.

Put contents of 1-lb. can of lye into a 2-gallon earthen jar. Add 3 quarts water and stir well. Take 1 lb. unslaked lime or 2 or more pints slaked lime, according to the strength, and place in a 2-gallon jar. If unslaked, slake by pouring on a little water, and stir as it begins to heat, add more water as it begins to boil, and when through boiling fill the jar with water. If already slaked, fill the jar with water and stir well. When thoroughly settled, pour the clear liquid into the jar with the lye.

A pint of this fluid and a half cake of soap shaved thin, will be sufficient for 3 or 4 boilerfuls of clothes. Soak the clothes 3 or 4 hours in cold water, and wring out before boiling. Very little rubbing is required for clothes washed this way. Of course, only white clothes may be so treated.

The readers of "The Advocate" will find the Baldwin Dress all that the manufacturer claims for it; page 1040. Send for description. Many compliments have been received.

In Luck.—"The codfish," said the professor, "lays more than a million eggs." "It is mighty lucky for the codfish that she doesn't have to cackle over every egg," said a student who came from a farm.—Indianapolis Journal.

Mending Basket.

The School Teacher.

Dear Editor,—We are going to have another discussion, and I am asked to open the ball, or rather set the ball a-rolling. This time the subject is to be "School teachers," and, no doubt, after I get through I will have a good many of that persuasion after my scalp, but, as I have been told before, my back is broad and I can stand it.

Now, I wonder at the beginning, how many of you who were at the Women's Institute Convention in Toronto, thought that some of the speakers had the idea that it was a good chance to get a crack at the farmers' wives, and tell them their duty, Arthur Hawkes for instance, putting in his plea for the hired man, and altogether ignoring the other side of the story, as to what some women had to put up with, on account of hired men.

Then there was the discussion on the school teachers, Prof. McCready, I think it was, saying that the school teacher was a unit by herself in the community. The Minister had his trustee board and class leaders, and other members working with him, but the school teacher had nobody. The trustees were mostly unlearned, unlettered men, not her equal, and the wives and daughters of the neighborhood no better. At least that was the impression I got of what was said. "Ye gods and little fishes!"

There was also a lot said about school teachers not joining the Institute. Now why don't they? If they think they are so much better educated than the common run, why don't they go out and spread their knowledge for the good of the community? I stated then, and do so again, that our Institute has been in existence for about ten years and we never could get a teacher to take an interest in it, but I must qualify my statement now, for I think that our present one does. Nearly all the ladies who spoke seemed agreed that the majority of teachers did not take an interest in the Institute, and all seemed to think that the teacher from her pedestal of learning looked down on her less educated sisters, and there was also a little piece in the "Globe" at the time that showed, at least, one other woman thought the same.

Now friends, that is an error that I wish to correct, namely, that a school teacher is better than her peers. Of course there are school teachers and school teachers. There are good ones and bad ones, the same as of other people. But the girl who has "book learning" and cannot make bread or cook a meal, maybe is not as well educated as you are.

But it is not always the girl's fault. I have heard a mother say, "I know the lack of education myself, but I am bound that Mary won't. She'll have to go to school, and I don't want her to do the dirty work that I have to do, such as washing and scrubbing. She'll be above that; she'll be a teacher," and so the poor girl is made a lady, (save the mark!) supposed to be better than her mother. Poor girl, and poor mother!

One girl, who went to ask about board, enquired as to terms. "Well," said the lady of the house, "it depends on what you do." "Depends,—how?" asked the girl, "Well, it depends on whether you make your own bed, and take care of your own room, or do your washing." "Oh," said the girl, "I couldn't do any of that kind of work. Where I board they will have to take care of my room, and I will take my washing home to mother." Again, I say, poor useless girl, and poor mother! The same girl, after being out picking berries in the holidays, exclaimed, "Oh, look at my hands! They're so brown. I'm ashamed of them," but one standing by said, "If they were anything else but showing the signs of work, then you might have cause to be ashamed of them."

Then I could tell you of lots of questions that teachers have asked me concerning common every day things. Only last spring I was asked by one, "What do you call those little round flowers?" meaning daisies. Thought I to myself,

"What ignorance! I thought you were taught natural history, and if you were not, nearly every youngster would know a daisy."

Just here let me whisper it, friends, that the reason some teachers don't attend the Institute is that the Institute is supposed to have a lot to do with cooking and household economy, and such things wherein a great many teachers fall short, and I think they do not come because they are afraid to show their ignorance. Some have said to me when I have asked them to get up a paper, "Oh, I couldn't do it, especially if so-and-so is to be there. She has been a teacher you know." Well, that is all right so far. We have had many excellent papers from teachers, and hope for others, but, at the same time, I know of teachers who could do the literary part all right if they only knew the practical part, and the woman who has not the "book learning" may be full of practical ideas if she could only explain herself.

In some cases the meetings are held in the afternoons when teachers cannot go, but in others they are held in the evenings, and, in some cases, on Saturdays for the convenience of the teacher and the girls at school. At one meeting lately our teacher stretched a point, and kept a few minutes off the scholars at recess, and half an hour at noon, and let them out at three and came to the meeting late, which was better than not coming at all. I don't think the trustees would say a word to a teacher if she did that several times in the year, especially trustees who know what benefits accrue from the Institute.

Once in "The Farmer's Advocate," quite a long while ago, Junia gave us a talk on school teachers. She said the poor things had often to leave home when quite young and take up onerous duties and stand a lot of criticism, which is true, and she begged of the farmers' wives to take a motherly interest in the new teachers and invite them to their homes, which was also right, and she also said a lot about taking them in to board and all that, but she was like Arthur Hawkes, she forgot the other side. She did not say, "Now girls, when you go off to your new school, and some kind lady takes you into her house to board and uses you well, see that you do a daughter's part by her; see that you do not cause her any extra work or anxiety that you can avoid, for farmers' wives have lots to do; and don't be running to parties four nights in the week and coming in at all hours, keeping the poor woman awake, wondering what Tom, Dick or Worry you are with. For remember she knows their reputation better than you do."

It is strange, isn't it? that some teachers, who hold aloof from the farmer and his wife and daughter, because of their lack of education, have no objection whatever to going out with the farmer's son, especially if he has a fine horse and buggy at his disposal. But often it is the gay and giddy kind who do that, and very often they marry the son and settle down as useless housekeepers, and show their lack of education in practical matters. But there are other kinds, and the kind I like to see is the girl who is not spoiled by education; the girl who is not ashamed to do physical work when needed, and is not afraid of it either; the girl who, when she comes home from school or for holidays, is out to see the colts and the calves, or takes an interest in the garden; the girl who can "bake and brew, and cook and stew," and make her own clothes, or turn her hand to anything when needed. Such a girl, in my estimation, shows her education.

It has been a false idea in the old land and in this one too, that education unfits one for work, or that those who have money don't need to work. What we want is educated workers, people who will give this old world a hoist along, and make it the better for their being in it. I don't believe in "Blessed be drudgery," but I do believe in "Blessed is work." I believe, as Count Tolstoi did, that if we did physical labor one-half of the day and took the other half for educational and recreational purposes, life would be ideal. I have never had teachers to board, but I have had lots to visit me,

and one who came last summer (a teacher of Domestic Science) I am going to describe:

A SUMMER GIRL.

A lassie came to visit us
From far across the sea,
And stayed awhile in Canada
Where we delight to be.

She was not just the general sort
Of summer girl, you know,
And did not see in every man
A sort of summer beau.

Her head was screwed the proper way
And tightly fixed in place,
Her brain was where it ought to be,
And comely was her face.

Her thoughts were as a maiden's chaste,
Surpassing fresh and fair,
Her mind was stored with useful lore,
And coal-black was her hair.

She was not like the ordinary run
Of summer girls from town,
But often worked out in the sun
So that she might get brown.

She hoed the turnips in the field
And helped to rake the hay,
And many a busy hour did spend
On many a summer day.

She gathered fruit, and gathered eggs,
And helped to shell the peas,
She always helped to milk the cows,
And other jobs like these.

She led the horses to the field
And rode upon their backs,
She lectured in our Institute
And told us many facts,

Of how to do this thing, or that,
Of how to brew and bake,
Of how to cook in paper bags,
And ice a fancy cake.

Of course she took some rest between
And many an hour did pass
Just lying mong'st the pretty flowers
Or out upon the grass.

But summer went, and so did she,
And we were left to mourn,
And now another summer's come
We hope, she will return.

But if you don't, Oh summer girl,
We hope you'll get your due,
And may you often think of us
As we will think of you.

GREYBIRD.
[This is an interesting subject, and it has been dealt with in an interesting manner. Has anyone else anything to say about it? What about the teacher's side of the story?]

Ceres.

By Bliss Carman.

I am the daughter of earth and sun;
In the dusk I dream, in the wind I run.

I touch the fields with a greening fire,
And the yellow harvest is my desire.

When over hill comes the silver rain,
I spring with joy of the springing grain.

The farm land loves me, the acres know
Promise and fragrance where I go.

Over the furrows I wave my hand,
And gladness walks through the plenteous land.

In all the valleys at golden morn
My garments sweep with the rustling corn.

The laughing meadows from hill to sea
For a thousand years have been glad of me.

When foamheads break in the surging rye,
I race with billow against the sky.

Lifting the song of the mother kind,
And the scarlet poppies troop behind.

Then when the far-spent rivers croon
To the rising shield of the harvest moon,

With all the good well won from harm,
I come at last to the reaper's arm—

I sink to the ground, my senses dim,
And I give my life for a gift to him.

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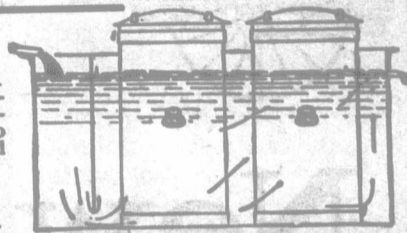
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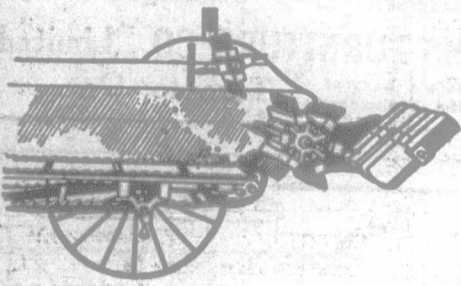
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- HOG MEAL
- POULTRY BONE
- BONE MEAL
- CALF MEAL

Or any other line of Stock or Poultry Food. Write:

GUNNS LIMITED, West Toronto

No "Apron" on New Idea

The old time apron, with its slats that get choked up with manure and rot, with its attendant rollers that collect dust and dirt, has been superseded by the New Idea Conveyor.



Built with cross bars of heavy steel channels and a No. 77 malleable chain, every link of which has been tested for strength. This Conveyor is, we believe, indestructible. It is giving the greatest satisfaction to owners of the

New Idea Manure Spreader

The New Idea is different to other spreaders. About the only point of similarity is, that it and others run on four wheels. No other spreaders have two cylin-

ders, a distributor, a gearless drive, a steel reach connecting front and rear axles together—but write for booklet giving complete particulars.

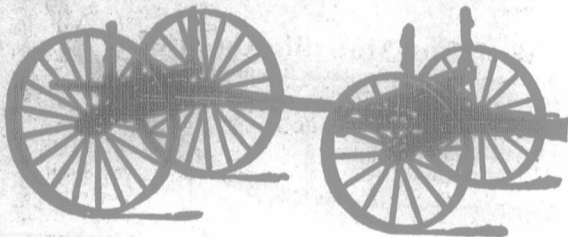
Tudhope-Anderson Co., Limited

ORILLIA CANADA

M. MOODY & SONS CO., TERREBONNE, QUE.

Selling Agents for Province of Quebec.

Electric Steel Wheel Farm Trucks



Saves both labor and horses. Write for catalogue and prices.

ELECTRIC WHEEL CO.
8 Elm St., Quincy, Ill.

Or **NORMAN S. KNOX**
47 Wellington Street East
Toronto, Ont.
Eastern Canadian Sales Agent

Wearing of the Green.

Had ye ever a glimpse of a slim little snake
That slipped like a shadow the grass-blades between,
Threadin' together the dew-drops to make
A necklace of beads on a ribbon of green?

Acushla Machree, now jest let him be,
For the poor little heart of him's over the sea
'Tis the green that he's wearin' whenever he's farin'
For love of old Erin,—but nobody's carin'!

They drove him away one beautiful day,
And now he has nowhere to go or stay.
Och hone! Yet still to the bone
He's Irish, Acushla, so leave him alone.

Had ye ever a sight of an elderly frog
That sits by the side of the pond in the spring,
And calls to his brothers: "Come out o' the bog;
Come on out o' that an' get ready to sing!

Acushla Machree, now jest let him be,
For the poor little heart of him's over the sea.
'Tis the green that he's wearin'; whenever he's farin',
For the love of old Erin—but nobody's carin'.

They drove him away one beautiful day,
And now he has nowhere to go or stay.
Och hone! Yet still to the bone
He's Irish, Acushla, so leave him alone.
—Harriet F. Blodgett.

SEEDS

Ready for Prompt Shipment
—Bags Free. If wanted
by mail, add 5c per lb.
to prices quoted.

- SEED CORN, tested for germination, 85% and better. Sound and dry. Improved Leaming White Cap Yellow Dent, Early Bally, Wisconsin No. 7, shelled, \$1.25 per bush. On cob (70 lbs.).....\$1.35 per bush.
- Buckwheat, Silverhull, 80c " Rye Buckwheat.....\$1.75 per bush.
- Millet, choice sample, \$1.50 "
- Hungarian, choice sample.....\$1.50 per bush.
- Alfalfa, choice sample, No. 1 G. S., \$12.00 per bush.
- Early Amber Sugar Cane, 5c per lb.
- Hairy or Sand Vetch..... 10c "
- Dwf. Essex Rape..... 7½c "
- Thousand Headed Kale..... 25c "
- Turnip, Swedes, Prizetaker, New Century, Elephant or Jumbo, 20c per lb.
- Turnip, for fall-feeding, Greystone, P. T. Y. Aberdeen..... 20c per lb.

A BARGAIN IN POTATOES
Choice Early Ohio fat \$1.25 per bag.

BARGAIN IN ONION SETS
Express charges paid if over 20 lbs. ordered. YELLOW, 8c per lb. WHITE, 8c per lb. Shal-lots, 6c per lb.

GEO. KEITH & SONS
Seed Merchants Since 1866
124 KING ST. EAST, TORONTO

News of the Week.

CANADIAN.

An Armory, to cost \$1,000,000, to be used exclusively by the Queen's Own Regiment, is to be built in Toronto by Government order.

The great Presbyterian Congress was opened in Massey Hall, Toronto, on June 1st.

A majority of the Dominion Senate last week approved the amendment submitted by Sir George Ross, declaring that the Navy Bill should be submitted to the judgment of the country.

The eleven bars of Manitoulin Island will be closed on August 1st.

Work on the Trent Valley Canal will be begun in the near future, on the section between Lake Simcoe and the Georgian Bay via the Severn River.

BRITISH AND FOREIGN.

Lord Avebury, better known as Sir John Lubbock, banker, scientist, politician, and author of many books, including "Pleasures of Life," and "Use of Life," died in London, Eng., last week, at the age of 79.

Successful wireless telephone communication has been established between Berlin and Vienna, a distance of 375 miles.

The German vessel, The Imperator, the largest passenger steamship ever built, will start on her maiden trip to New York on June 11th. All the berths for the return trip have been taken.

Mrs. Pankhurst was re-arrested last week and put in Holloway jail.

A loan of \$500,000,000 is being raised in London to build 10,000 miles of railway in China.

Owing to the difference between the two parties in China, the Republicans led by Yuan Shi Kai, and the Nationalists, who recognize Dr. Sun as their head, Dr. Sun has written a letter warning the five nations of the danger to China if the Quintuple Power loan of \$125,000,000 is completed. This loan was agreed to and signed by Yuan and his Cabinet without the approval of Parliament.

The Labor party was returned to power by the elections which took place in Australia May 31st.

The British Ambassador and Secretary of State Bryan, on May 31st, signed a renewal of the arbitration treaty between Great Britain and the United States.

A good anecdote is told of the two celebrated barristers, Balfour and Erskine. Balfour's style was gorgeously verbose: Erskine's was crisp and vigorous. One day Erskine noticed that Balfour's ankle was bandaged. "Why, what is the matter?" asked Erskine. "I was taking a romantic ramble in my brother's garden," Balfour said; "and on coming to a gate, I discovered that I had to climb over it, by which I grazed the epidermis of my leg, which has caused a slight extravasation of the blood." "You may thank your lucky stars," replied Erskine, "that your brother's gate was not as lofty as your style, or you would have broken your neck."—Exchange.

The readers of "The Advocate" will find the Baldwin Dress all that the manufacturer claims for it; page 1040. Send for description. Many compliments have been received.

A chiropodist advertises that he has removed corns from all the crowned heads of Europe.

Dragon-flies.

By Madison Cawein.

You, who put off the water-worm to rise,
Reborn, with wings; who change, without ado,
Your larval bodies to invade our skies,
What Merlin magic disenchanting you,
And made you beautiful for mortal eyes?

Shuttles of summer, where the lilies sway
Their languid leaves and sleepy pods and flower,
Weaving your colored threads into the day,
Knitting with light the tapestry of hours,
You come and go in needle-like gray.

Now on a blade of grass, or pod, as still
As some thin shred of heaven, motionless,
A point, an azure streak, you poise, until
You seem a figment summer would express
But falls through utter indolence of will.

Then suddenly, as if the air had news,
And flashed intelligence of faery things,
You vibrate into motion, instant hues,
Searching the sunlight with diaphanous wings,
Gathering together many filmy clues.

Clues, that the subject mind, in part, divines,
Invisible, but evidenced through these;—
The mote, that goldens down the sun's long lines,
The web that trails its silver to the breeze,
And the slow musk some fragile flower untwines.

Could we but follow! and the threads unwind,
Haply through them again we might perceive
That land of Faery, youth left far behind,
Lost in the wonder-world of make-believe,
Where Childhood dwells and Happiness of Mind.

And, undelayed, far, far beyond this field
And quiet water, on the dream-road trail,
Come on that realm of fancy, soul-concealed,
Where we should find, as in the faery tale,
The cap through which all Elfland is revealed.

The Car.

He owned a handsome touring car.
To ride in it was heaven.
He ran across a piece of glass—
Bill—\$14.97.

He took his friends out for a ride,
'twas good to be alive.
The carburetor sprang a leak,
Bill—\$40.95.

He started on a little tour,
The finest sort of fun.
He stopped too quick and stripped the gears,
Bill—\$90.51.

He took his wife downtown to shop.
To save the car fare was great.
He jammed into a hitching post,
Bill—\$278.

"Tim," inquired Mr. Rife, glancing up over the door of the post-office, "what is the meanin' of thim letters, 'MDCCCXXIII'?"
"They mean eighteen hundred an' ninety-eight!"
"Tim," don't it strike you that they're carryin' this spellin' reform entirely too far?"

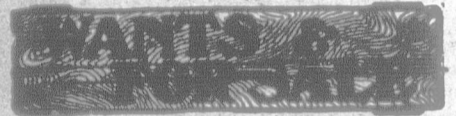
In School.—Teacher—"The right to have more than one wife is called polygamy. What is it when only one wife is allowed a man?"
Willy—"Monotony, ma'am,"—Lippincott's.

"1900" Washer —Sent FREE

I'll send you a Washer on 30 days Free Trial absolutely at my own expense and risk. Does not cost you a cent. My machines Must wash clean—save labor—save time—or I couldn't make this offer year after year, could I? Write to-day for booklet and particulars of my "Pay-me-as-it-saves-you" plan. Address me personally, W. O. MORRIS, Manager "1900" Washer Co., 357 Yonge St., Toronto, Can.

Farm For Sale

85 ACRES IN ARKONA FRUIT BELT in good state of cultivation; 10 acres bush, mostly rock elm; good orchard; plenty of small fruit; water in abundance in house and barn; buildings large and nearly new; barn on basement; good fences. Price \$4,500 for quick sale. A snap. Telephone and rural mail route. Owner will also sell stock and machinery if desired. Apply: BEAMER FAULDS, ARKONA, ONT.



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock. TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

ALL kinds of farms. Fruit farms a specialty. W. B. Calder, Grimsby, Ont.

AIM FOR VANCOUVER ISLAND—Canada's most favoured climate; suits middle-aged and elderly people well; good profits for ambitious men with small or large capital in business, professions, fruit growing, poultry, mixed farming, manufacturing, mining, fisheries, timber, railroads, new towns, endless opportunities. Write to-day for authentic information. Vancouver Island Development League, 1-29 Broughton St., Victoria, B.C.

FOR Scotch Collie puppies, write for particulars: Roy Price, Port Rowan, Ont.

HELPFUL literature for Bible students free on application. Secy. International Bible Students' Association, 59 Alloway Ave., Winnipeg.

HAVING stopped shipping milk to the Farmer's Dairy, Toronto, my shares of stock in the company are for sale cheap. Apply to Box 5, Sengrave, Ont.

SITUATION as horseman. Competent in the care of studs, both breeding and showing. A. C., care of Ralph Pinkerton, Essex, Ont.

POULTRY AND EGGS

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

SINGLE-COMB Brown Leghorns. The kind that lays, \$1.25 for fifteen. William Barnett & Sons, Living Springs, Ont.

WHITE Wyandottes exclusively. Eggs \$1.00 per 15. Good hatch guaranteed. Theo. F. Price, R. R. 3, Ingersoll, Ont.

S.-C. White Leghorns—Great laying from special matings, \$1 per 15; \$4 per 100. GEO. D. FLETCHER, ERIN, ONT. R. R. No.

For Sale—Pure-bred Scotch Collies, extra good workers; farm-raised. Apply to CONRAD SCHMIDT, Box 429, New Hamburg, Ont.

Lincolndale Pure-breds

Four Registered Ayrshire bulls ready for service, 3 Ayrshire heifer yearlings, 4 Ayrshire bull calves, 10 Registered Holstein calves, 1 two-year-old Registered Jersey bull and one yearling Jersey bull. These are all from very heavy milkers, most of which are in the Advance Registry. For full information address:

LINCOLN AGRICULTURAL SCHOOL
Lincolndale, New York

Lice Murder Chicks
check laying, stunt growth, ruin the plumage, torture the hens
PRATT'S LICE KILLER
(Powdered) murders lice and so insures greater profits.
2c. 50c. Guaranteed. Pratt's 160-page poultry book 10c. by mail.
Pratt Food Co. of Canada Ltd., Toronto

Vespers.

The robins call me sweet and shrill.
"Come out and fare afield;
The sun has neared the western hill.
The shadows slip down sure and still,
But in our meadow wide and wet
There's half an hour of sunshine yet;
Come down, come down!" Who
would not yield?

Across the road and through the lane,
Where buttercups grow tall and bright,
With daisies washed in last night's rain,—
Beyond the open bars I gain
An angle of the rude rail-fence,
A perfect coign of vantage, whence
Wheat-field and pastured stretch in sight.

The cows, with stumbling tread and slow,
One after one come straggling by,
And many a yellow head falls low,
And many a daisy's scattered snow,
Where the unheeding footsteps pass,
Is crushed and blackened in the grass,
With brier and rue that trampled lie.

Sweet sounds with sweeter blend and strive;
In its white prime of blossoming
Each wayside berry-bush alive
With myriad bees, hums like a hive;
The frogs are loud in ditch and pool,
And songs unlearned of court or school
June's troubadours' all around me sing.

Somewhere beneath the meadow's veil
The peewee's brooding notes begin;
The sparrows chirp from rail to rail;
Above the bickering swallows sail,
Or skim the green half-tasseled wheat
With plaintive cry; and at my feet
A cricket tunes his mandolin.

High-perched, a master-minstrel proud,
The red-winged blackbird pipes and calls,
One moment jubilant and loud,
The next, to sudden silence vowed,
Seeks cover in the marsh below;
Soft winds along the rushes blow,
And like a whisper twilight falls.

What Lies at the Root.
"Billy and I go upon these wayside rambles after the quiet beauty of the country." Her tone was half laughing, half vexed. We had not much more than cleared the gateposts before she began.

"Touch up your old nag, dear, and let's get somewhere," she suggested. "It's cooler, too, when you go faster." Poor Billy don't think so, but I did get him to trot a little. It wasn't much use. Helen simply fretted until I had an awful nervous feeling as if I was trying to push fat old Billy along by main force.

To cap the climax, he cast a shoe. I shall always believe he did it on purpose, in revenge for all the unkind things she said about him. Anyway, it delayed us a half-hour at the blacksmith shop, near which it luckily happened.

That half-hour killed any joy that might have survived the things that had gone before. Helen wouldn't be happy nor let me be. The next time she goes out it will be with Ned and the car. She has no time nor patience for any pleasure attained more slowly than thirty miles an hour.

Yet, after all, Helen is to be pitied. She is but one of many who, in their mad rush after pleasure pass unheeded on the way the very thing they seek. For true it is to-day as ever, that "Patience lies at the root of all pleasure." As Ruskin has said, "Alert readiness for action or decision is fine in its place; but it needs mixed in that patience that can enjoy leisurely things; that can stop to see the flower of beauty or of need by the wayside, as well as appreciate the splendid goal at the end."—Onward.

Johnnie—"I wish I could be Tommy Jones."
Mother—"Why? You are stronger than he is, you have a better home, more toys, and more pocket money."
Johnnie—"Yes, I know; but he can wiggle his ears."

English Howlers.

The following quotations from British examination papers and themes, ridiculous as they are, might be matched from many an American teacher's experience:

The Seven Great Powers of Europe are gravity, electricity, steam, gas, fly-wheels, and motors, and Mr. Lloyd George.

Queen Elizabeth was tall and thin, but she was a stout Protestant.

During the Interdict in John's reign, births, marriages and deaths were not allowed to take place.

Henry VIII gained the title Fidel Defensor because he was so faithful to his Queen.

A Kelt is part of a Scotchman's dress.

Cave canem.—Beware lest I sing. A vacuum is an empty space with nothing in it; the Pope lives in one. A vacuum is an empty space full of nothing but Germans (germs?).

A Conservative is a sort of greenhouse where you look at the moon.

Parliament assembled in September and dissembled in January.

The Habeas Corpus act was that no one need stay in prison longer than he liked.

Wolfe gained fame by storming the heights of Abraham Lincoln.

Where was Magna Charta signed? At the bottom.

Where was Mary, Queen of Scots born, and why was she born there? Mary was born at Linlithgow because her mother happened to be there at the time.

Wellington threw up earthquakes behind him as he retreated.

The religion of the people of the Ganges Delta makes them clean, but, like other things, there are some who do not keep the rules. They live an open and free life except for the few wigwags which are inhabited by the natives. These have a funny custom of throwing their babies into the Ganges as a sacrifice to Buddha.

The Hindus generally are a hardy race, but prefer to worship in their temples rather than follow much manual labor; what little they do is mostly carrying luggage and such like; the rest of their time is spent in wandering about in the shade of the various palms.

The plains of Siberia are roamed over by the lynx and the larynx.

What is the object of distillation? Describe the process and the apparatus used. Answer: The object of distillation is the making of whiskey. You have a box and a glass tube at one end and another at the other end, and if you pour water in at the one end it comes out whiskey at the other.

Little Tommy, at the "movies," saw a tribe of Indians painting their faces, and asked his mother the significance of this.

"Indians," his mother answered, "always paint their faces before going on the warpath—before scapling and tomahawking and murdering."

The next evening, after dinner, as the mother entertained in the parlor her daughter's young man, Tommy rushed downstairs wide-eyed with fright.

"Come on, mother" he cried. "Let's get out of this quick? Sister is going on the warpath!"

No Mourner Left.—"I ate a worm," said the little tot in the kindergarten.

The teacher, thinking that perhaps the child had really done such a thing, protested warmly over the undesirability of the proceeding. "Why, just think," she said, as a final argument, "how badly the mamma worm felt to have her little baby eaten up."

"I ate she's mamma, too," was the triumphant rejoinder that proved too much for the teacher.—Harper's Magazine.

In Their Steps.—"Look here, now, Harold," said a father to his little son, who was naughty, "if you don't say your prayers you won't go to Heaven." "I don't want to go to Heaven," sobbed the boy; "I want to go with you and mother."—New Orleans Times-Democrat.

Barn Roofing

"Eastlake" Metallic Shingles

Don't Forget when you want a good roofing to use "EASTLAKE" Metallic Shingles. They protect you from Fire, Lightning and Leaks. Made of only the best zinc-coated steel sheets. Our patent interlocking side joints make an absolutely watertight, rust-proof roofing. "EASTLAKE" Metallic Shingles never need repairs. Write us for booklet. 701

THE METALLIC ROOFING CO. LIMITED

MANUFACTURERS
TORONTO & WINNIPEG

Do you remember in Dickens' story "Martin Chuzzlewit" the beef-steak pudding made by little Ruth Pinch for her brother Tom?

How she fluttered in and out in her dainty way collecting and preparing the ingredients, how excited she was over the proper making of the pudding, how distressed for fear it might not turn out just right! This is all told in Dickens' inimitable manner. Now-a-days we need not be so anxious about the outcome of our cooking experiments. If we just use a little Bovril in our beef-steak puddings, soups, sauces and made dishes of any kind, we shall produce a finely flavored, appetising dish which is certain to please far more exacting critics than plain Tom Pinch and John Westcott.

No More Sore Shoulders

Ventiplex, the new collar pad, positively prevents galls and sore shoulders. Made of a new fabric that carries all sweat and moisture to the outer surface where it evaporates, thus keeping the horse's necks and shoulders always dry—comfortable and free from galls, sores, etc.

Burlington-Windsor Blanket Co., Ltd.
Windsor, Ontario

Ventiplex

Post-mortem Chat.—Two Irishmen were working on the roof of a building one day when one made a misstep and fell to the ground. The other leaned over and called:

"Are yez dead or alive, Mike?"
"O'im alive," said Mike, feebly.
"Sure you're such a liar OI don't know whether to belave yez or not."
"Well, then, OI must be dead," said Mike, "for yez would never dare to call me a liar if OI wor alive."—Philadelphia Record.

New Hose Free

Send for six pairs of Cotton or Cashmere Holeproof Hose. Six pairs guaranteed to wear six months. If any wear, tear or break a thread in six months, you get new hose Free! Light, medium, and the heavier weights. All guaranteed.

Six guarantee coupons with every six pairs.

More than a million people in the United States and Canada now buy their hose from us in this way. They save all the darning they formerly had to do. They never wear darned hose now. They save money, too, for twelve pairs a year keep their hose whole forever. Six pairs for men cost \$1.50 to \$3 a box. Six pairs for women cost from \$2 to \$3 a box. Three pairs of children's Holeproof Stockings, guaranteed three months, cost \$1.

Think What It Means!

Think what such hose—at the price of common hose—save in time, trouble and money. Forget the darning. Forget hurtful darned places that make the feet sore. Forget the whole question of hosiery by simply buying two boxes a year!

Our 13th Year

We have been selling fine hose in this manner for the past thirteen years. In that short time we have come to be the largest house of our kind in existence. Our success is due solely to making the hose that the most people prefer. The same people buy them again and again because of their wonderful quality. In all our experience, 95% of our output has outlasted the six months' guarantee. That amounts to 24,700,000 pairs.



"Wear Holeproof Hose and Find the Merit"

Our \$60,000 Inspection

insures this quality in every stitch. We pay that amount in salaries to inspectors yearly. They examine each pair twice over, carefully, to see that it lacks every possible flaw. We do this to protect ourselves as well as to insure the wear to our customers. There is no better way that we know to make hosiery, and there are no better hose to be had. Don't you think that our million customers prove it?

The figures above refer to our business in both Canada and the United States.

Send the Coupon

Send today for six pairs of these hose to try. See what they save. Note the comfort they give. Send the money in any convenient way. Mark the grade, size and color plainly. Send the coupon below, or a post card or letter. Do it right now, while you're thinking about it. We guarantee satisfaction as well as the wear.

Holeproof Hosiery Co. of Canada, Ltd.
278 Bond Street, London, Canada

Holeproof Hosiery
FOR MEN, WOMEN AND CHILDREN

Holeproof Hosiery Co. of Canada, Ltd. (432)
278 Bond Street, London, Canada

Gentlemen: I enclose \$..... for which send me one box of Holeproof Hose for..... (state whether for men, women or children). Size..... Color.....

Weight.....

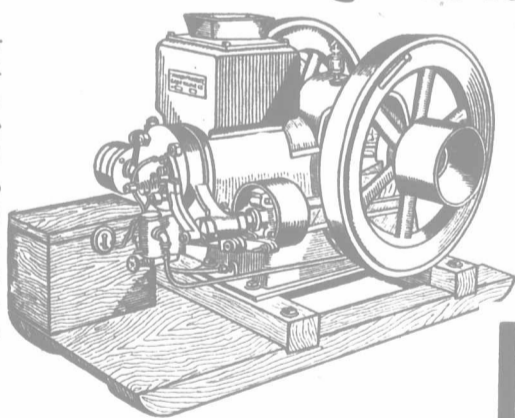
Name.....

Street.....

City..... Province.....

If About to Buy an Engine, Grinder, Cutting Box or Sawing Outfit

Sit right down and write for our catalogue describing our different lines. We build a complete line, including Gas, Producer Gas, Gasoline, Kerosene and Distillate Engines, from 2 to 400 h.-p. Our factory is equipped with the latest and best machinery and tools. Our engines are a credit to the Canadian gasoline engine industry. They are earning for us a great reputation all over Canada.



Barrie Engines

Offer the farmer reliable help at a low cost. They do lots of things, such as pumping water, grinding grain, sawing wood, etc., faster and better than a man can do them. They are built to withstand hard work and bad weather. They start easily. And they will run for hours without attention.

We guarantee the lowest possible fuel consumption on gasoline and kerosene.

Tell us the size of engine or outfit you want, and we will quote you prices and terms so attractive you can't go by us.

The Canada Producer & Gas Engine Co., Limited
Barrie, Ontario, Canada

DISTRIBUTORS:
James Rae, Medicine Hat; Canada Machinery Agency, Montreal; The Tudhope-Anderson Co., Ltd., Winnipeg, Calgary, Edmonton, Lethbridge, Saskatoon and Regina.

The Spice of Life.

Her Ideal.—The Inventor—"That machine can do the work of ten men."
Visitor—"Gee whiz! My wife ought to have married it!"—Puck.

The Costly Age.—Mrs. Hibrow—"Don't you find the Stone Age interesting?"
Mrs. Lobrow—"Yes, indeed! Willie's just that age now; but its awfully hard on the windows!"—Brooklin Life.

Rare.—"Brown volunteered to lend me money."
"Did you take it?"
"No. That sort of friendship is too good to lose. Detroit, Free Press.

Naturally.—"What happens when you put the dollar before the man?" bawled the candidate.
"The man goes after it," answered an old farmer in the crowd.—Louisville Courier-Journal.

Wise.—"Did the doctor diagnose your case?"
"Yes."
"How long did it take?"
"Not long. I wore my shabbiest suit."—Birmingham Age-Herald.

Forwith.—Author—"The very first thing I sent to a magazine was accepted."
Young Friend—"Was it poetry or prose?"
Author—"Prose. It was a check for a year's subscription.—Boston Transcript.

A little girl was lost on the street, and was brought into the police-station. The officers tried in every way to learn her name. Finally one of the officers said:
"Tell me, little girl, what name does your mother call your father?"
"Why," responded the child, innocently, "she don't call him any names; she likes him."

Tact.—The president of a small college was visiting the little town that had been his former home, and had been asked to address an audience of his former neighbors. In order to assure them that his career had not caused him to put on airs, he began his address thus:
"My dear friends—I won't call you ladies and gentlemen—I know you too well to say that."—Ladies' Home Journal.

Trade Topic.

CANADIAN NATIONAL EXHIBITION PRIZE LIST.—The prize list of the Canadian National Exhibition, Toronto, August 23rd to September 8th, is being distributed, and it shows that the management have given special attention to the Agricultural Department generally, and to the encouragement of the smaller exhibitor in particular. In cattle, more money is given to both the beef and dairy classes, and the list has been extended so that in some classes as many as eight prizes are given. Thus, the small breeder with a good animal, is practically sure of recouping, at least a part of the expense of shipping to Toronto. More money is also given to Horticulture, Floriculture, and Poultry. The entire list totals \$55,000, and as no prizes are given for manufacturers, every dollar of this goes to the products of the home, the school, the farm, and the garden. The special attractions this year are featured by three high-class bands—the Irish Guards, and one other from England, and Conway's band from Chicago, while of the spectacle, "The Burning of Rome," it is enough to say that it will be staged by John Henderson, of England, who has put on all the big spectacles of recent years in Britain.

The Hermit Thrush.

The cold wind weaves
Through shifting leaves,
Green shade and sunlight yellow—
And mottled sunlight yellow;
Where through the maze
Of wooded ways
Resounds his, calling mellow—
His distant calling mellow,
His faint and far-off song.

Hark! where he calls,
Dim waterfalls
Tinkle with music hollow—
With mingled music hollow;
And down the glen
He calls again,
Still luring us to follow
Up the green ways of spring—
The fairy ways of spring.

—McClure's

Browsings Among the Books.

Continued from page 1038.
BREAKING THE BROWN COLT.

When the mob had been put through the yards, all the unbroken horses were given into the Quiet Stockman's care, and for the next week or two the stockyard became the only place of real interest; for the homestead, waiting for the Wet to lift, had settled down to store lists, fencing, and studbooks.

It was not the horses alone that were of interest at the yards; the calm, fearless, self-reliant man who was handling them, was infinitely more so. Nothing daunted or disheartened him; and in those hours spent on the stock-yard fence, in the shade of the spreading tree, I learnt to know the Quiet Stockman for the man he was.

If anyone would know the inner character of a fellow-man, let him put him to horse-breaking, and he will soon know the best or the worst of him. Let him watch him handling a wild, unbroken colt, and if he is steadfast of purpose, just, brave, and true-hearted, it will all be revealed; but if he lacks self-restraint, or is cowardly, shifty, or mean-spirited, he will do well to avoid the test, for the horse will betray him.

Jack's horse-breaking was a battle for supremacy of mind over mind, not mind over matter—a long course of careful training and schooling, in which nothing was broken, but all bent to the control of a master. To him, no two horses were alike; carefully he studied their temperaments, treating each horse according to its nature—using the whip freely with some, and with others not at all; coaxing, coaxing, or humoring, as his judgment directed. Working always for intelligent obedience, not cowed stupidity, he appeared at times to be almost reasoning with the brute mind, as he helped it to solve the problems of its schooling; penetrating dull stupidity with patient reiteration, or wearing down stubborn opposition with steady, unwavering persistence, and always rewarding ultimate obedience with gentle kindness and freedom.

Step by step, the training proceeded. Submission first, then an establishment of perfect trust and confidence between horse and man, without which nothing worth having could be attained.

After that, in orderly succession, the rest followed: toleration of handling, reining, mouthing, leading on foot and on horseback, and, in due time, saddling and mounting. One thing at a time, and nothing new until the old was so perfected that when all was ready for the mounting—from a spectacular point of view—the mounting was generally disappointing. Just a little rearing and curvetting, then a quiet, trusting acceptance of this new order of things.

Half a dozen horses were in hand at once, and, as with children at school, some quickly got ahead of the others; and every day the interest grew keener and keener in the individual character of the horses. At the end of a week, Jack announced that he was "going to catch the brown colt" next day. "It'll be worth seeing," he said; and from the Quiet Stockman that was looked upon as a very pressing invitation.

When we went up to the yards in the morning, the brown colt was in a small yard by itself, and Jack was waiting at the gate, ready for its "catching."



Dainty, Disappearing Doughnuts.
Devoured near as fast as you make 'em.

Golden — tooth-teasing — able-bodied nuts of dough.

Made from dough that *Tastes Like Nuts*, you know.

Use **FIVE ROSES** flour.

Get that *individual toothsome*ness of *Manitoba* wheat kernels.

Doughnuts with a *Palate-Pleasing Personality*.

See 'em bob up in the rich deep fat—swelling, soft-textured.

A hole entirely circled with *Light Digestible Food*.

Fat without being fat—for **FIVE ROSES** is the sturdy *glutinous* flour that *resists* fat absorption.

Just enough to *brown* deliciously, to *crisp* quickly.

No greasiness, heaviness, egginess.

Filling a vacant place so pleasantly with *never* an *outraged* stomach.

Like these make **YOURS**.

Use **FIVE ROSES**.

Five Roses Flour

Not Bleached



Not Blended

LAKE OF THE WOODS MILLING COMPANY, LIMITED, MONTREAL

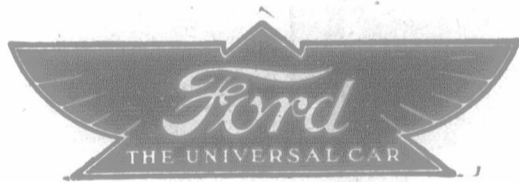
With a laugh at the wild rush with which the colt avoided him, he shut himself into the yard with it, and moved quietly about, sometimes towards it and sometimes from it; at times standing still and looking it over, and at other times throwing a rope or sack carelessly down, waiting until his presence had become familiar, and the colt had learned that there was nothing to fear from it.

There was a curious calmness in the man's movements; a fearless repose that utterly ignored the wild rushes, and as a natural result, they soon ceased; and within just a minute or two the beautiful creature was standing still, watching in quivering wonder.

Gradually a double rope began to play in the air with ever-increasing circles, awakening anew the colt's fears; and as these in turn subsided, without any apparent effort, a long running noose flickered out from the circling rope, and, falling over the strong, young head, lay still on the arching neck.

The leap forward was terrific; but the rope brought the colt up with a jerk; and in the instant's pause that followed, the Quiet Stockman braced himself for the mad rearing plunges that were coming. There was, literally, only an instant's pause, and then with a clatter of hoofs the plungings began, and were met with muscles of iron, and jaw set like a vice, as the man, with heels dug into the ground, dragged back on the rope, yielding as much as his judgment allowed—enough to ease the shocks, but not an inch by compulsion.

Twice the rearing, terrified creature circled round him, and then the rope began to shorten to a more workable length. There was no haste; no flurry. Surely and steadily the rope shortened (but the horse went to the man, not the man to the horse; that was to come later). With the shortening of the rope,



Put the rest in the bank. You'll find yourself in the best of company—your troubles lighter—your purse heavier—if you buy a Ford—and join the happy throng of those who know car comfort plus service satisfaction

More than 275,000 Fords now in service—convincing evidence of their wonderful merit. Runabout, \$675; Touring Car, \$750; Town Car, \$1,000—f.o.b. Walkerville with all equipment. Get interesting "Ford Times"—from Dept. G., Walkerville factory. Ford Motor Company of Canada, Limited.

When Writing Mention "The Advocate"

the compelling power of the man's will forced itself into the brute mind; and, bending to that will, the wild leaps and plunges took on a vague suggestion of obedience—a going WITH the rope, not against it; that was all. An erratic going, perhaps, but enough to tell that the horse had acknowledged a master. That was all Jack asked for at first, and, satisfied, he relaxed his muscles, and as the rope slackened the horse turned and faced him; and the marvel was how quickly it was all over.

But something was to follow, that once seen could never be forgotten—the advance of the man to the horse.

With barely perceptible movement, the man's hands stole along the rope at a snail's pace. Never hurrying, never stopping, they slid on, the colt watching them as though mesmerized. When within reach of the dilated nostrils, they paused and waited and slowly the sensitive head came forward snuffing, more in bewilderment than fear at this new wonder, and as the dark, twitching muzzle brushed the hands, the head drew sharply back, only to return again in a moment with greater confidence.

Three or four times the quivering nostrils came back to the hands before they stirred, then one lifted slowly and lay on the muzzle, warm and strong and comforting, while the other, creeping up the rope, slipped on to the glossy neck, and the catching was over.

For a little while there was some gentle patting and fondling, to a murmuring accompaniment of words; the horse standing still with twitching ears the while. Then came the test of the victory—the test of the man's power and the creature's intelligence. The horse was to go to the man, at the man's bidding alone, without force or coercion. "The better they are, the sooner you learn 'em that," was one of Jack's pet theories, while his proudest boast—his

COMFORT SOAP

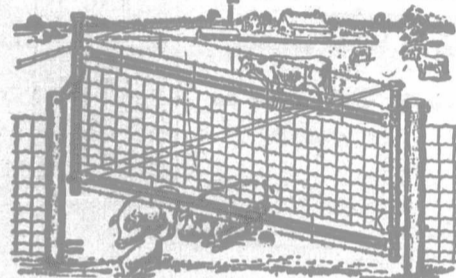
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More Soap for Less Money — Less Money for More Soap

POSITIVELY THE LARGEST SALE IN CANADA.

Before Haying and Harvest

WHAT farm gates are you thinking of getting for your farm? Choose carefully. Get gates that won't sag, bend, break, burn, blow down or rot. Get gates that will raise as shown, to let small stock through, or to lift over snow in winter. In short, get

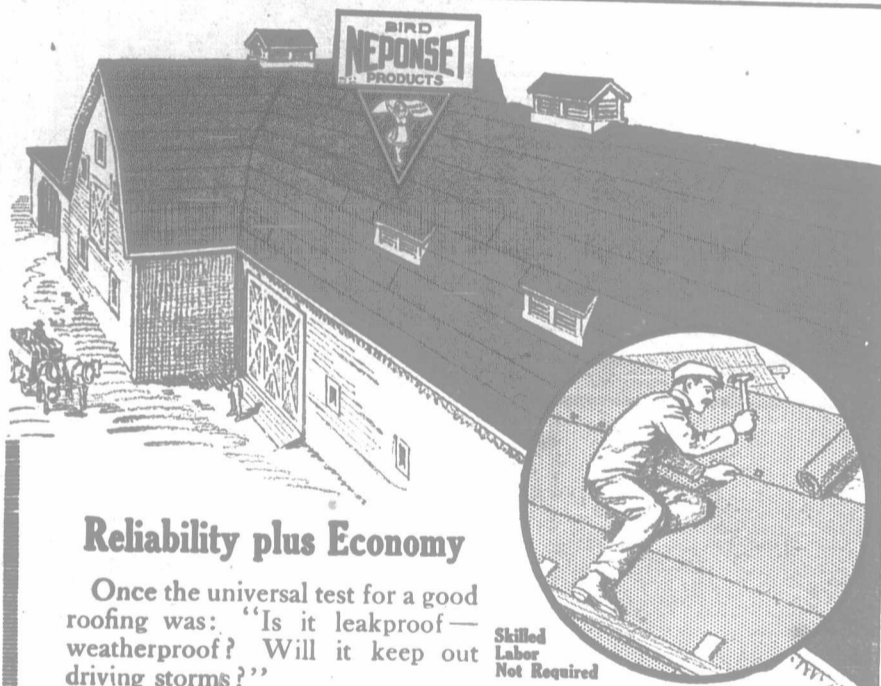


CLAY STEEL FARM GATES

You run no risk of any kind if you purchase Clay Gates. We guarantee them absolutely. You can try them for 60 days free. Clay Gates are made in many styles and sizes—a gate for every purpose.

CLAY GATES are made of tubular steel of large diameter—far stronger than gas-pipe or tee- or angle-iron; and of heavy wire mesh fabric. Easy to set up. Extremely light and strong. Last a lifetime. Send for illustrated price list.

The CANADIAN GATE CO., Ltd., 34 Morris St., Guelph, Ont.



Reliability plus Economy

Once the universal test for a good roofing was: "Is it leakproof—weatherproof? Will it keep out driving storms?"

Today the test is much broader: "Will it protect from storms and sparks and burning embers?" Shingle roofs are now prohibited in many cities by law, on account of their inflammability.

NEPONSET Paroid Roofing will do all that the best shingles ever did, and in addition is a protection against fire, won't rust, and can't blow off.

This is the positive protection NEPONSET Paroid Roofing has given for 15 years. Government engineers, architects and property owners specify NEPONSET Paroid solely on the strength of proved past performances—not on future claims. NEPONSET Paroid costs but a trifle more—lasts years longer. It is made in Canada.

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Roofings

NEPONSET roofings are a fire protection, leakproof and long lived. Anyone can lay them. NEPONSET Paroid Roofing is for general use. NEPONSET Prostate Roofing is an ornamental roofing for dwellings. Attractive colors.

Building Papers

If NEPONSET Waterproof Building Papers are built into walls and floors, the building will be warmer, will cost less to heat and will last years longer. Recommended by architects, engineers and building owners everywhere.

Wall Board

NEPONSET Wall Board is a scientific product which takes the place of lath and plaster; comes in sheets 32 inches wide. Remember, it is the only wall board with waterproofed surfaces that requires no further decoration. Anyone can put it up.

Are you going to build? Write for more facts about the products in which you are interested. Send for samples, free booklet, and name of nearest NEPONSET dealer.

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[F. W. BIRD & SON] Montreal St. John, N. B. Winnipeg Vancouver

only boast, perhaps—was that he'd never been beaten on that yet."

"They have to come, sooner or later, if you stick at 'em," he had said when I marvelled at first to see the great creatures come obediently to the click of his tongue or fingers. So far, in all his wide experience, the latest had been the third day. That, however, was rare; more frequently it was a matter of hours, sometimes barely an hour, while now and then—incredulous as it may seem to the layman—only minutes.

Ten minutes before Jack put the brown colt to the test, it had been a wild, terrified, plunging creature, and yet, as he stepped back to try its intelligence and submission, his face was confident and expectant.

Moving slowly backwards, he held out one hand—the hand that had proved all kindness and comfort—and, snapping a finger and thumb, clicked his tongue in a murmur of invitation.

The brown ears shot forward to attention at the sound, and as the head reached out to investigate, the snapping fingers repeated the invitation, and without further hesitation the magnificent creature went forward obediently until the hand was once more resting on the dark muzzle.

The trusting beauty of the surrender seemed to break some spell that had held us silent since the beginning of the catching. "Oh, Jack! isn't he a beauty?" I cried, unconsciously putting my admiration into a question.

But Jack no longer objected to questions. He turned towards us with soft, shining eyes. "There's not many like him," he said, pulling at one of the flexible ears, "you could learn him anything."

It seemed so, for after trying to solve the problem of the roller and bit with his tongue when it was put into his mouth, he accepted the mystery with quiet, intelligent trust; and as soon as he was freed from it, almost courted further fondling. He would let no one but Jack near him, though. When we entered the yard, the ears went back, and the whites of the eyes showed. "No one but me for a while," Jack said, with a strange ring of ownership in his voice, telling that it is a good thing to have a horse that is yours, and yours only.

Within a week, "Brownie" was mounted and ridden down to the house for final inspection before "going bush" to learn the art of rounding up cattle. "He'll let you touch him now," Jack said; and after a snuffing inquiry at my hands, the beautiful creature submitted to their caresses.

Dan looked at him with approving eyes. "To think she had the luck to choose him, too, out of all that crowd," he said.

"WE always call it instinct, I think," the maluka said teasingly, twitting me on one of my pet theories; and the Dandy politely suggested, "It might be knowledge."

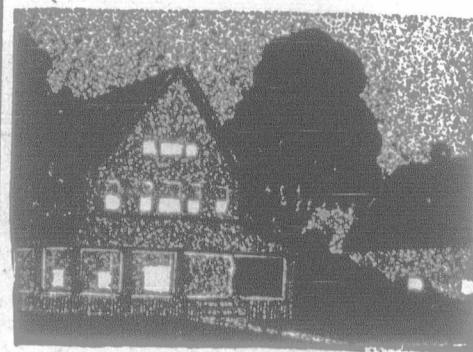
Then the Quiet Stockman gave his opinion, making it very clear that he no longer felt that women had nothing in common with men. "It never IS anything BUT instinct," he said, with a quiet decision in his voice. "No one ever LEARNS horses."—[From "We of the Never, Never," an account of life in the Australian bush country, by Mrs. Aeneas Gunn.]

2020 Biscuits.

Gentlemen,—I saw an advertisement in your paper of March 27th, that the D. Moore Company were having a guessing contest on their "Wonder Working" Othello Treasure Range, as to how many biscuits it would bake with one fire-pot of coal.

Thinking that I might be the lucky one, I answered it, and made a guess of 2,016 biscuits. I did not think at the time it would be possible to bake that many, but as they advertised it as a "Wonder Worker," I thought I would take a chance, and was informed by the company I was the lucky one, as they baked 2,020 biscuits in their range with 30 pounds of coal. Since this, I am in receipt of the dishes, and must say they are a beautiful set, and I certainly think the D. Moore Company have done the square thing, as the dishes are beyond my expectations. Yours truly,

ELVIE JOHNSON,
Petrolia, Ont.



Banish Kerosene and Hand Pumping

Discard the dirty, dangerous lamps and have clean, safe "home-made" electricity. Stop the ceaseless pumping for household and stables. Install the safe, clean, simple, economical

HOME ELECTRIC & WATER SYSTEM

Send at once for full description, special price and terms of payment.

WRITE TO-DAY.

The Home Electric Light & Water Systems

WELLAND, ONTARIO

CONNOR Ball-Bearing WASHER

HERE is a washer that is fully guaranteed. A big manufacturing corporation stands behind it. And the dealers who sell it are pledged to refund the full purchase price if any woman who buys it says she is not completely satisfied. Under these conditions, you run absolutely no risk in trying the Connor Ball Bearing Washer. If it doesn't do the washing in half the usual time, if it doesn't wash the clothes spotlessly clean and without injury, you don't need to keep it. That's fair, isn't it? Write for descriptive booklet.



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If you have a face void of good looks, spotted, blotched, discolored, and poor generally and want a healthy, clear skin, use

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Price \$1.50 delivered
Superfluous Hair, Moles, Warts, etc., permanently removed. Booklet "F" explains. Send for it and free sample of toilet cream.
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COLUMBIA DOUBLE DISC RECORDS

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HARTSHORN SHADE ROLLERS

Original and unequalled. Wood or tin rollers. "Improved" requires no tacks. Inventor's signature on genuine.

Stewart Hartshorn

THE COLD SIDE OF YOUR HOUSE

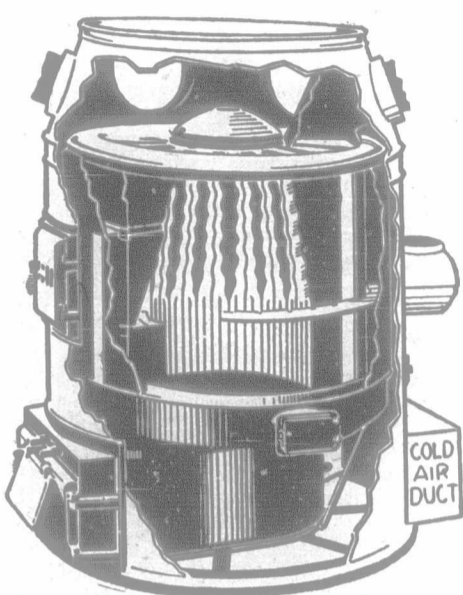
An ordinary furnace often fails to heat where the wind strikes.

That is because warm air travels in the line of least resistance. In an ordinary furnace no provision is made to thoroughly distribute the heat.

An ordinary furnace has an empty space between the fire-grate and the circulating pipes. A Kelsey Warm Air Generator is different.

Surrounding the fire-grate, there are from 8 to 16 heavy cast iron tubes. Each of these tubes is really an independent heat generator. The weight of these tubes in the average size generator is about 900 pounds.

All the heat from the coal is concentrated in these heavy tubes. Once this great mass of iron becomes hot it stays so for



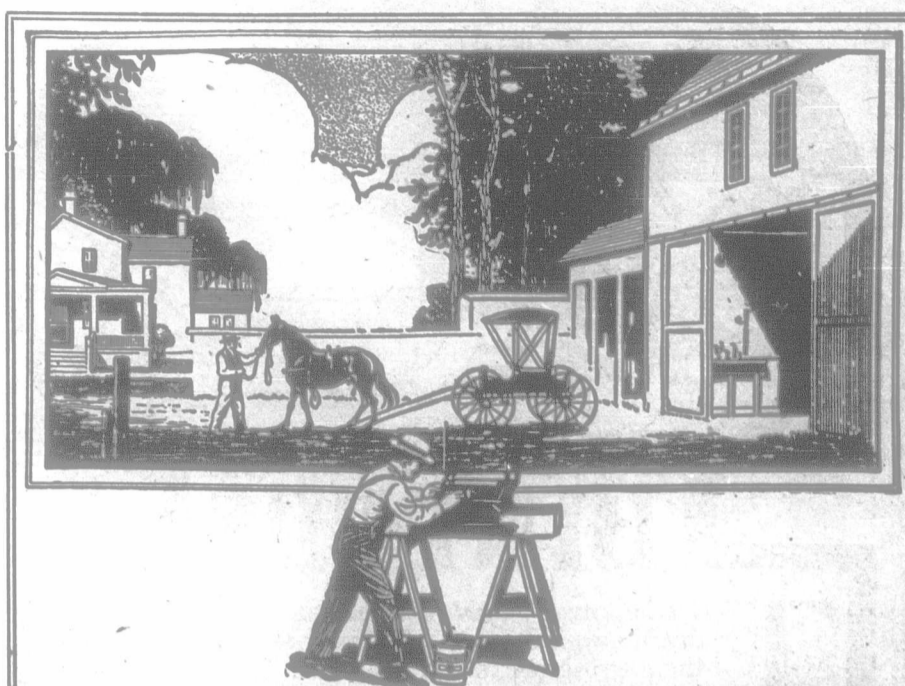
hours and hours and maintains a uniform pressure of warm air throughout the building.

Making these tubes Zig-Zag: increases their heating surface and gives extra pressure without waste to all parts of the house,

With the Kelsey Generator the heating of the attic bedroom or the cold side of the house is no more a problem than the heating of the down-stairs living rooms.

Our booklet, "Achievements in Modern Heating and Ventilation," tells all about these Zig-Zag tubes. Write for it.

The James Smart Mfg. Co. Ltd.
BROCKVILLE, ONT. WINNIPEG, MAN.



For Buggies, Automobiles, Wagons, Farm Implements, Etc.—Refinish with S.W. Buggy Paint, which is a durable carriage varnish combined with a non-fading color pigment.

It is the best paint for refinishing all kinds of vehicles, and is made to withstand the wear and tear of the weather and hard usage. It is also an ideal paint to use on porch and lawn furniture, swings, garden tools, boats, etc. Sherwin-Williams Wagon and Implement Paint is made especially to keep your wagons and farm machinery free from warping, cracking, rusting and decay.

SHERWIN-WILLIAMS PAINTS & VARNISHES

A finish for every purpose.
The SHERWIN-WILLIAMS CO. OF CANADA, Ltd.
Montreal Toronto Winnipeg Vancouver

Reforestation in Simcoe Co.

Wm. J. Holden, Collingwood, has just finished planting an extensive plot of trees to demonstrate the possibility of reforestation in Simcoe County. The area planted includes six acres of land along the bank of the Pretty River, and required 16,000 trees. The trees were supplied by the Provincial Forestry Department, in charge of Prof. E. J. Zavitz, and planting operations were directed by J. Laughland, District Representative of the Department of Agriculture for Simcoe County. The varieties planted included: Scotch pine, white pine, cedar, black walnut, butternut, chestnut, black locust, white ash, white maple, and elm. The trees were carefully planted, four feet apart each way, and with the favorable weather they have already taken root and commenced vigorous growth.

In every part of the Province there is much waste land of little value along streams and rough hillsides or sandy plains, and which will remain in the future as it has in the past in this worthless state unless trees are planted on it. Anyone with an acre or two of waste land on their farm cannot do better than plant trees on it.

WHY?

For a whole solid hour the captain had been lecturing his men on "The Duties of a Soldier," and he thought that now the time had come for him to test the results of his discourse.

Casting his eye around the room he fixed on Private Murphy as his first victim.

"Private Murphy," he asked, "why should a soldier be ready to die for his country?"

The Irishman scratched his head for a while; then an ingratiating and enlightening smile fitted across his face. "Sure, Captain," he said pleasantly, "you're quite right. Why should he?"

FERTILE FARMS FREE CANADIAN NORTHERN RAILWAY

A SETTLER'S SUCCESS

To the Secretary, Vegreville Board of Trade.

Dear Sir,

Eighteen years ago I came here from Shawville, Quebec. When I reached my present location, 20 miles north of Vegreville, I was worth just \$10 less than nothing.

I homesteaded and worked out for other farmers for a few years. At first we were hampered for lack of railway facilities and progress was slow.

Ten years ago I sold oxen and bought my first horses, 3 small mares, costing together \$150 dollars. Since that time I have marketed \$2,400 worth of horses, and still have 40 head with 13 head of cattle and 40 brood sows. I own 640 acres of land on which there is owing less than \$1000. The district is now well settled, my children have a good school and we have weekly church service at a nearby schoolhouse.

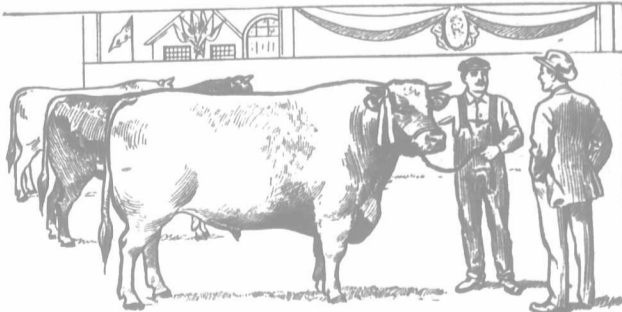
The buildings on my place are comfortable and convenient. There is flowing water throughout the house and stables. I would not sell out to-day for less than \$30,000.

My practice has been to feed all the grain I raise if at all possible. Anyone who adopts the same plan can hardly help but succeed in this country.

Yours truly,

J. H. RICHARDSON.

"35,000 Homesteads," "Peace River and How to Reach It," and other illustrated publications for the asking. General Passenger Departments, Canadian Northern Railway, Toronto, Ont., Montreal, Que., Winnipeg Man.



Bring Home the Ribbons and Get the Money

BY USING THE BEST STOCK CONDITIONER Caldwell's Molasses Meal

History repeats itself. Go over the lists of prizewinners at our recent fairs, and you'll find that a surprising number were conditioned on Caldwell's Molasses Meal. An examination of "high-priced" records would point to the same thing.

What are the reasons behind these facts? Simply these: Caldwell's Molasses Meal has proven itself to be the best stock conditioner on the market, as well as the most economical in actual use. Ask your feedman! Or write us direct for proofs.

The Caldwell Feed Co., Limited, Dundas, Ont.

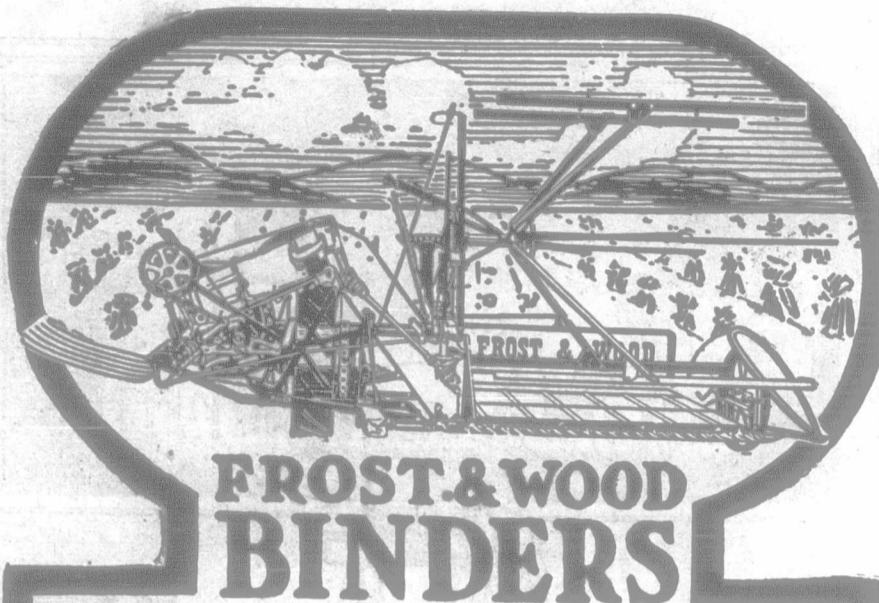
Please Mention The Advocate

Gossip.

CLYDESDALES AT GLASGOW.

Clydesdales were well represented at the fifty-sixth annual live-stock show at Glasgow, May 18th. In the brood-mare class, J. & W. Melkiam won with Myrene, Stephen Mitchell second with Sweet Melody. In the three-year-old class, J. E. Kerr's Phyllis, by Royal Favorite, was first, and Stephen Mitchell's Nannie, by Apukwa, second. In two-year-old fillies, first and second went to Wm. Dunlop with Dunure Chosen and Dunure Toby, both by Baron of Buchlyvie. In yearling fillies, Andrew Brooks led with Lady Betty; Wm. Dunlop second with Glad Eye. The medal for the best yearling or two-year-old went to Dunlop's Dunure Chosen, and the female championship to J. E. Kerr's Phyllis. In the three-year-old stallion class, Wm. Dunlop won with The Dunure; second was W. M. Ritchie's Prince of Balcairn, and third Jas. Kilpatrick's Prince Palatine, by Baron of Buchlyvie. In two-year-olds, Mr. Dunlop led with Dunure Stephen, by Baron of Buchlyvie, and was second with Dunure Magnet, by Apukwa. In yearling colts, John Leckie won with a son of Dunure Footprint. The championship for males went to Dunure Stephen, with The Dunure reserve.

Some Irish-bred Aberdeen-Angus stock have recently been selling fairly well. At the dispersal sale at Eshott Hall, the fifteen-year-old cow, Pride 10th of Tullynally, brought 20 guineas. A young bull calf, by Eliphaz, brought 10 guineas. The bull calf out of Eucolonia, and by Gerace, sold for 24 guineas. The cow, Proud Grace of Eshott, of the Pride family, brought 215 guineas; the Georgina cow, Gera, 140 guineas; the two-year-old heifers, Elegrace and Miss Grace, 130 and 150 guineas, respectively; the yearling heifers, Gaiety and Graceful, 170 and 100 guineas, while the bull, Grace of Ballendoloch, brought 160 guineas.



FROST & WOOD BINDERS

THE famous F. & W. Binder has remarkable light draft, and is speedy. A strong steel frame keeps the moving parts in alignment. These parts are all equipped with roller bearings. You can readily see that you can cut more crop in a day, and save harvest wages, by such a quick-cutting machine.

The eccentric sprocket has long spokes to give power for compressing the bundle. This eliminates the "chug" and "jar" you will notice in ordinary binders when tying. This is very hard on both the team and machine. It is the reason why F. & W. Binders give the owner long service.

Levers are so reachable, and the F. & W. is so well balanced that a boy or girl can operate it. There is no thrashing of crop, no choking in elevators, and no falling off in quality of work after the first season. The Frost & Wood is one of the very best binders you can buy. Investigate to-day.

IT HANDLES WHEAT RIGHT

HAVE you ever thought of the losses from shelling in a binder? Look at the deck board in many machines. It is full of wheat and oats, shelled off the straw. The Frost & Wood design has been refined carefully to cut out this loss. It handles the straw gently.

The upper elevator has three rollers over which the canvas runs. This gives the machine great adjustability in the elevators, so the heaviest or lightest grains can be handled satisfactorily.

WRITE nearest branch or office for the Frost & Wood book. A post card brings you one free.

THE FROST & WOOD CO. LIMITED
Montreal, SMITHS FALLS, St. John, N.B.

For Sale in Western Ontario and Western Canada by
COCKSHUTT PLOW COMPANY LIMITED
BRANTFORD, WINNIPEG

The Anthony Wire Fence

The Perfect Tie



See That Knot

ANTHONY WIRE FENCE is the cheapest on the market if you value quality and workmanship.

ANTHONY WIRE FENCE is made from all No. 9 hard steel wire thoroughly galvanized.

ANTHONY WIRE FENCE has the stay wires tied to the line wires with the strongest, neatest and most compact lock on any wire fence made.

ANTHONY WIRE FENCE is so constructed that it will not bend down at the top nor roll up at the bottom; but stands up straight when erected.

Buy it and try it, and be satisfied.

LIVE AGENTS WANTED IN ALL UNOCCUPIED TERRITORY

The Anthony Wire Fence Co. of Canada, Limited
Walkerville, Ontario.

YOUR dairy deserves the best salt.

RICE'S PURE SALT

Fills the bill and is the best in Canada.

NORTH AMERICAN CHEMICAL CO.
Clinton, Ontario

Cream Wanted

We guarantee highest Toronto prices, full weights and prompt returns. Our 15 years' experience ensures satisfaction. We furnish cream cans and pay express charges. Write:

Toronto Creamery Company, Limited
Toronto, Ontario

Gossip.

At a recent dispersion sale of the select herd of Shorthorns owned by John Ferguson, Aberdeenshire, the most notable feature was the sale of the two-year-old heifer, Augusta's Emblem, by Proud Emblem, to Wm. Duthie, Collynie, for 240 guineas. Her dam, Lady Augusta 3rd, by Good Fortune, was bred by Mrs. Walsh, County of Cavan, Ireland, and the first calf she bred was Augusta's Choice, sold for 260 guineas, while several others brought three-figure prices.

A GREAT SHORTHORN DISPERSION.

As announced elsewhere in this issue, the Spring Grove herd of high-class imported and home-bred Shorthorn cattle belonging to T. E. & H. C. Robson, Iderton, Ont., together with a choice selection from the Springhurst herd of Harry Smith, Exeter, Ont., are to be auctioned to the highest bidders, at Spring Grove Farm, on Wednesday, June 25th. This is undoubtedly one of the grandest opportunities ever offered for securing herd-headers, herd-builders, and show-yard propositions. All the cattle are in thrifty, breeding condition, and are ready to go on and make money for their purchasers. They are breeders and individuals which cannot but add strength to the herds to which they go. At the head of the Spring Grove herd, and included in the offering, is the wonderfully deep, thick, low-set, smooth-fleshed, dark roan, Cruickshank Victoria bull, Victorlan =87808=. He shows Shorthorn type all over, and has that character about him which stamps him as a prepotent sire. He has for sire Lancaster Royal 2nd, and is, through him, grandson of the great breeding bull, Blood Royal, selected by Mr. Duthie as a header for the Cargill herd, being the pick of the Collynie calves in 1906. He is out of the imported cow Victoria 71st, and will be seventeen months old at time of the sale. Victor Rosewood is a smooth, well-balanced, roan bull calf. As his name implies, he is a Rosewood, and has for dam Athelstane Rosewood 3rd, also included in the sale. He is a comer, and parties looking for a young bull of the kind to head the best herds, can make no mistake in making a bid for this good youngster. He is sired by Primrose Chief, a big, fleshy bull, by Derby (imp.). A few only of the cows can be mentioned in the space available. Lady Butterfly =72137= is a big, thick, even-fleshed, breedy, red cow, just in her prime, and will have dropped a calf before the sale, by Victorlan. The great Butterfly tribe, of which she is a member, requires little comment. Bridal Bouquet, the \$3,600 Toronto winner, belonged to this tribe, and the \$10,000 bull, His Majesty, was a Butterfly. Bull calves of this breeding have made as high as \$1,700 each. They have topped the Uppermill and Gordon sales, and a heifer out of this cow, Spring Grove Butterfly, sold at Guelph in 1910 for \$1,025, and another was considered one of the best in the Bredt sale last December, bringing \$500, one of the best prices of the offering. Lady Butterfly is out of an imported cow, and is sired by Spicy Broadhooks, tracing direct to Spicy Robin, by William of Orange. Princess Butterfly =88360=, bred to Victorlan, is a roan, with a wealth of flesh and great depth of body. She is the kind to put in the breeding herd, and is also a good milker. She is the dam of Prince Butterfly, which won second at Toronto and London in 1911, being only beaten by Carpenter & Ross' International winner. She is sired by Pride of Morning, a son of the noted Joy of Morning, and her breeding is of the best. Butterfly Queen =82242= is a handsome roan, heavy-milking cow, by the great sire, Gold Drop, a Toronto first-prize winner in the keenest competition, and a bull which sired more winners at Toronto a few years ago than any other. This cow has a fine bull calf at foot, Mayflower Gift (imp.) =91798=, a Bruce Mayflower, and one which has proven herself an excellent breeder, and dam of one of the finest heifers in the sale, is a beautiful roan four-year-old, which gives milk as well as produces show stock. She is by Spicy Gift, the sire of Marcellus, a first-prize winner at the Canadian National in 1911 and 1912. See next issue for further comment, and write T. E. Robson, London, for catalogue.

Trade Topics.

Attention is called to the advertisement which runs in this paper of Dr. Bell's Veterinary Medical Wonder. Dr. Bell does not claim to be a miracle worker, but he does claim that his remedy for the relief of domesticated animals has a power and potency all its own. It is always advisable where stock is kept to have a medicine-chest or cupboard in the stable. Look up the advertisement, and write for pamphlets and particulars at Dr. Geo. W. Bell, V. S., D. V. D. S., Kingston Veterinary Hospital and Dispensary, 110 Clarence street, Kingston, Ont.

Reginald Beale, F. L. S., author of "Practical Green Keeper," is visiting this continent. Mr. Beale's itinerary includes Toronto and Montreal, and the larger cities of the United States. He will give consultations on the making and maintenance of golf courses, and will meet the greens committees of most of the important clubs. Mr. Beale is the grass expert of James Carter & Company, of London, England, seedmen to His Majesty King George, who are represented in this country by Patterson, Wyld & Company, of 133 King Street East, Toronto. Mr. Beale's time has already been booked up, and he cannot make any new appointments, but anyone having difficulty in growing grass on lawns, bowling greens, or tennis courts, is at liberty to write to the Toronto address for free advice.

The Farm Boy's Club, organized by the Canadian Industrial Exhibition (the first of its kind in Canada), is meeting with tremendous success. One hundred Manitoba farm boys, the winners in the competition, will be the guests of the Winnipeg Exhibition Association from July 8th to July 16th. The physical director of the Y. M. C. A. will be in charge of the camp, and the lectures and visits through the exhibits, stock barns, and judging-rings, will be made under the supervision of the staff of the Manitoba Agricultural College. Contestants are numerous. Already two hundred and ninety-one essays on the required subject, "The Prairie Farm," have been received, and many more are arriving by each mail, so that the judges' task in making awards will be no sinecure. The Canadian Industrial Exhibition is this year attracting world-wide attention. Permission has been asked by the heads of one of the large English schools to forward an exhibit of work executed by their scholars in the manual-training classes. From one of the Western States, application has been received to reserve space for a comprehensive agricultural exhibit, and the Eastern Provinces are this year, for the first time, making a reservation for an exhibit of fruit. The speed races, entries to which are now closed, have proved to be wonderfully attractive, there being an average of eighteen horses for each race, so that sportsmen may expect to see keen competition in every race run. The Canadian Pacific, Canadian Northern, and Grand Trunk Pacific, are giving a rate of approximately one cent a mile. The American roads are also making generous reductions. This exhibition is the only organization in Western Canada recognized by the Transcontinental Passengers' Association of America, and in this way is obtaining better rates in some cases than is granted to their own State fairs. With the inducement offered by these reduced rates, and the high quality of the attractions which the Association has contracted for, the officials are making arrangements for taking care of an unusually heavy crowd, and look to see all records broken at this year's fair.

An outspoken doctor who practises in a mining village in the north of England had been called in by a miner's wife of notoriously dirty habits. After inspecting the child the doctor coughed and looked hard at the woman, whereupon the following brief conversation ensued:

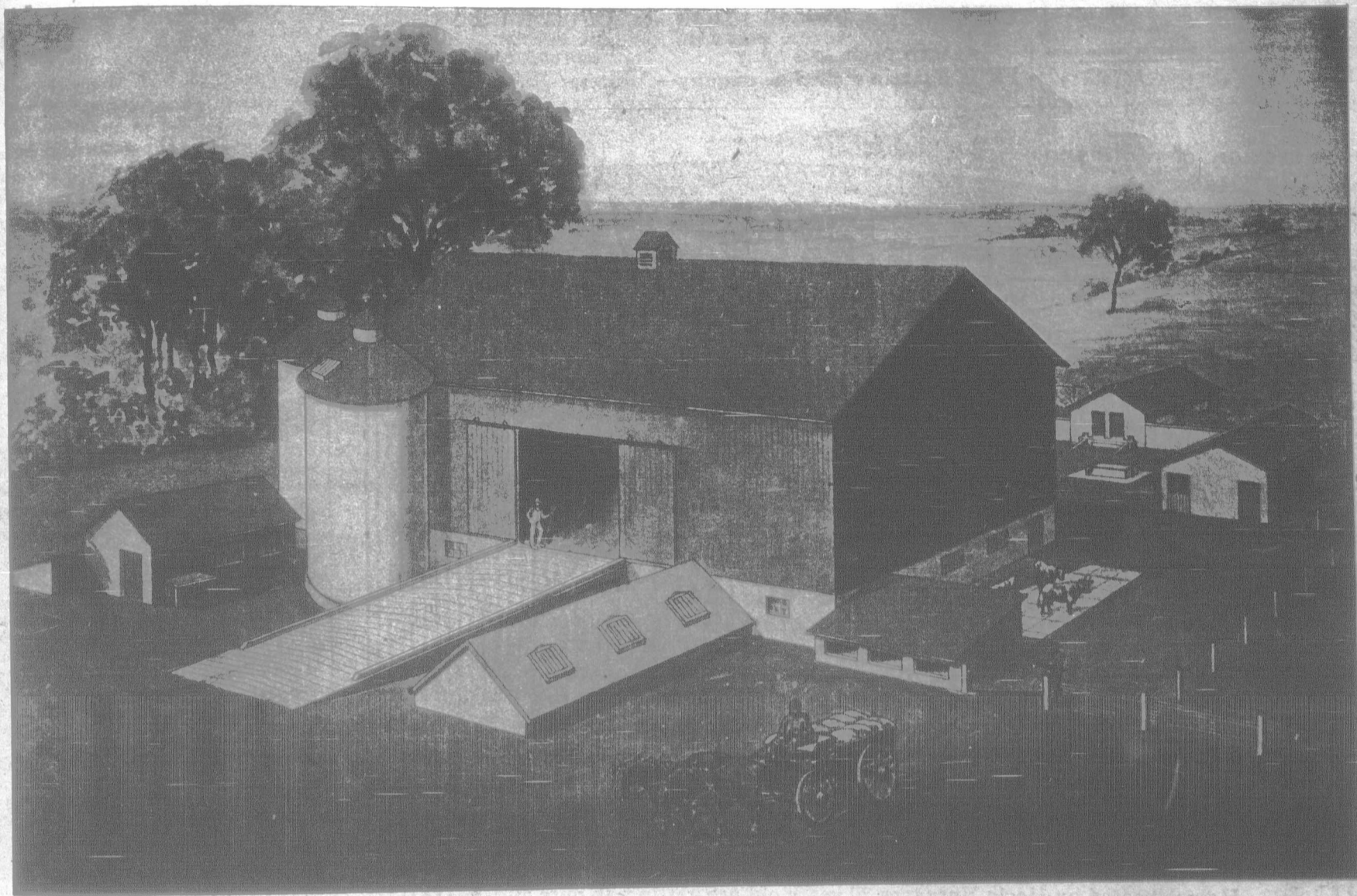
Mother—"Well, doctor, you haven't said what I am to do."

Doctor (emphatically)—"Wash his face."

Mother—"Then, what next, doctor?"

Doctor (sternly, as he walked to the door)—"Then, wash your own."

DO YOUR BUILDINGS LOOK LIKE THESE ?



The buildings illustrated above will last for scores of years. You will ask: "How can they last so long?" The answer is that the concrete used in all these buildings is made from

ROGERS PORTLAND CEMENT

Ask a man who knows, and he will tell you that there is no other cement just as good as ROGERS.

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"Men are lunatics to keep on building in brick and steel. Reinforced concrete is better and cheaper than either. Builders who stick to brick and steel are behind the times.

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"A reinforced concrete building will stand practically forever. Within 30 years all construction will be of reinforced concrete, from the finest mansions to the tallest sky-scrapers."—[THOS. A. EDISON, in the *Cosmopolitan*.

We have a valuable book of 128 pages, entitled, "Portland Cement on the Farm," the regular price of which is \$1.00, which you can obtain free in connection with our special offer, as follows: Send us \$1.00 for the Rogers Book, and we will mail you with the book an order for \$1.00 worth of Rogers Cement on the nearest Rogers dealer. If there is no Rogers dealer in your vicinity, send us 50c., and we will send you the book by return mail. The information contained in it is worth hundreds of dollars to you. With the aid of this book you will be able to make all your own cement improvements yourself.

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Cross section of radiator showing fused joints.

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 Saves one ton in seven.

No Gas No Dust
 FUSED JOINTS CANNOT LEAK

Comfortable heating is possible only with a Furnace that cannot leak gas and dust. At every joint where a leak might otherwise occur, the Hecla is sealed tight. We do not trust to bolts and cement. The wear due to constant expansion and contraction would grind out the cement and leave a series of leaks for the escape of gas or dust. To make a joint that will be as tight after years of service as it is when new, we fuse the steel sides and cast-iron frames of our radiators by a patent process. This welds the iron and steel into one piece.

Homes heated by Hecla Furnaces 20 years old are getting as pure air from the registers as when the Furnace was new.

And this Furnace saves one ton of coal in seven. Isn't it worth looking into?

WRITE FOR THIS BOOK.
 If you want a more comfortable home, it will interest you.

All fumes from fire go through this passage. Every joint is fused making it gas and dust proof

Burns wood as well as coal.

CLARE BROS. & CO., LIMITED,
 Dept. L, Preston, Ont.

Gossip.

SPRINGHURST SHORTHORNS.

Springhurst, the home of Harry Smith's winning herd of Shorthorn cattle, and situated at Hay P. O., Ont., less than a mile from Exeter Station, on the G. T. R., has turned out a large number of the cattle which have made the breed famous in America. The herd is known to Shorthorn men in Canada and the United States as a breeding herd par excellence. At the present time it is composed of some sixty head, and all are in good breeding condition, having wintered well, and are now to be seen at pasture just right to continue the great work which the herd in the past has accomplished. A consignment from this herd will be sold at the dispersion sale of T. E. & H. C. Robson, at Iderton, on June 25th next. Special mention will be made of these later in connection with notes on that offering. Individual note is possible with only a few, owing to limited space. Queen of Diamonds is a dark red, deep, thick, even-fleshed heifer, in calf to the excellent young bull, Blarneystone, now in service. This heifer is rising three years old, and is a Shorthorn from nose to toes. She has for sire the noted Gold Drop, and is out of Bonnie Jean. Gold Drop won first place at Toronto in a class of eighteen as a two-year-old, and four of his calves tied for first place in fifteen entries at the same exhibition, and a few years ago he sired more Canadian National winners than any other bull. Several of the heifers are of the great Vanity tribe. Of these, Vanity 18th, a red, by Ben Wyvis, the herd header which Mr. Smith considers the best breeding bull he ever owned, is one of the most attractive. She is a very typey heifer, just turned two years of age, of the low-set, deep-fleshed kind, and is in calf to Blarneystone. Vanity 16th is a very blocky two-year-old, also by Ben Wyvis. She is one of the very smooth kind, with a well-sprung rib, and shows character and breed type galore. She is in calf to Blarneystone. Village Joy is an excellent show-yard proposition, a deep, thick, very smooth roan junior yearling, which won first place as a calf at the Western Fair last fall. She is by Royal Commodore, and parties looking for show stock should not overlook her. Vanity 17th, a roan Ben Wyvis two-year-old, with a fine Shorthorn head, straight in her lines, and in calf to Blarneystone, is one of the right kind to buy. Lancaster Lily is a white show heifer, which won first in her class at Guelph last December and has gone on well. As those who saw her then will remember, she is very low-set, deep and thick, and very strong on top. She is by Mutineer, the bull which has won so much money in the Melick herd in the West, and was junior champion at Toronto in 1910. Village Rose, by Gold Drop, is one of the matrons of the herd. She is as smooth as one could wish, straight on top and underneath, and carries her width right back to her tail head. She is a great breeder, being the dam of the winning roan heifer already mentioned, and she herself won at Toronto as a calf in strong competition. She is a full sister of Village Bridegroom, the great breeding bull at the head of the Elliott herd at Guelph. She is in calf to Ben Wyvis. Golden Lancaster is a dark roan five-year-old massive cow, the dam of the white heifer which won at Guelph. She, also, is by Gold Drop, and is one of the biggest, thickest, deepest-fleshed cows in the herd. She has a heifer calf at foot by Masterpiece. Blarneystone, the young roan bull in service, is by Mutineer, and out of Butterfly 32nd (imp.), she by the Marr-bred bull, Fortune, who was sired by the great Captain of the Guard. He is a wonderfully smooth bull, full of substance, and showing masculinity and Shorthorn character in plenty. These are only a few representative of the three score in the herd, any of which are for sale. Many of the cows have calves at foot, and they prove the breeding value of their sires and dams. Enquire about these good things.

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A Currant Disease.

A review of Bulletin 357, of the New York Agricultural Experiment Station, Geneva, N. Y., contains information regarding the Control of Currant Cane Necrosis by Summer Pruning.

More than twenty years ago, a disease was discovered which has become a very destructive trouble in the currant plantations of the Hudson Valley. The cause of this disease remained long unknown; but careful study by botanists of the Geneva, N. Y., and the Cornell Stations, proved it to be due to a fungus which has three distinct spore forms. Of these, the basal form is Botryosphaeria ribis, so that this stands as the scientific name of the fungus which causes currant blight, currant-cane blight, or currant-cane necrosis. Usually, the discovery of the cause of a disease soon leads to a remedy, but in this case no preventive or remedial treatment can yet be recommended.

On certain canes, or portions of the canes, the leaves wilt, turn brown, and die. An affected cane will show a section of dead wood from one to four inches long where the bark has been killed and wood and pith invaded by the mycelium of the fungus. This hinders the ascent of sap, and thereby causes all the upper part of the plant to wither and die. The general appearance is very similar to that caused by borers in the canes, but when this insect is responsible, a distinct burrow will be found, and the larva, itself, may be present. In fungus-blighted canes, neither burrow nor larva can be found, but on careful examination, especially with a microscope, fine, whitish, cobwebby threads may be discovered in the discolored pith at the point of attack.

The localization of the injury made it seem possible that summer pruning to remove the diseased wood, with destruction of the affected portions, might check the progress of the disease. Accordingly, two experiments with this apparently promising method of control were begun in the spring of 1907. Within a year or two it was found that the method offered no chance of success in an old plantation. However, the second test, begun in a plantation only one year set, has now been continued for six years, all canes showing signs of the disease being pruned out from two to four times each season. This work was done by the Geneva Station botanists with great care, but at no time during the progress of the experiment has the disease been noticeably checked. The infections seemed as numerous and as injurious on the treated as on the untreated plants, and the yield of fruit was even smaller on the treated plants. Accordingly, summer pruning can no longer be recommended for the control of necrosis. In fact, no method of treatment can be confidently recommended at present, although experiments in spraying are being continued.

Trade Topic.

"The 'Salada' Tea Co. have issued a writ for \$5,000, against Messrs. Ward & Co., of Montreal, for using the word 'Salada' as a brand for salmon."

HAD HER INSTRUCTIONS.

Mrs. Subbubs (to neighbor's child)—
"Oh, this is the dozen of fresh eggs I asked your mother to send over. How much are they, Mary?"
Child—"Please'm, it's forty cents; but mother says, if you grumble, it's thirty-five."

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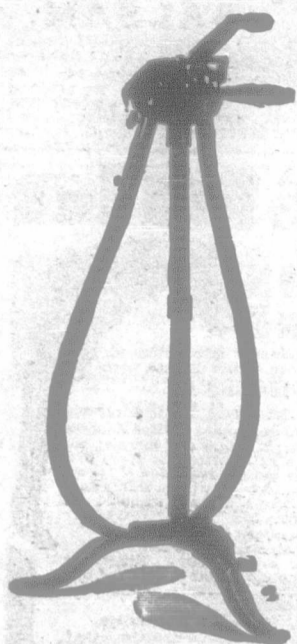
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Write for address of nearest agent. All kinds of live stock insurance transacted. **Head Office: THE GENERAL ANIMALS INSURANCE CO. OF CANADA, 71a St. James St., Montreal, Que.**

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Commission Agent and Interpreter,
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Will meet importers at any port in France or Belgium and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking and pedigrees. Many years' experience; best references. Correspondence solicited. P.S. Nogent is in the heart of the Perche horse district.

Aberdeen-Angus of Show Form and Quality. For this season my offering in young bulls and heifers, are toppers, every one. Show-ring form and quality and bred from show winners. **T. B. BROAD-FOOT, Fergus, Ont., C. T. R. and C. P. R.**

Questions and Answers.
Miscellaneous.

Property in Trees.

In building line fence some trees are directly on the line, and must be cut to run fence straight. To whom do said trees belong, and what is the law regarding such a case? **A. B. C.**

Ontario.

Ans.—Each of the adjoining owners is entitled to the portions on his side of the line, of such trees; and they should be divided accordingly.

Ducks Die.

I have some young ducks which seem to get dizzy, and throw their heads back on their back and fall over. In a short time they die. Could you tell me the cause of it, and give me a remedy? **S. A.**

Ans.—Their actions before death would indicate that they get a little too much sun, but this should not be the case so early in the season. However, ducks require shade, and do much better in a cool place than one too warm. Would advise that the gizzards of a few of the dead birds be opened to see whether or not they are jammed with some substance. What are they getting for feed? A mixture of corn meal, bran, oatmeal, or shorts, or low-grade flour and animal meal is good. Corn meal is used as the basis, and enough shorts or flour is used to make the mash sticky. Bran is used as a filler. From 25 to 40 per cent. green food should be fed. Milk may be used in place of animal meal.

Removing Tree--Frightened Horse--Impounding Cattle.

1. Between A and B there is a leaning maple tree on the edge of the river, with the roots on B. Will it be necessary to have the tree cut in order to erect a fence that can be lifted in the fall. Can A compel B to remove the tree, or would it be legal for A to remove the tree after giving B ample time to do so?

2. A was driving along the public highway about a month ago when his driver was frightened off the road by B's ram, which was pasturing on the roadside, together with other sheep. A's driver is afraid of all sheep now. Has A any lawful claim for damages, and how should he proceed?

3. Is it necessary to take B's cattle to pound, they having come through B's fence and B holding the pound?

4. If it is not necessary, and A holds B's stock, how should he collect damages if B refuses to pay? I have been bothered considerably with neighbors' stock, but as yet have not taken legal steps to prevent.

Ontario. **CONSTANT READER.**

Ans.—1. A cannot legally compel B to remove the tree, but may do so himself.

2. We do not see that he could maintain such claim.

3. Yes.

4. He could not, in such case, legally make a claim for damages. For further information, we would refer you to the recently-revised Pounds Act, Ontario Statutes, 1912, Chapter 66.

The Forster Farm, at Oakville, Ont., report a grand crop of Dorset Horn lambs this year—the best yet. They have now, perhaps, the largest pure-bred flock in Ontario, and are excellent breeding. Just now they have some breeding ewes for sale at bargain prices if taken at once. This farm also offers some sturdy bull calves of the Aberdeen-Angus breed. Two are ready to be turned off right away, and it is well known what superior veal calves and early-maturing steers these bulls produce when crossed with grade herds. Write the Forster Farm, Oakville, Ont., for prices and particulars.

Newsboy—"Great mystery! Fifty victims! Paper, mister?"
Passer-by—"Here, boy, I'll take one." (After reading a moment.) "Say, boy, there's nothing of the kind in this paper. Where is it?"
Newsboy—"That's the mystery, guv'nor. You're the fifty-first victim."

Great Dispersion Sale
OF IMPORTED AND HOME-BRED REGISTERED
SHORTHORNS

ON
Wednesday, June 25th, 1913

At **SPRING GROVE FARM, ILDERTON, ONTARIO**

This offering of thirty head comprises the entire Spring Grove herd of T. E. & H. C. Robson, Ilderton, Ont., and a choice selection from the Springhurst herd of Harry Smith, Exeter, Ont. Two very high-class bulls, including the herd header, are contained in the sale, all the rest being females of the highest order. Five cows have calves at foot by Imp. Commodore, and the remainder of those of breeding age are bred to the Cruickshank Victoria bull, Victorlan. Some of the noted families represented are: Butterflies, Clippers, Mayflowers, Miss Ramsdens, Orange Blossoms, Rosemarys, Rosewoods, Strathallans and others. This is an especially attractive offering, all the cattle being in good breeding condition, and many, when fitted, will be heard from at our large exhibitions. Some of the cows are heavy milkers.

Six months' credit will be given, and six per cent. per annum allowed for cash. Trains will be met at Ilderton the morning of the sale, which will begin at 1.30 p.m. Catalogues on application to

T. E. ROBSON, Manager, London, Ont.

THERE ARE OTHER

Brands of Oil Cake Meal, but the purest and best is the

"Livingston Brand"

Consider how you can obtain the best results at the cheapest cost—not necessarily the lowest price per ton.

LIVINGSTON BRAND OIL CAKE

is manufactured by the old patent process, specially for feeding purposes.

Prices now, lower than for several years. If your dealer cannot supply you with our Meal, write us for prices.

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MANUFACTURERS

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In the United States large hog-raisers buy **DIGESTIVE TANKAGE** by the carload. It is recognized as the world's best hog food. In Canada

HARAB Digestive Tankage

is now used by many of the largest hog-raisers, and is endorsed by experimental farms. Incomparable as a flesh-producer. Hogs fed on it very rarely suffer from hog cholera, rickets or other complaints.

WRITE FOR TANKAGE BOOKLET.

The HARRIS ABATTOIR CO., Ltd., TORONTO

Fertilizers For information regarding all kinds of mixed and unmixd fertilizers of the highest grade write.

The William Davies Company, Limited
WEST TORONTO :: :: ONTARIO

Willow Bank Stock Farm—Shorthorn Herd Established 1855. The Grand Imported Butterfly bull, exceedingly good lot of young bulls on hand, fit for service and at very reasonable prices. Some from imp. dams.

JAMES DOUGLAS, Caledonia, Ont.

Questions and Answers.
Miscellaneous.

Making the Babcock Test.

Will you please give instructions, through the columns of "The Farmer's Advocate," how to use the Babcock tester? E. T.

Ans.—This was fully answered in a 1911 issue of this paper, but we can do no better than repeat the information then given by Prof. H. H. Dean, of the O. A. C.

1. Thoroughly mix the sample of milk, or cream, by pouring, or stirring, in order to obtain a representative sample.
2. Measure 17.6 c.c. (cubic centimeters) of milk with a pipette, and transfer to the Babcock bottle. (In the case of cream, measure 18 c.c., or better, weigh 18 grams into the bottle.)

3. Add 17 c.c. of commercial sulphuric acid (oil of vitriol) to the milk sample in the bottle, by pouring the acid along the inside of the neck and bowl of the bottle, being careful not to pour it directly on the milk, as this tends to char or burn the fat.

4. Mix the milk and acid with a rotary motion. The mixing should continue until all the curd dissolves and the mixture becomes a uniform brown color. As a result of the chemical action, much heat is produced. This is necessary in order to keep the fat in a liquid condition. The sample should not be allowed to cool.

5. Next, place the sample, or samples, in the pockets of the centrifuge, commonly called a "tester." Be sure that the machine is "balanced"—that is, has an even number of samples in the pockets, and that they are placed opposite each other. An odd number may be "balanced" with a sample bottle containing water.

6. Start the machine slowly, and revolve at full speed, as indicated by the manufacturer, for four to five minutes.

7. Stop the machine, and add hot water, at a temperature of 140 to 160 degrees F., to each bottle, filling to between the 8- and 10-per-cent. mark. This may be done with a pipette, or with a special filler. The operator must be careful not to fill the bottles so as to run the fat over the top or much above the 10-per-cent. mark, in which case the sample is spoiled, or made impossible to read, without compass or calipers.

8. Whirl the samples again for one to two minutes at full speed, then stop the machine.

9. Remove the samples from the pockets and transfer to a hot-water bath, or dish containing water at 140 degrees F., having sufficient depth to reach the top of the fat column in the bottle, or bottles.

10. Read from the highest to the lowest limits of the fat column in milk bottles. Each space between the figures on the graduated neck of the milk bottle represents one per cent., and each of the smaller spaces two-tenths of one per cent. It is possible to read samples to one-tenth of one per cent.

11. After reading, empty the bottles into an earthen crock or other vessel which will not be attacked by the acid. Wash once with hot water, then add a little soda and more hot water; rinse, empty, and wash again with clean hot water, when the bottles are ready to use.

12. Special bottles are used for testing cream, skim milk, and whey. These require special directions for reading, but the ordinary farmer does not need to use any of these, except the cream bottle, for testing cream. These bottles are usually graduated to one-half of one per cent., though a person can read a little finer than this, if necessary.

Burnt readings, cloudy or curdy readings, too low or too high readings, and fat solid or congealed in the neck of the bottle, are common troubles. Burnt readings are caused by having milk or acid, or both, at too high a temperature (should not be over 60 to 65 degrees F.); acid too strong, too much acid used, or acid poured on top, of the milk.

Cloudy or curdy readings are caused by the opposite of causes for burnt readings—milk or acid, or both, too cold; acid too weak, acid and milk not properly or completely mixed. Too low readings may be caused by not measuring the proper quantity of milk, spilling some of the

MOLASSINE MEAL

Take your worst horse, the one that eats its head off and yet doesn't gain flesh, feed it for a month with

MOLASSINE MEAL

cut down the oats by half and replace that half with MOLASSINE MEAL well mixed with the oats. Do this regularly 3 times a day for a month and see what a change it will make. Try it on your cattle in the same way.

Milch cows will give more milk and for a longer period. Pigs will be ready for the market three weeks earlier than when fed on any other food.

Livestock fed regularly with MOLASSINE MEAL will fatten quicker on less feed. Working horses will do better and more work and will not chafe from the harness as much.

Be sure you get the Genuine MOLASSINE MEAL. Every bag bears this Trade Mark. Buy it from your dealer, or write us direct.

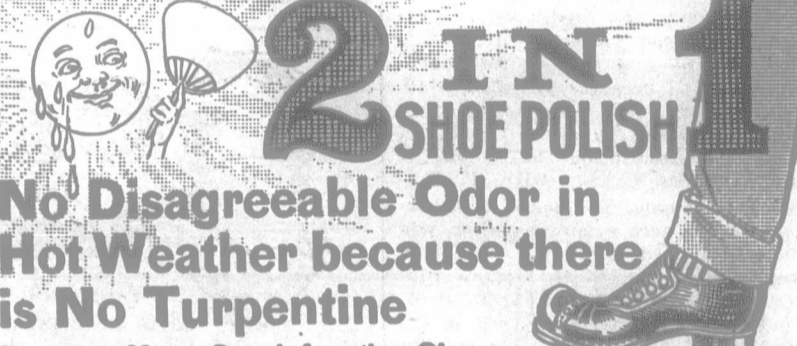
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SHOE POLISH

No Disagreeable Odor in
Hot Weather because there
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Easy to Use, Good for the Shoes



Buchanan's Swivel Carrier

For unloading Hay and all kinds of Grain.
For wood track, steel track, rod and cable track. Made entirely of malleable iron; no springs. Fitted with our patent deadlock. 25,000 of our Haying Machines in use, is the best guarantee that we build them right.

Write for catalogue of Carriers, Slaps, Stacks and other machinery you wish to handle. Buchanan's M. I. Buchanan & Co., Ingersoll, Ont.



The Auld Herd We have females of all ages and of the best Scotch families for sale. **AND PLEASANT VALLEY** Those interested should come and see us. Correspondence invited.

SHORTHORNS

BELL 'PHONE. Guelph or Rockwood Stations. **A. F. & G. Auld, Eden Mills, Ont.**

SHORTHORNS!

Bulls of useful age all sold. Would appreciate your enquiry for females. Catalogue and list of young animals.

H. Cargill & Son, Cargill, Ont.

SHORTHORNS

One high class imported 13-months bull calf; one junior yearling show bull; one promising 11-months bull calf; one 14-months farmer's bull. Some bargains in heifers and young cows, including a few imported heifers.

MITCHELL BROS., Burlington, Ont. Farm 1/4 mile from Burlington Junction

Oakland—50 Shorthorns

Present offering. Red Baron—81845—He is a fine massive bull, of a capital milking strain, 3-year-old, our own breeding and all right. Also one good red two-year-old and one sixteen months. All of the Dual-purpose strain and can be bought worth the price. Write, or better still, come and see them. **John Elder & Son, Hensall, Ont.**

SHORTHORNS AND CLYDESDALES

5 bulls from 8 to 15 months—3 roans and 2 reds. Females of all ages. 11 imported mares—4 with foals by their side, 5 three-year-olds, and 2 two-year-olds; all of the choicest breeding. Catalogue of Clydesdales mailed on application.

BELL 'PHONE. **BURLINGTON JCT. STA. W. G. Pettit & Sons, Freeman, Ont.**

Spring Valley Shorthorns

A few of the best young bull prospects we ever had. They will please you. Will sell females too. Visit the herd; we think we can suit you. Particulars on application.

KYLE BROS., RR. No. 1, Drumbo, Ont.

MEADOW LAWN SHORTHORNS of richest and most fashionable Scotch breeding, and of high-class type and condition. I can supply young bulls and heifers—Claretta, Roan Lady, Mildreda, Stamfords, etc.

F. W. EWING, R. R. No. 1, ELORA, ONT.

Shorthorns, Cotswolds, Berkshires

In Shorthorns, am offering a number of cows and young calves. In Cotswolds, have a lot of extra good lambs coming on for fall-trade. Nothing to offer at present in Berkshires.

CHAS. E. BONNYCASTLE, P.O. and Station, Campbellford, Ontario

FOUR YOUNG BULLS FOR SALE AND MORE COMING ON

Several heifers that are bred right and that will make great cows; some of them in calf now to my great breeding sire, Superb Sultana—75413—perhaps the greatest son of the great Whitehall Sultan—55049—that was imported by me and used so long in Mr. Harding's herd. I sell nothing but high-class cattle, but the price is within the reach of all. A few Clydesdales, 4W Shropshires and Cotswolds always on offer. Local and Long Distance Telephone.

ROBERT MILLER, STOUFFVILLE, ONT.

GEDARDALE SHORTHORNS—To make room for newcomers, I am now offering some rare value in Scotch-bred cows and heifers, beautifully bred and high-class in type; also 1 yearling bull. Dr. T. S. Sprague, Markdale, Ont.

DAIRY-BRED SHORTHORNS

We have for sale Scotch- and English-bred Shorthorns. A few bulls of improved breeding on big milking lines; also others pure Scotch and heifers of both breed lines.

L.-D. 'Phone. G. E. MORDEN & SON, Oakville, Ont.

Woodholme Shorthorns

I have for sale a number of choice young bulls, from 8 to 14 months old (pure Scotch); also a number of heifers, 1 to 3 years old, of this level type, and richest breeding. **G. M. FORSYTH, North Claremont, Ont.**

SHORTHORNS—Records show that cattle bought from the Salem herd won numerous ribbons the past season; we have others. Several young bulls are priced reasonably.

J. A. WATT, SALEM, ONT.

Clover Bell Shorthorns

Choice young stock of both sexes. Dual-purpose a specialty. Herd headed by (Imp.) Ivanhoe. **L. A. WAKELY, BOLTON, ONT.**

Springhurst Shorthorns Four of the first-prize Shorthorns at the late Guelph Show, including the champion and grand champion fat heifer, were all sired by bulls of my breeding. I have now for sale ten young herd headers of this champion-producing breeding. **HARRY SMITH, HAY P. O., ONT. Exeter Station. Long-distance Telephone.**

FOR SHORTHORNS A number of young bulls fit for service at reasonable prices. Write for information. **N. A. McFARLANE, DUTTON, ONT. Elgin Co.**

5 YOUNG BULLS My present offering consists of 5 bulls for service, 10 females, cows in calf and heifers, 1 show yearling Clyde filly and 1 filly foal good enough to show any place.

Prices very moderate. **Claremont Station, C. P. R. Pickering Station, G. T. R. JOHN MILLER, Brougham, Ont.**

Spruce Lodge Shorthorns & Leicesters Present offering: Young bulls and heifers from grand milking dams. Also a choice lot of Leicester rams and ewe lambs, and ewes of all ages bred to imp. rams. **W. A. Douglas, Tuscarora, Ont.**

5 Shorthorn Bulls We have for sale at moderate prices 5 Scotch Shorthorn bulls, including one of our herd bulls. Also a number of high-class heifers and heifer calves.

A. J. HOWDEN & CO., COLUMBUS, ONT. Myrtle G. T. R. & C. P. R. Long-distance 'phone

MENTION "FARMER'S ADVOCATE."

HEALTH OF THE DAIRY COW

In these days, city officials and people in general are looking carefully after the healthfulness of the milk supply, and too much care can not be given to the health and sanitary provisions made for the dairy cow. Some of the largest dairy concerns in prominent American cities are urging the different farmers from whom they are securing their milk supply to disinfect their barns daily with Zenoleum to keep them in the best possible sanitary condition. Even if the condition cows are kept in were not known, the duty still remains to maintain those conditions always at their very best. Aside from the moral duty to furnish pure milk, there is a monetary advantage in it that is very direct.

Stables must be kept scrupulously clean, odors and offensive smells must be kept down. The regular and free use of a good disinfectant like Zenoleum is imperative. It is a non-poisonous disinfectant, and yet it destroys disease germs, prevents their breeding, and keeps the atmosphere about the dairy herd pure. The odor does not permeate the milk. It is the best course to pursue to escape cow tuberculosis, which, when it has taken hold, is instantly fatal to the milkman's profits. A recent report from the Utah Agricultural College indicates that they are getting wonderful results in keeping down and ridding their herd of tuberculosis by a thorough system of disinfection and improved sanitary conditions. Zenoleum seems to be peculiarly adapted to just such uses. It ought to be wherever live stock is kept. Nowhere is it more useful than about the dairy. It is not so expensive but that any cow-owner could afford to keep it on hand at all times.

The Zenoleum Veterinary Adviser, a sixty-four page booklet, is a valuable one, and every dairy man should own a copy. It can be had perfectly free, just for the asking. Most dealers sell Zenoleum, so you see it is easy to get. Write Zenner Disinfectant Co., 312 Sandwich St., Windsor, Ont.

See what a light!

Send for this handy ELECTRIC FLASHLIGHT Every Farmer needs it.

Press the Button and get a brilliant Electric Light. \$1.50 by mail, post free. Send to-day.

CANADIAN CARBON CO., 95 West King St., TORONTO

Herd Bull for Sale—Count of Lakeview (9076); calved March 28, 1910. Bred by Lakeview Stock Farm, Bronte, Ont. A splendid stock-getter. Over 80 per cent. of his get are females. Must sell him, as I have a number of heifers from him of breeding age. He is quiet and sure. Also two young bulls now ready for service, bred by Count of Lakeview, whose dams are granddaughters of Johanna Rhue 4th Lad. Straight and nicely marked. Will sell a few cows due to freshen this month. Bell 'phone, Fenwick Sta. C. V. ROBBINS, River Bend, Ont.



PURE-BRED REGISTERED Holstein Cattle

The most profitable dairy breed, greatest in size, milk, butter-fat and in vitality. Send for

FREE illustrated descriptive booklets. HOLSTEIN - FRIESIAN ASSOCIATION, F. L. Houghton, Sec., Box 127, Battleboro, Vt.

The Maples HOLSTEIN Herd

Headed by Prince Aaggie Mechthilde. For sale at present: Choice bull calves, from Record of Merit dams with records up to 20-lbs. butter in 7 days. All sired by our own herd bull. Prices reasonable.

WALBURN RIVERS, FOLDENS, ONT.

Evergreen Stock Farm 4 bulls—12 mos. old, from officially backed ancestors, running from 18½ lbs. at 3 yrs. to 22 1-3 lbs. as matured cows, and on sire's side from 24 6-10 to 29 lbs. of butter in 7 days. Write 'phone or come to F. E. Pettit, Burgessville, Ont.

Glenwood Stock Farm 5 BULL CALVES fit for service, out of big milking strains, at low figure for quick sale. THOS. B. CARLAW & SON, WARKWORTH, ONT. Campbellford Sta.

Maple Hill Holstein - Friesians—Special offering: My junior herd bull, Choicest Canary, son of Nannet Topsy Clothilde, 30.23 lbs.; also choice bull calves.

G. W. CLEMONS, R.R. No. 2, St. George, Ont.

sample, not using sufficient centrifugal force, owing to too low speed in the machine, and inaccurate reading. Too high readings may result from inaccurate measuring of the milk, having the water too hot, reading from a steam-turbine tester without cooling, inaccurate reading. Fat congealed in the neck of the bottle is caused by fat being too cold, and it is impossible to read such a sample; set in hot water, at 140 degrees F., to melt the fat before reading.

Fuller directions are contained in textbooks on the subject, and also in various bulletins.

Questions and Answers. Miscellaneous.

Feeding Horse.

Will you tell me, through your columns, what would be good for a stallion four years old, to keep his appetite up, and help him digest his food through the season? C. M. R.

Ans.—Give the horse regular exercise, and feed on hay and oats of first quality. Add some bran to his grain ration, keep him well groomed, and avoid drugs unless the horse is ill.

Tuberculosis in Fowls.

I have a disease killing my chickens and hens. They seem to get stupid, decrease in flesh, and finally die. I examined a few, and found the liver twice its normal size, and spotted with hard, white lumps. I keep the pen disinfected, and have given them roup cure, but still they seem to die. Could you give me a prescription that would be of any use? MRS. C. R.

Ans.—The trouble, no doubt, is tuberculosis. When such symptoms occur, you should send a dead bird, with description of symptoms, to Dr. C. H. Higgins, Biological Laboratory, Ottawa, or to Prof. S. F. Edwards, Bacteriologist, O. A. C., Guelph, Ont. In your case, the trouble appears to be extensive, and we would advise cleaning out the stock, marketing the carcasses of those birds which appear to be healthy. Clean up, thoroughly disinfect, plow up and cultivate the yards, and keep no poultry until winter, at least, when care should be exercised to see that they are in disinfected houses, clean, dry, and well ventilated.

Preserving Posts.

1. What is an effectual treatment of fence posts to make them last longer?
2. Have you evidence of there being much difference in the lasting qualities of posts treated and untreated?
3. Would charring the posts be of much benefit? J. L.

Ans.—1 and 2. Creosote is a good treatment. Treat the posts on a warm day. Have them piled on skids clear of the ground. Heat the creosote in a kettle to a temperature of about 220 degrees F., and paint it on the posts with a wide brush. As soon as one coat is dry, apply another. The creosote should penetrate the wood from one-sixteenth to one-quarter of an inch. A pint of creosote should do a fair-sized post. H. R. MacMillan, of the Dominion Forest Service, says that the increased life of the post far more than pays for the trouble and expense of creosoting. Of course, posts should be seasoned before treating.

3. It is very doubtful whether the practice would have the effect desired.

THE SAFE COURSE.

A newcomer in Porcupine mining district tells an anecdote that admirably illustrates the extreme caution of the mining man regarding any controversy. The new arrival met an interesting young stranger, and, as it was near night, proposed that they pitch camp together. After they had unpacked their things and had a bite to eat, they were enjoying a quiet smoke prior to retiring. The newcomer ventured to remark, "Fine night."

"Looks like rain," observed the other. "Oh, no; I don't think so."

Whereupon the newcomer, to his companion's great astonishment, got up and deliberately began packing his kit.

"What's the matter?"

"Oh, I guess I'd better move on."

"But why?"

"Too much argument."

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A Good Investment

A boy disputed the possibility of the anecdote, "George Washington threw a dollar across the Delaware." His father explained that a dollar went farther then than in these days. That was in 1776.

In 1923 your dollar invested in the Ontario Wind Engine & Pump Co.'s Gasoline Engine, Well Drill, Grinder, Pump, Scale, Pump Jack, Stanchion, Water Basin or Pressure Tank, will go equally as far and bring you the result of entire satisfaction.

If your dealer does not handle our lines write the ONTARIO WIND ENGINE & PUMP CO., Ltd., at Montreal, Toronto, Winnipeg or Calgary.



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When you want all the buildings on the farm waterproofed to stay—cover them with this genuine Trinidad Lake asphalt roofing, applied with the Kant-leak Kleet. Write us for samples and the Good Roof Guide Book.

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Largest producers of asphalt, and largest manufacturers of ready roofing in the world. Montreal Ottawa Toronto London, Ont.
The Canadian Asphalt Company, Ltd. Winnipeg, Man.

Service Bulls and Bull Calves from A. R. O. Dams.

Sons of Johanna Concordia Champion, No. 60675, one of the richest bred and best individual bulls of the breed. His granddams, Colantha 4th's Johanna 35.22 lbs. butter in seven days, fat 4.32 per cent.; and Johanna Colantha 2nd 32.90 lbs. butter in seven days, fat 5.02 per cent. Average butter in 7 days 30.06 lbs.; average fat 4.67 per cent. If you want to increase the butter fat in your herd, let me sell you one of these bulls. I can spare a few good cows and heifers bred to the "Champion." Write me your wants and I will try and please you.

MAPLE AVENUE STOCK FARM, L. E. Connell, Prop., Fayette, Fulton Co., Ohio, U. S. A.

FAIRVIEW FARMS HERD

REMEMBER:—Pontiac Korndyke sired the bull that sired the new 44-pound cow. Do you want a sire to use that has such transmitting ability? If so secure a son of Pontiac Korndyke, or Rag Apple Korndyke 8th, the strongest bred Korndyke bull in the world.

E. H. DOLLAR, Heuvelton, N. Y.

Near Prescott, Ont.



Lakeview Holsteins

Have only two bulls of the serviceable age left and are offering them at very reasonable prices. We are now in a position to offer a few young cows and heifers that are well worth the money asked to anyone looking for the best in breeding.

E. F. OSLER, BRONTE, ONTARIO.

SUMMER HILL HERD OF Holstein Cattle and Yorkshire Pigs

Do you realize that you must have another serviceable bull soon? Better go down to Hamilton right away and see those well-bred fellows with high official backing, that you can buy well worth the money from

D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont. 'Phone 2471.
Of course, we always have lots of pigs, all ages.



Holsteins One six year old cow due this month also fine 2 and 3-years heifers, bred; also a few Yorkshire pigs ready to wean. A. WATSON & SONS, St Thomas, Ontario. L. D. 'Phone Fingal via St. Thomas.

Evergreen Stock Farm High-class Registered Holsteins

For sale: A few choice young bull calves and females, all ages; good enough for foundation stock

A. E. HULET, Norwich, Ontario.

Show Stock for Sale

and two-year-old bull. Extra good. Anyone wishing show cattle write for prices.

Owing to the protracted illness of M. H. Haley, we have decided not to exhibit at Toronto next fall. Offering stock of extra quality in all classes of young animals. Aged M. L. HALEY, SPRINGFORD, ONT.


Woodbine Holsteins

Young bulls and bull calves for sale, sired by King Segis Pontiac Lad, a combination of all the greatest sires in the world, and Duke Beauty Pietertje, a grandson of Beauty Pietertje, the only cow in the world which is a 30-lb. cow, and has produced a 30-lb. daughter with a 30-lb. daughter.

A. KENNEDY & SONS, Paris, Ont. R.R. No. 2.



Ring-Bone




There is no case so old or bad that we will not guarantee

Fleming's Spavin and Ringbone Paste
to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and cures in three to five applications. Works just as well on Oldbone and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of

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Ninety-six pages of veterinary information, with special attention to the treatment of lamenesses. Durably bound, indexed and illustrated. Make a right beginning by sending for this book.

FLEMING BROS., Chemists,
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FARMERS, FRUIT, AND VEGETABLE GROWERS



WHY ARE YOU IMPORTING PHOSPHATE AND AMMONIA WHICH IS A BY-PRODUCT OF YOUR FARMS OF WHICH YOU ARE EXPORTING MANY THOUSAND TONS ANNUALLY. BONES AND WHICH CONTAIN LARGE QUANTITIES OF PHOSPHORIC ACID AND AMMONIA

KINDLY ANSWER THE ABOVE

PURE BONE MEAL IS THE CHEAPEST FERTILIZER.

THIS PLANT FOOD IS ALL FROM OUR CANADIAN SOILS AND SHOULD ALL GO BACK

SEND FOR PRICES, ETC.

THE W.A. FREEMAN CO. LIMITED
HAMILTON, CANADA

"Ohio" 1913 Model The Improved Logical Silo Filler



"Ohio" improvements for 1913 are radical—eclipse all previous efforts.

Don't close a deal for any Cutter and take chances with unknown makes, until you see what the "Ohio" offers.

59 years' experience—absolutely dependable quality.

Famous Patented Direct Drive is secret of "Ohio" superiority—the only machine that is driven, cuts and elevates direct from main shaft. Simple, compact—low-speed fan—non-explosive—non-clogging on any cut. Cuts clean on all crops—knives can't spring.

One Lever Controls All
Entire feed reverses by wood friction at finger pressure—no strain—not a gear tooth changes mesh. All gears perfectly housed. Famous "Bull-Dog" grip self-feed. Enormous half-inch cut tonnage, 50 to 250 tons a day—8 to 16 h. p.—20-year durability. Used by Experiment Stations everywhere. Guaranteed. Many big new features this year.

Write for free "Ohio" catalog today. A postal will do.

"Modern Silage Methods" a 264-page book mailed for 10c, coin or stamps.

Made By The Silver Mill Co., Salem, O.
Sold By John Deere Plow Co., Toronto

CATTLE AND SHEEP LABELS

Size	Price doz.	Fifty tags
Cattle.....	75c.	\$2.00
Light Cattle ..	60c.	1.50
Sheep or Hog ..	40c.	1.00

No postage or duty to pay. Cattle sizes with name and address and numbers; sheep or hog size, name and numbers. Get your neighbors to order with you and get better rate. Circular and sample mailed free.

F. G. JAMES, Bowmanville, Ont.

DON JERSEY HERD

Offers young bulls and heifers for sale; heifers bred to Eminent Royal Fern. D. DUNCAN, DON, ONTARIO.
Phone L.-D. Agincourt, Duncan Stn., C. N. R.

For Sale—Jersey cows and heifers and bulls for exportation. All pedigree and Herd-book stock. For further particulars apply to A. T. SPRINGATE, Breeder and Exporter, Gorey, Jersey, Europe.

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

D. A. MACFARLANE, Kelso, Que.

Questions and Answers. Miscellaneous.

Public School.

1. Is it necessary for a public-school board, when advertising for a teacher, to state salary?

2. Can a trustee, when instructed by the other two trustees, do necessary repairing to school property, and collect pay for doing it?

TRUSTEE.

Ontario.

Ans.—1. It is not necessary, but is generally advisable. With so many positions available, candidates do not usually care to go to the trouble of correspondence when they have no idea what they are to receive.

2. The trustee who does that, takes chances of being placed in a very awkward position in case any ratepayer should object.

Potato Planting.

What time do you plant late potatoes at Weldwood? How wide apart in the rows do they plant? Do they plant every third furrow, or just plow furrows?

W. G.

Ans. Potatoes have not yet been grown at Weldwood, save a very few for home use. Last year they were planted in the old-fashioned way with the hoe, in the rows of young apple trees. We plant about the Twenty-fourth of May, or as near that as may be convenient. When planting on spring-plowed sod, it is not a bad plan to drop the sets along the heel of the opened furrow every third furrow, if medium-wide ones are turned. In loose, stubble ground running furrows dropping in these and covering with the plow is a good plan where no potato-planter is available.

Tuberculous Poultry.

1. Have hens which I believe have tuberculosis. I destroy them as soon as I see them get lame. Is that a right thing to do?

2. Are the eggs fit for use from such a flock of hens?

T. E. M.

Ans.—1. Your procedure is all right as far as it goes, but seeing that many birds will have the germs of tuberculosis before showing visible symptoms, and that during this time they will be contaminating the premises with germs voided in excrement, you will readily see that your method will be tardy, and uncertain in its results. First of all, make sure of your diagnosis by expressing a dead bird to Prof. S. F. Edwards, Bacteriologist, O. A. C., Guelph, Ont., or to Dr. C. H. Higgins, Biological Laboratory, Ottawa, at the same time mailing him a letter giving full particulars. If it is tuberculosis, you will receive full directions in a bulletin, or otherwise.

2. Recent investigations indicate that the eggs laid by tubercular hens may contain the germs, but, notwithstanding, we should not hesitate to use the eggs from apparently healthy hens.

Artichokes.

Can you, or any of your subscribers, give me any information as to the value of Jerusalem artichokes for hog feed? Also, directions for planting, kind of land in which they do best, and method of feeding.

T. G. K.

Ans.—Jerusalem artichokes are recommended by many as an excellent feed for hogs, being more especially suited for light, sandy soils. The tubers may be planted in late fall or early spring, in rows two or three feet apart, spaced a foot or eighteen inches apart in the rows. In planting, the tubers may be cut like potatoes, one eye in a set. Plant like potatoes, and cover about two inches deep. The crop, if planted early, should be ready to feed early in September, the hogs being turned in to help themselves. Cultivate much as you would for potatoes or corn. Frost does not injure artichokes, and usually enough tubers are left in the ground to insure a crop the following season. To eradicate, turn hogs on in the spring, and put the plot into a hoed crop. Would advise planting only on a small scale. The feeding value is a little higher than that of potatoes, and hogs are very fond of them in moderate quantity.



An Ideal Green Feed Silo

Soon pays for itself

This is true whether you are keeping cows for dairy purposes or are a stock raiser.

It has repeatedly been stated by some of the best posted authorities on farm economics that even if a dairyman or stock raiser had to buy a silo every year he would still be money ahead.

There is absolutely no question about the advantage of erecting a silo. It insures for the dairyman a larger milk flow in the winter or during dry weather and takes the place of grass for steers or sheep during drought.

If you are considering the silo question, a little investigation must convince you that the IDEAL GREEN FEED SILO will give you the best service and keep your silage in the best condition.

All our silo staves are thoroughly air dried and then saturated with a solution which prevents rot and decay and adds many years to the life of the silo.

You will find our new silo book contains much information about the erection of silos and the many advantages of silage, and we will be very glad to send this book to any cow owner upon request.

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LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
Exclusive Canadian distributors of the "World Standard" De Laval Cream Separators
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Several imported cows and bulls for sale. Canada's Greatest Jersey Herd.

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L.-D. Phone.

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75 Hillcrest Ayrshires

Our Ayrshires are selected and bred for big production, and showing quality. Many of the heifers we are offering are grand-daughters of the two Ex-World's Champions, Jean Armour, Rec. 30174 lbs., and Primrose of Tanglewyld, Rec. 16195 lbs.

F. H. HARRIS,
Mount Elgin P.O. & Sta.

CITY VIEW Record of Performance Ayrshires

Two young bulls and one of Jan., 1913. All from R. O. P. cows and sired by bulls from R. O. P. dams. Will buy young cows that are capable of making good. Eggs for setting. R. C. and S. C. Rhode Isl. Reds, selected for laying qualities; \$1.50 per 15. Jas. Begg & Son, R.R. 1, St. Thomas

Ayrshires and Yorkshires

Bulls for service, of different ages; females all ages. Calves of both sexes. All bred for production and type. A few pigs of either sex ready to ship.

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The best in their respective breeds. Write for information to:

ROBT. MCKWEN, Byron, Ont.
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Oxford Down Sheep, Shorthorn Cattle, Yorkshire Pigs—Present offering: Lambs of either sex. For prices, etc., write to **John Cousins & Sons**, Bessie Vista Farm, Harriston, Ont.

FINE GROVE YORKSHIRES Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable price. Guaranteed satisfaction. **Joseph Featherston**, Sen., Streetville, Ont.

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Both sexes and all ages, from imported stock. Prices reasonable. **G. A. POWELL**, ARVA, ONTARIO
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SWINE OF ALL BREEDS FOR SALE Yorkshires, Tamworths, Berkshires, Chesapeake, Chester Whites, Poland-Chinas, and Shropshire. I have constantly in hand both sexes of all ages. Show stock a specialty. **JOHN HARVEY**, Frasburgh, Que.

Poland-Chinas Poland-Chinas, Shorthorns and Sees Corn. An offering of a limited quantity of "Extra Choice" White Cap Seed Corn. Order now. Prices reasonable. **Geo. G. Gould, Edgar's Mills, Ontario**

EARLY HUMOR.

Gladstone, when a boy, was visiting in the country and the farmer was showing him around. Coming to a field that contained a large, black bull, the farmer said: "There's a fine, strong, bull there, Master William, and it's only two years old."

"How do you tell its age?" queried the boy.

"Why, by its horns," said the farmer. "By its horns," Young Gladstone looked thoughtful a moment, then his face cleared. "Ah, I see. Two horns—two years."

"A Scotchman, wishing to know his fate at once, telegraphed a proposal of marriage to a lady acquaintance. After spending the entire day at the telegraph office, he was finally rewarded, late in the evening, by an affirmative answer. "If I were you," suggested the operator, when he delivered the message, "I'd think twice before I'd marry a girl that kept me waiting all day for my answer." "Na, na," retorted the Scot. "The lass who waits for the night rates is the lass for me."

GOOD FOR THE HANDS SNAP



Antiseptic Hand Cleaner

Softens and whitens the hands—removes the most obstinate stains—oil, grease, paint, etc.

ASK YOUR DEALER

SNAP COMPANY, LIMITED, Montreal.

Preserving Fence Posts from Decay.

Wood-rot, in all its forms, is due to the action of fungi working under suitable air and moisture conditions. In fence-posts, these conditions are most favorable at or near the surface of the ground, and hence it is there that decay first starts. Some woods, like the cedar and tamarack, are more resistant to fungus attack, and may last, as fence posts, from eight to ten years. Unfortunately, however, the supply of these woods has grown very scarce, and the farmer is faced with the alternative of importing durable material at a high price, or of applying preservatives to the common, non-durable woods which grow in his own wood-lot. As the latter alternative is not only cheaper, but also much more effective, it is of considerable economic interest to the farmer to know how these wood-preservatives are applied.

Creosote, a "dead" oil of coal tar, is perhaps the best preservative for this purpose, as it does not dissolve out of the treated wood, when in contact with moist earth. It costs from eight to fifteen cents per gallon.

There are two methods of applying the creosote, but before either method can be applied, it is necessary to have the posts well seasoned if the best results are desired. This seasoning is best accomplished by peeling the bark from the posts and then stacking them in loose piles in the open air for several months, so the amount of water in the wood may be reduced to the smallest per cent. possible.

The Brush Method consists in applying the creosote like a coat of paint to the lower portion of the post, up to a point six inches above the ground line, the creosote being first heated to one hundred and eighty degrees Fahrenheit. Two or more coats may be applied, time being allowed between each application for the creosote to soak into the wood.

What is known as the Open-tank Method, while more expensive, secures deeper penetration, and gives better results, especially when the posts are split or checked. The creosote is heated to boiling point in a metal tank, and, if such is not available, a simple and effective apparatus can be made by boring two holes, about two feet apart, in the lower half of one of the staves of a water-tight barrel and screwing into these holes two pieces of iron piping three to four feet long, which are connected by a shorter vertical pipe with two elbow-joints, thus forming a complete circuit somewhat resembling the handle of a mug.

The barrel is then filled with enough creosote to cover both upper and lower pipe holes, and a fire is kindled under the lower horizontal pipe, which heats the creosote in the pipes, and creates a circulation which continues until all the creosote within the barrel is at boiling-point. The posts are then placed in this boiling liquid for about five hours, after which they are immediately transferred to another barrel of creosote, or else the fire is put out and they are allowed to remain in the tank until the creosote becomes thoroughly cooled.

In this process the preliminary heating drives some of the contained air out of each wood-pore, and when the posts are allowed to cool in the creosote, a partial vacuum is then created in each pore which draws the creosote into every fibre. Poplar posts, which ordinarily last but three to four years, after the above treatment, will last twenty years, and the same applies to all other tree species in Canada. All that is essential is thorough seasoning before treatment. Further information can be obtained on application to the Forestry Branch, Ottawa.

The witness on the stand was being subjected to cross-examination. In answering one question he nodded. Whereupon the court stenographer, who could not see the witness, demanded, "Answer that question."

The witness replied: "I did answer it; I nodded my head."

"Well, I heard the rattle but could not tell whether it was up or down or from side to side," answered the stenographer.—Law Notes.

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and that's Galt Steel Shingles—the most satisfactory and economical roof you could put on your building.

Because Galt Steel Shingles will last a lifetime, and will give you fire protection, lightning protection, and weather protection as well.

Wood shingles warp and curl, crack and rot. Slate is so brittle that a falling brick or stone will crack it and start a leak. Galt Steel Shingles interlock so securely that a leak is practically impossible. They are made of Galvanized steel, and quickly pay for themselves, by saving the cost of repairs. Better let us send you full particulars. We have an intensely interesting budget of Roofing Information here awaiting your name and address. Write for it TO-DAY—it's FREE.

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Now is the time to buy a Young Bull. Every farmer with a herd of cows should have one—an Angus. We are offering two choice ones. The Angus are grand for crossing with grades, both for veal calves and steers. They mature quickly and fatten easily. Our price is low. Write. Large Flocks of Dorset Sheep. Some bargains now in breeding ewes. Orders booked for fall delivery—ram lambs, ewe lambs and breeding ewes. Order right away. Early lambs pay best. Write for prices. **FORSTER FARM, OAKVILLE, ONTARIO**

Maple Villa Oxford Downs and Yorkshires

This fall I have the best lot of lambs I ever bred. I have plenty of show material, bred from the best stock procurable in England. Order early if you want the best. Ram lambs, shearlings and ewe lambs. Yorkshires of all ages.

J. A. CERSWELL, BOND HEAD P.O., ONTARIO

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Agents wanted in every town and district.

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CANADIAN HOG MOTOR CO., LTD.
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Woodburn Berkshires

are founded on the famous old Sally tribe, noted for big size, length of body and strength of bone. We can supply pairs and trios not akin. Show stock a specialty. Also high-class Cotswolds, ram and ewe lambs, shearlings.

E. BRIEN & SON,

RIDGETOWN, ONTARIO

Morrison Tamworths and Shorthorns—Bred from the prize-winning herds of England; have a choice lot of young pigs, both sexes, pairs not akin; and also the dual-purpose Shorthorns. Satisfaction guaranteed. **C. CURRIE, Morrison, Ont.**

Yorkshires Choice December sows and boars; also fine lot of April pigs from large litters and goods mothers. Prices \$10. up, registered, f.o.b. Satisfaction guaranteed. **W. T. Davidson & Son, Meadowdale, Ontario Peel Co.**

ELMHURST LARGE ENGLISH BERKSHIRES

Present offering: Select sows. Choice boars ready for service; also younger stock, the set of Duke of Somerset imp., and out of imported dams. Satisfaction and safe delivery guaranteed. **H. M. VANDERLIP, Breeder and Importer, CAINSVILLE, P. O. Langford station. Brantford and Hamilton Radial.**

Cloverdale Berkshires—Present offering: Sows bred and others ready to breed; also younger stock of both sexes. Prices reasonable. **G. J. LANG, Hampton, Ont. Durham Co.**

Duroc Jersey Swine AND JERSEY CATTLE Grand stock, either sex constantly for sale. Price reasonable. **MAC CAMPBELL & SONS, Northwood, Ont.**



MAIL CONTRACT.

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 27th June, 1913, for the conveyance of His Majesty's Mails on a proposed Contract for four years, six times per week, over Rural Mail Route No. 2, from Park Hill, Ont., from the Postmaster-General's pleasure.

Printed notices containing further information as to conditions of proposed Contract may be seen, and blank forms of Tender may be obtained, at the Post Offices of Park Hill, Sylvan, Lamon, and Sable, and at the Office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, May 12th, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 20th June, 1913, for the conveyance of His Majesty's Mails on a proposed Contract for four years, six times per week, over Rural Mail Route "B," from Crediton (South), Ontario, to commence at the pleasure of the Postmaster-General.

Printed notices containing further information as to conditions of proposed Contract may be seen, and blank forms of Tender may be obtained, at the Post Office of Crediton, and at the Office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, 7th May, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 20th June, 1913, for the conveyance of His Majesty's Mails on a proposed Contract for four years, six times per week, over Rural Mail Route "D," from Park Hill (Mt. Carmel way), Ontario to commence at the pleasure of the Postmaster-General.

Printed notices containing further information as to conditions of proposed Contract may be seen, and blank forms of Tender may be obtained, at the Post Offices of Corbett, Lieury, Moray, Mount Carmel, Park Hill, and at the Office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa 7th May, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 27th June, 1913, for the conveyance of His Majesty's Mails on a proposed Contract for four years, six times per week, over Rural Mail Route from Gad's Hill Station (West) (Rostock Way), Ont., from the Postmaster-General's pleasure.

Printed notices containing further information as to conditions of proposed Contract may be seen, and blank forms of Tender may be obtained, at the Post Offices of Rostock and Khuryville, Gad's Hill, Gad's Hill Station, and at the Office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, May 14th, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 20th June, 1913, for the conveyance of His Majesty's Mails on a proposed Contract for four years, twelve times per week, over Rural Mail Route "C," from Crediton and Centralia Rwy. Stn., Ont., from the Postmaster-General's pleasure.

Printed notices containing further information as to conditions of proposed Contract may be seen, and blank forms of Tender may be obtained, at the Post Offices of Crediton, Crediton East, Centralia, and at the Office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, 5th May, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 20th June, 1913, for the conveyance of His Majesty's Mails on a proposed Contract for four years, six times per week, over Rural Mail Route from Stratford or Shakespeare, Ont., from the Postmaster-General's pleasure.

Printed notices containing further information as to conditions of proposed Contract may be seen, and blank forms of Tender may be obtained, at the Post Offices of Stratford, Shakespeare, and at the Office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, 7th May, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 20th June, 1913, for the conveyance of His Majesty's Mails on a proposed Contract for four years, six times per week, over Rural Mail Route "F," from Exeter (West) (Huron, S. R.), Ont., from the Postmaster-General's pleasure.

Printed notices containing further information as to conditions of proposed Contract may be seen, and blank forms of Tender may be obtained, at the Post Offices of Exeter, Hay, and at the Office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, May 6th, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 27th June, 1913, for the conveyance of His Majesty's Mails on a proposed Contract for four years, three times per week, each way, between Brinkman's Corners and Tobermory, from the Postmaster-General's pleasure.

Printed notices containing further information as to conditions of proposed Contract may be seen, and blank forms of Tender may be obtained, at the Post Offices of Tobermory, Brinkman's Corners, McVicar, and at the Office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, 13th May, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 4th July, 1913, for the conveyance of His Majesty's Mails on a proposed contract for four years, six times per week, over Rural Mail Route No. 1, from Embro (Brookdale Way), Ont., from the 1st October next.

Printed notices containing further information as to conditions of proposed contract may be seen, and blank forms of Tender may be obtained, at the Post Offices of Embro, Youngsville, Brookdale, and at the office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, May 21st, 1913.



MAIL CONTRACT

SEALED TENDERS ADDRESSED TO the Postmaster-General, will be received at Ottawa until noon, on Friday, the 4th July, 1913, for the conveyance of His Majesty's Mails on a proposed contract for four years, six times per week, over Rural Mail Route from Mitchell special (North) (South Perth), Ont., from the Postmaster-General's pleasure.

Printed notices containing further information as to conditions of proposed contract may be seen, and blank forms of Tender may be obtained, at the Post Office of Mitchell, and at the office of the Post-office Inspector at London.

G. C. ANDERSON,
Superintendent.

Post Office Department,
Mail Service Branch,
Ottawa, May 17th, 1913.

GRAND TRUNK RAILWAY SYSTEM

Homeseekers' Excursions

To Manitoba, Saskatchewan, Alberta.

Each Tuesday until October 28, inclusive
WINNIPEG AND RETURN \$35.00
EDMONTON AND RETURN \$43.00
Proportionate low rates to other points. Return limit two months.

Through Pullman Tourist Sleeping cars are operated to Winnipeg without change via Chicago and St. Paul, leaving Toronto 11.00 p.m. on above dates.

Tickets are also on sale via Sarnia and Northern Navigation Company.

Full particulars and reservations from Grand Trunk Agents, or write C. E. Horning, D.P.A., Union Station, Toronto, Ont.

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Do you know of the many advantages that New Ontario, with its millions of fertile acres, offers to the prospective settler? Do you know that these rich agricultural lands, obtainable free, and at a nominal cost, are already producing grain and vegetables second to none in the world?

For literature descriptive of this great territory, and for information as to terms, homestead regulations, settlers' rates, etc., write to

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Special Interest to
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Cunard Steamship Company LIMITED
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"The purpose of a journey is not only to arrive at the goal, but to find enjoyment on the way."—Henry van Dyke

That describes the White Star-Dominion Service by the picturesque, land-locked St. Lawrence route

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FROM MONTREAL & QUEBEC
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FROM PORTLAND, ME.
LARGEST CANADIAN LINERS
Ask the nearest Agent for Particulars.

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To Threshermen

Our price for best 2-inch canvas-covered suction hose is only 60c. per ft. We sell the plain 2-inch wire-lined suction hose at only 37c. per ft. It comes in 15-, 20- and 25-ft. lengths. We carry a large stock. Write for large catalogue of Threshers' Supplies.

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Windsor, Ontarl

We are open to buy car lots of choice timothy HAY and clean bright STRAW. Send prices and particulars to: **CHISHOLM MILLING CO., LTD., Toronto.**

CANADIAN PACIFIC RY.

HOMESEEKERS' EXCURSIONS

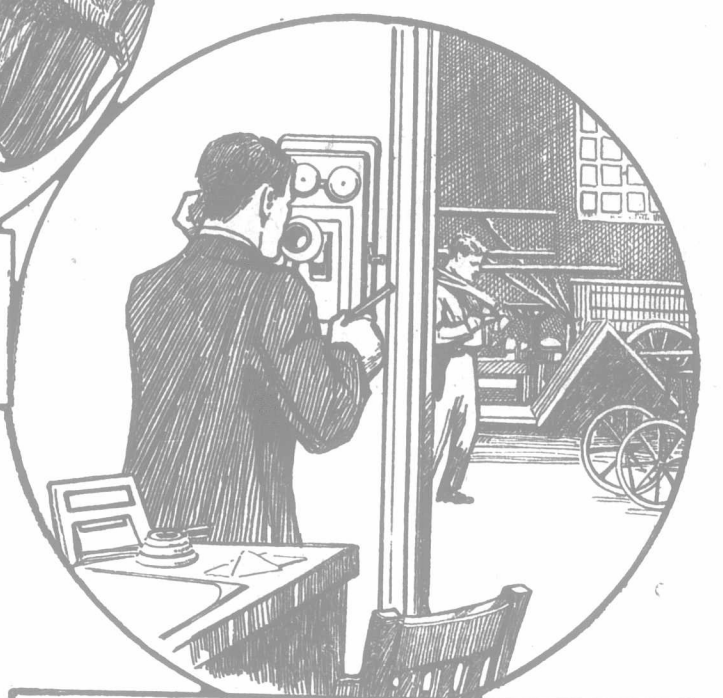
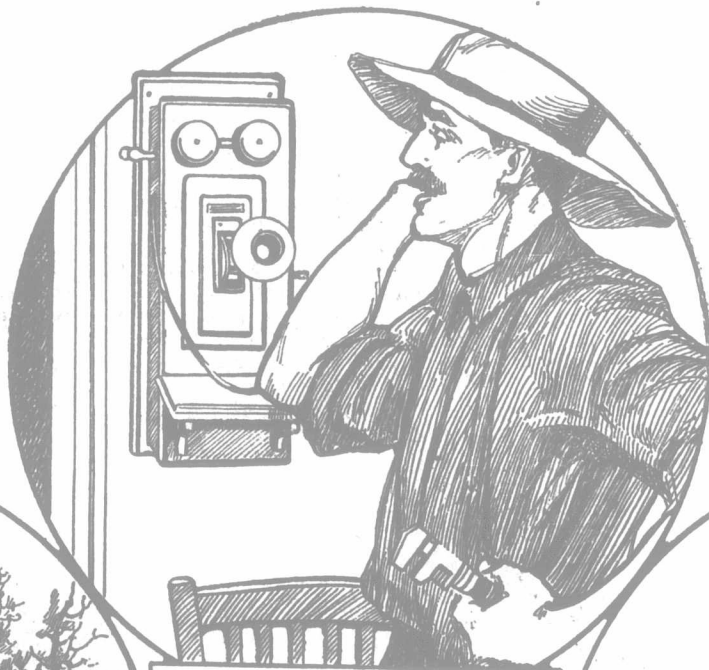
Each Tuesday, until October 28
WINNIPEG AND RETURN \$35.00
EDMONTON AND RETURN \$43.00
Other points in proportion.
Return Limit two months.

HOMESEEKERS' TRAIN leaves Toronto 2.00 p.m. each Tuesday, May to August, inclusive. Best Train to take.

Upper Lakes Navigation
Steamers Leave Port McNicoll, Mondays, Tuesdays, Wednesdays, Thursdays and Saturdays, for SAULF STE. MARIE, PORT ARTHUR and FORT WILLIAM.
The Steamer "Manitoba," sailing from Port McNicoll on Wednesdays, will call at Owen Sound, leaving that point at 10.30 p.m.

Steamship Express
leaves Toronto 12.45 p.m. on sailing days, making direct connection with Steamers at Port McNicoll

General change of time June 1st.
Particulars from Canadian Pacific Agents or write M. G. Murphy, D.P.A., C.P. Ry. Toronto.



"You can send the Binder parts to-day? — That's fine? Good thing I had a Telephone—I've saved a clear day."

If this Happened to You What would You do?

When your Binder breaks at harvest time and you have to drive miles for spare parts, how much does it cost YOU in time and money?

"Yes, Mr. Brown; we'll send those parts to you right away — you will have them in a couple of hours."

The Telephone Saves

Time and Money in Every Emergency

When disease breaks out among your live stock—the Telephone brings the veterinary to save them.

When your barn or house gets on fire the telephone brings your neighbors to your help.

Don't you think it's time to get a Telephone?

We will show YOU how you and your neighbors can build, own and operate a self-paying Rural Telephone System.

Your share of the cost will only amount to about the value of 20 bushels of wheat—and for that you can have a Northern Electric Telephone right in your own home.

Our FREE BOOK tells you—in plain, simple language—how you and your friends can build every bit of the line and operate the system from start to finish. It is as easy as building a fence.

The largest telephone company in Canada—The Northern Electric and Mfg. Co., Limited—will stand back of you and guide and advise you in every step of the work until success is assured.

We made 95 per cent. of the telephones used in Canada to-day and have helped thousands of farmers to build their own telephone systems.

Better write for our 100-page book, "How to Build Rural Telephone Lines." If you don't, somebody in your district will—and you might as well be the man to start the movement.

408 L.F.A.

The Northern Electric and Manufacturing Co., Limited

Gentlemen:

Please send me FREE, one copy of your 100-page bound and illustrated book on "How to Build Rural Telephone Lines."

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Manufacturer of Telephone and Fire Alarm Apparatus and Distributor of Electrical Supplies for every possible need.

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