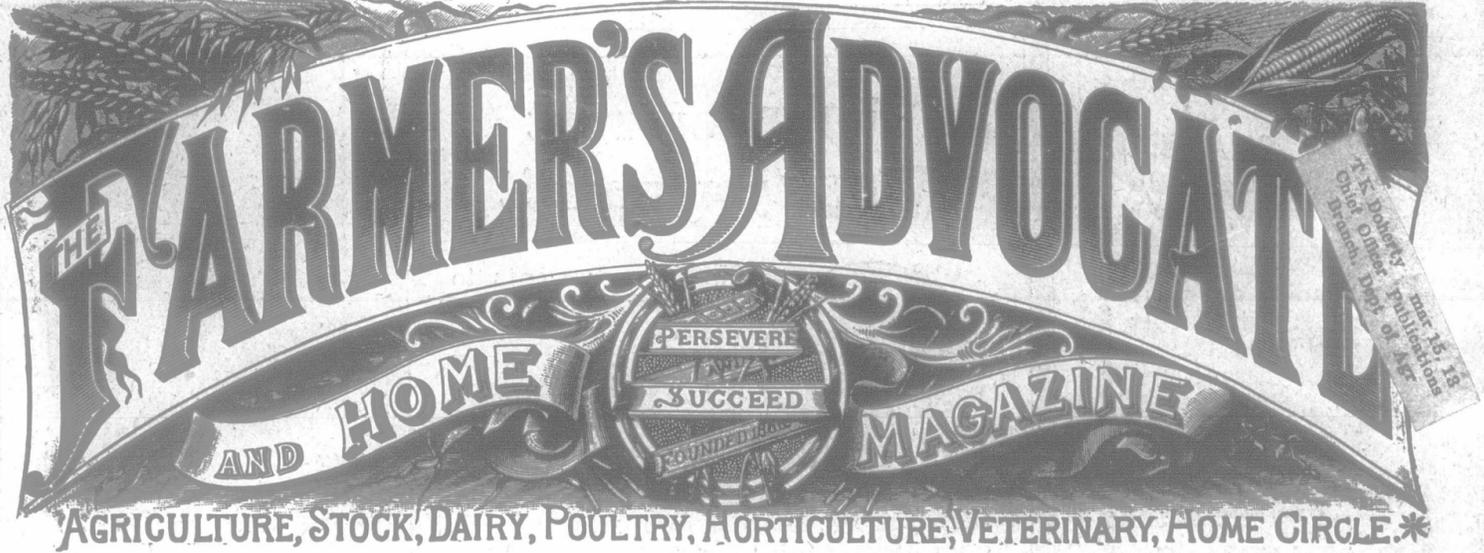


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Vol. XLVIII.

LONDON, ONTARIO, MARCH 6, 1913.

No. 1087

No Risk In Trying it — Has a “MONEY-BACK” Guarantee

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“Order a sack of Purity Flour. Give it as many tests as you like. If it does not prove to be the best flour you have ever used your money will be returned.”

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ALFALFA.—There is practically no home-grown seed this year, as the wet weather caused a new growth of plant instead of seed. We have some splendid seed though, suited to our land, which we recommend. Price, \$12.00 per bushel.

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Improved Leaming
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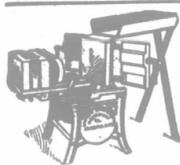
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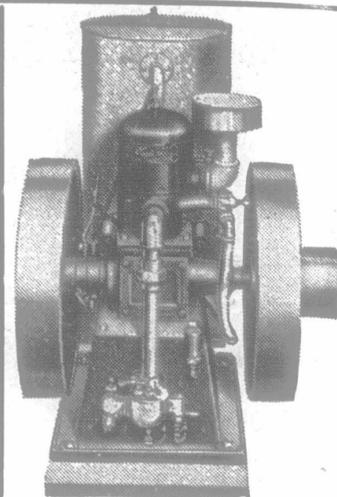
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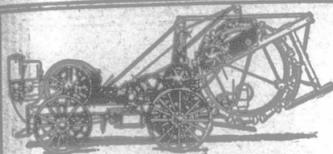
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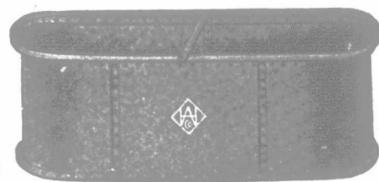
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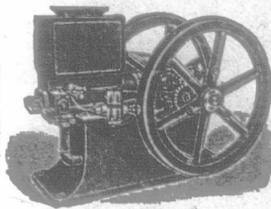
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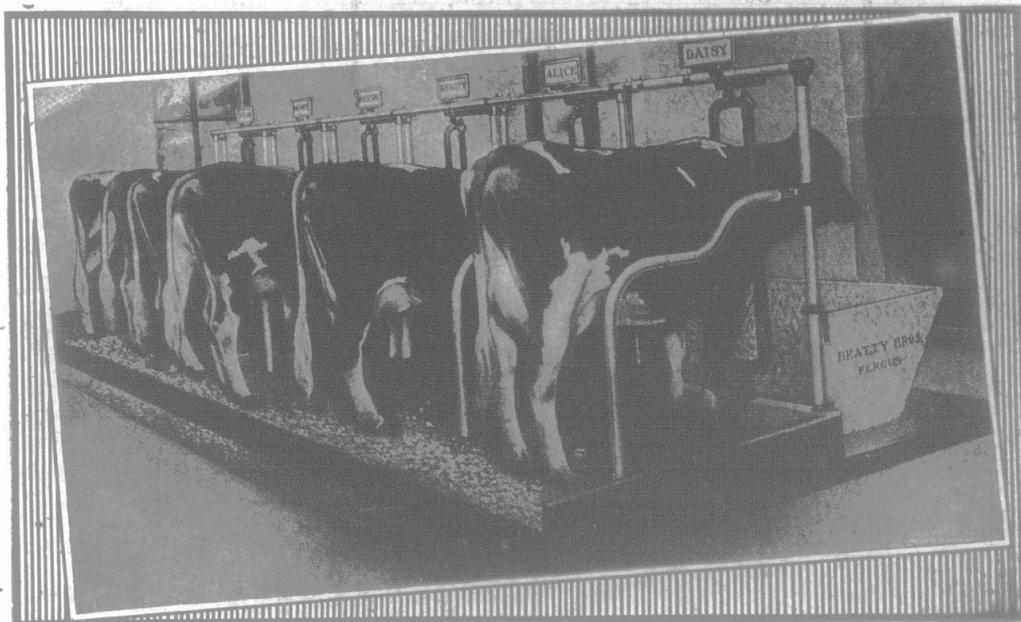
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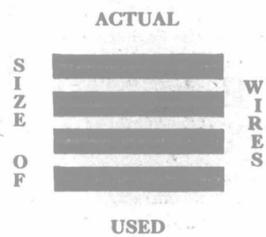
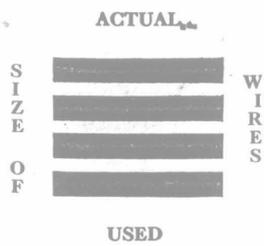
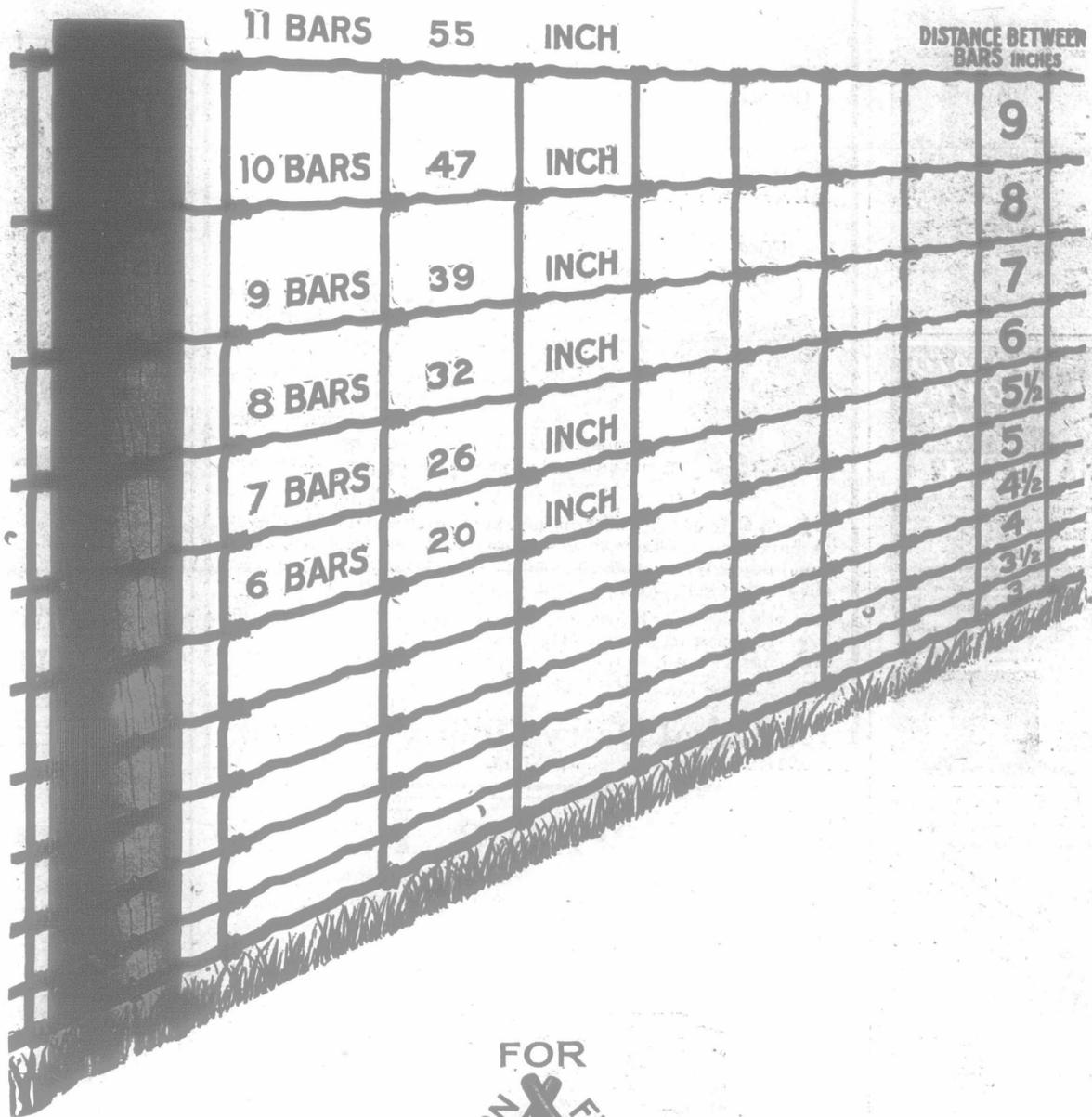


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Best value ever offered the gasoline public. It will pay you to investigate before placing your order elsewhere.

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This is the simplest engine on the market, only 12 working parts. You know what that means to you.

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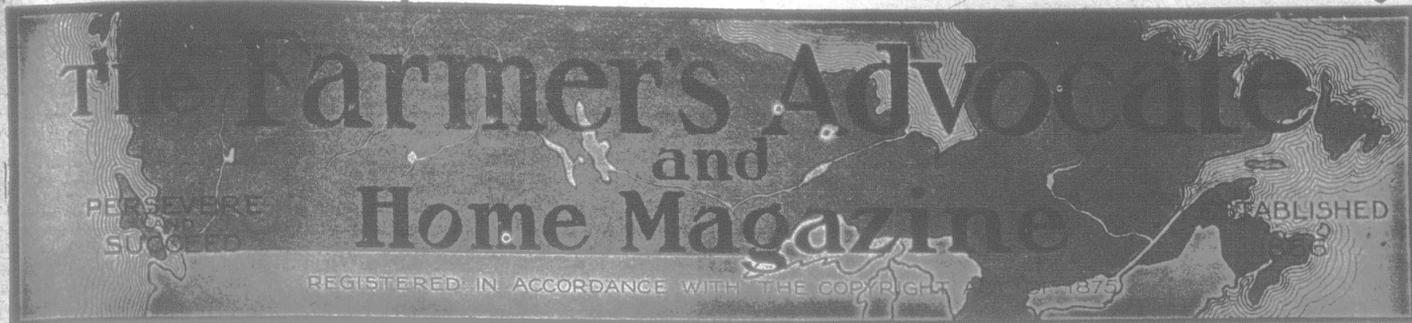
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ADVOCATE.



Vol. XLVIII.

LONDON, ONTARIO, MARCH 6, 1913.

No. 1067

EDITORIAL.

Between the yield of the average dairymen's cows, as described to a buyer, and the yield indicated by the books of the creamery or cheese factory he patronizes, is a wide latitude for explanations.

When laying in a supply of clover seed for the spring, it is well to provide for a generous seeding. Many poor catches are the result of too thin a stand, because of the small amount of seed sown. The clover crop is too valuable an asset to the farm to be jeopardized.

How much of a charge per head per month does the interest, insurance and depreciation of your barn represent against the stock which is quartered, and whose feed is housed therein? Cost of stabling is getting to be an important item in the expense of stock husbandry in a latitude such as ours. How can it be reduced?

Do not Mr. Shutt's records of the fertilizing value of rain and snow help to explain the marvellous rate of growth apparently exhibited by plants during and just after a thunderstorm following a drouth? It seems there is an extra percentage of nitrates in the rain water at such times.

Now is the time to prepare the seed grain. Much of last year's crop was injured in the field by the heavy rains of harvest. Test the seed before it is sown. Take one hundred seeds of each kind of grain or grass seed, and place them between two moistened pieces of blotting paper or in a little earth. Keep them warm by the house fire, and in a very few days the percentage and relative germination may be readily seen. This may mean bushels to the 1913 crop.

Thousands of dairymen still delude themselves with the idea that they can tell pretty closely by looking at a mess of milk in the pail how much it amounts to. Excepting those who have had experience in weighing or measuring, they are almost certain to over-rate the quantity by twenty-five to fifty per cent. They look at the foam ascending the lower side of a flaring pail, tilted toward the cow, and think they have a twelve-quart pail full when it would really measure about eight quarts. A very small percentage of grade cows yield twenty quarts a day.

The fanning mill is one of the grain grower's best friends. It is not used as much as it should be, especially in connection with the cleaning of seed grain. Properly equipped and judiciously operated it will take nearly all the weed seeds from the seed grain, will discard all the inferior shrunken and small seeds, and will turn out a fairly uniform clean seed from which to produce a crop. This means much to the grower. Weeds are the bane of crop production. Inferior seed loses thousands of dollars to Canadian farms each year. The fanning mill could save much of this. Running the grain through once is not enough. Use coarse screens to take out all small seeds, and give the seed one cleaning by simply running it through and blowing it hard. It is surprising what may be blown out. Sow good seed and reap good crops.

Big Implements -- Advantages and Disadvantages.

For all the consumer's vision of the halcyon profits which he thinks the farmer must be making, the fact is that these are seriously curtailed by a steady advance in the cost of production. A considerable share of this advance is represented by increase of wage and interest or rental charges, not to mention taxes. Unless these increases can be offset by greater economy in methods, the inevitable result must be to reduce profits. Nor is this the only argument. Wages are not only high to-day, but they are advancing, while trained farm hands are becoming scarcer. Many farmers who would keep a hired hand have to get along alone, while other extensive farmers have to do with less help than they would like. How can the work be compassed with the limited amount of good help available? In the West, where extensive grain farming complicates the problem, they are adopting mechanical traction, not because it is better or cheaper than horse power, but because by means of it vast areas may be planted and sown in reasonable time with a few men. It is not a case of how the work can be best or most economically accomplished, but how it can be done at all. We have arrived at a somewhat corresponding stage in the East.

What is the solution? So far as field practice is concerned, it lies largely in the direction of increasing the horse power ahead of each teamster in the field. To some extent, and in some cases, this may be secured by increasing the weight and strength of the teams, but in many cases it may be attained by the use of larger implements drawn by three or four horses instead of the traditional pair.

The case was rather tersely put in our correspondent's report of a recent address by J. H. Grisdale, Director of Experimental Farms, before the New Brunswick Farmers and Dairymen.

The wages of farm labor were now almost 100 per cent. higher than twelve years ago. Do everything with the minimum of man labor and the maximum of power. On the Experimental Farm, Ottawa, they had found that plowing with two horses and a single-furrow plow cost approximately \$2 per acre, with a two-furrow plow and three horses, \$1 per acre. Similarly, in harrowing, they had found that with a two-furrow disk-harrow it cost 90 cents to fit an acre; with a three-horse disk, 70 cents, and with a double cutaway four-horse harrow, 45 cents.

These figures are along the same line as those given by Mr. Grisdale in his notable contribution to our 1911 Christmas Number, wherein he also recommended the 24-foot harrow, the 20-marker seeder, 7-foot mower, 8-foot binder and 12-foot rake, and he might well have added the two-horse corn cultivator. Substantial hope of keeping down or lowering the cost of production lies in the use of just such methods.

To be perfectly candid, however, the advocates of these implements should admit certain modifications of their claims. The two-furrow plow, for instance, will not do quite so perfectly

finished a job at headlands and dead-furrows as will the walking plow, nor is it easy to keep the furrow plow drawn by three large horses ground it is a heavy implement to lug. It certainly is an exaggeration to say that with three horses and a two-furrow plow one can do twice as much plowing as with a single walking plow. We questioned Mr. Grisdale on this point a year ago, and, in reply, he explained that his two-furrowed plow was drawn by three large horses capable of doing more work than four of the small or medium-sized ones such as the average farmer uses on his single walking plow. We submit that such a point should be explained. Allowance ought also be made for the fact that it requires more minutes to groom, harness, hitch and unhitch three or four horses than two. And while on the subject, it might as well be confessed, with four horses on a two-furrow plow it is difficult to avoid side-draft and crowding unless one puts the off horse on the plowed land, which is probably the best plan when the soil is not too wet. These are points of experience which the intending investor should know. Having allowed for them, however, there is still a decided advantage in the two-furrow plow drawn by three or four horses. Not only does it economize man's time, but, with proper horsemanship, it will do a job that is first-class in nearly all essential respects, particularly in the important matter of uniform depth. A reasonably straight furrow can be turned, and in dry weather the big plow will go through ground which the walking plow cannot handle at all.

So with other implements. Too wide a disk gives violent swing to the pole, causing trouble with the shoulders unless one is very careful. Wheeled trucks to take the place of the tongue are not a wholly satisfactory improvement. It has always seemed to us that the double-disk, one set of twelve plates following the other, and reversing its cut, should make a first-class four-horse implement. We have never tried this, but Mr. Grisdale speaks well of it. The wide-cut mower and binder are commendable, though somewhat open to the same objection as the wide-disk and drill, especially in short fields. We use a six-foot mower and a seven-foot binder with much satisfaction. With this binder and three horses last summer our teamster cut six and a half acres of lodged mixed grain on rather soft soil one afternoon of a little over five hours, in spite of the fact that all his rounds were short, and he had to finish one piece and move to another field, starting and finishing there all the same afternoon. A good job was done, only one or two sheaves being missed by the knoter, and not a handful of straw left standing anywhere. The night after he finished came another of those soaking rains which harassed the Ontario harvester so badly last summer. It means something to be able to expedite work under such conditions. Another very satisfactory big implement is a four-horse stiff-tooth cultivator, with two poles: while the two-horse two-row corn cultivator is a time-saver of the first order.

Wide-swath implements are practicable money-makers on Eastern farms. We believe in them thoroughly, even though our enthusiasm is tempered by an appreciation of certain practical difficulties liable to be met with in pushing to its limit the idea of enabling one man to accomplish the work of two. It is a good ideal and, with judgment, can in many cases be measurably attained.

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. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.

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THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

Can Soil Be Drained too Dry?

It takes about 24 inches of water to produce a crop of corn, said Prof. Wm. H. Day to the Ontario Corn Growers' Convention. This means that if all the water necessary were spread over the field, it would form a lake two feet deep. Underdrainage will help to conserve this moisture. While taking off the surplus water, which delays planting and interferes with cultivation, it will make the soil more porous, so that after the free water is drawn off, there will still be more moisture available for the crop in a dry time than there would be on undrained soil.

It seems strange that drainage should increase the soil's resistance to drouth, and there are those who profess to fear the possibility of getting their soils drained too dry. From scientific study, backed up by personal experience, we are convinced that this is rarely, if ever, certain, but that on semi-arid soils, where moisture is the limiting factor in crop production, and where it is almost impossible to get into the subsoil a fully adequate supply of water for maximum crop production, underdrainage might possibly be a disadvantage, though we are not sure of this. Under Eastern conditions it works out quite otherwise. The nearest we ever saw any piece of land come to being apparently thoroughly drained out, was at Weldwood in the spring of 1911. An old pasture was being broken for corn in May. The spring and early summer were unusually dry. Two lines of shallow tile ran through hollows which crossed the field. The early growth of grass had helped to dry out the land, exhausting the free moisture and drawing upon the capillary supply. The undrained portion of the field was not too dry to flow nicely, but those tiled hollows plowed rather hard, turning up flaky lumps. The corn when planted was a week late in coming up here, and it did look as though in this particular instance drainage might prove a disadvantage. Once the corn got up, however, it made up for lost time, and the crop here in the end was quite as good as on similar undrained hollows. Had the field

been plowed earlier, as it might have been, the drained hollows would undoubtedly have given the better yield, even in the unprecedentedly dry summer of 1911. We need scarcely add that the oat crop in 1912 was far heavier on the drained than on the undrained areas, while the soil was also much firmer at harvest. If ever drainage should have proven a disadvantage, it was in the case cited above, but the results were merely negative, while this season the advantage of tiling was most conspicuous, not only in the grain, but even more so in the contiguous corn fields. In an average of ten years' time, drainage will make for a wonderful increase in yield of crops and a great improvement in seeding and harvesting conditions. It will pay big interest.

The Farmers' World Parliament.

From a special correspondent.

Standing on an eminence in a lovely spot of the beautiful Villa Borghese, Italy, girded about with dark, clustering pines, is a noble-looking building—the home of the International Institute of Agriculture. This palace is a king's gift and a gift worthy of a king. Within is ample space for delegates, clerks, interpreters, and so on—and there are beautifully furnished committee-rooms and a fine saloon for receptions. Best of all is the large hall for the General Assembly, containing a rostrum for seats, senate-fashion, in tiers round the walls. Best because it is the room which makes one think—nay, more; it brings with a rush the realization of all this work is doing and may yet accomplish. For each seat in the assembly-room bears the name, not of a man, but of a nation.



David Lubin.

Though the Institute is cradled and housed in Rome, the world is indebted to the Far West for the idea that gave it birth. David Lubin, the truly remarkable man who conceived the project, is a Californian. Abandoning everything for the furtherance of his scheme, he travelled from place to place seeking the sympathetic help and congenial atmosphere necessary for its initiation. To understand how a work so vast and so daring as the Institute has inaugurated came to be attempted, one needs to understand David Lubin. He impresses one as a man who has seen a vision and as a man who thinks not in States or Empires, not even in "continents," but in no smaller limits than the world. He has dreamed of federating the world and sweeping it for facts and figures, intricate and complex, and his mental eye was fixed on the one small point of truth that should issue from such figures. This truth, when obtained, he desired to give back to the farmers and the world in a simple form, which he calls the "Single Numerical Statement." Starting from the point of view of some lone farmer in a remote district struggling with the problems of produce and prices, Mr. Lubin sketches his position wholly at the mercy of the manipulator of

markets or some trust. Such a man, say, in California, sees how he would be helped if he but knew the crop-conditions of the whole of his State—better still, the whole of his country—and thus some years ago the United States did begin collecting and issuing facts and figures. Soon, however, the farmer sees this very guide is a false guide, because it represents a part only of the world, and he needs the completer knowledge which can only be given, not merely by his nation or his continent, but by the entire world. To procure such world-wide information as cannot fail to be a true guide, both for producers and consumers, is the work David Lubin set himself to do. With indifferent health (he cannot walk upstairs), but with indomitable courage, he has for years sacrificed strength and means to realize his aim, devoting time and labor gratis to the cause.

The obstacles which faced him are too numerous to state. Some will be sufficiently obvious—to covert others, to his point of view, to obtain enough money for an undertaking so large, to win the adherence of all the nations of the earth, and to educate them when won in the intricate methods of organization necessary for procuring accurate returns.

It was in King Victor Emmanuel of Italy that Mr. Lubin found at last a willing ear and a mind quick to grasp his idea and realize its world-importance, while to this Royal sympathy and appreciation was joined the munificence which built the Palace of the Institute and endowed it with \$60,000 a year. Thus, Rome became its home, and in 1905 the delegates of the various Powers gathered there and signed a covenant to create the International Institute of Agriculture. After a few years, the lines of work once laid down and initial difficulties overcome, the work began to grow. A man capable of dealing with the complicated figures involved was found in Professor Ricci, while the general management was entrusted to Professor Lorenzoni. Not, however, till July, 1910, did Mr. Lubin see his vision taking shape and materializing into reality. In that month the first "Single Numerical Statement" was published; though only for six nations, it was felt to be a triumph, and in August the data for eleven nations was issued in the monthly bulletin. This progress has been maintained till now, in 1912, fifty countries adhere and provide the necessary data. One nation after another is learning accuracy, Russia being the most recent adherent. She, after a visit and an eloquent appeal from Mr. Lubin, has now promised to contribute her returns accurately and in figures. In fact, the nations adhering to the Institute now represent 95 per cent. of all the land of the world and 98 per cent. of the population of the world; thus, the Institute's summary is already nearly the world's summary. There exists, no doubt, in the minds of those daily engaged in the work that it has already begun to exert influence, and that influence is bound to increase. That the world at large is beginning to realize its value is abundantly proved by the fact that money is being appropriated for its support. Besides the King of Italy's annual endowment of 300,000 francs, other countries have been contributing 499,500 francs yearly, and in the recent session of the United States Congress an appropriation of \$18,000 was voted for the Institute.

During the infancy of the scheme, while it was only possible to deal with a few nations, so also it was only possible to attempt gathering returns for a few—the most important—products. These were wheat, oats, rye, barley, maize; but later others were added, such as rice, cotton, tobacco, sugar beets, sugar cane, vineyards, etc.; while such staples as wool, silk, leather, and others are yet to be dealt with. But the Institute does not confine itself to being a bureau of statistics; it occupies itself also in collecting and disseminating information on many subjects relative to agriculture, such as the wages paid to farm work, diseases of plants and animals and their remedies, co-operative banking in its various forms, credit and insurance, and kindred subjects. All this and much more, the zeal and faith, the wide-mindedness and persistence of Mr. Lubin, have inaugurated. It inspires only to hear him talk about his work—of its conception in the Far West, the obstacles, the toil since its initiation, etc. Already much is accomplished, for he can sit calmly in his quiet office in the Palace among the trees and there receive in continuous stream the data of fifty nations. This converging data, converted by experts into a mathematical formula, the "Single Numerical Statement"—his vision, he sees goes forth again, clear and authoritative to all those countries, and through their Governments it reaches the markets of the world, the consumers, and every isolated producer on his farm. The International Institute of Agriculture is surely a Peace Society in practice. To build up rather than destroy; to make life easier, not harder; to regulate supply; to link together all nations by their common needs and

common interests, rather than setting them at variance; to obtain justice and fair dealing for all, and make more sure and more abundant the necessities of human life—this and much more is comprised in the work founded by David Lubin.

Nature's Diary.

By A. B. Klugh, M. A.

The earliest migrant of the season is now arriving in many parts of Ontario. This is the Prairie Horned Lark, a bird which is common in Ontario from February to October, but is scarce, or altogether absent, in November, December and January.

This species is about seven inches in length, of a light pinkish brown above and whitish beneath. The outer tail-feathers are black and there are black patches on the breast and cheeks. The chin and throat are a pale yellow, and the little tufts on the head, which give the bird its name of "horned" lark, are black. These tufts can be erected or depressed at will.

The prairie horned lark has not always been an inhabitant of Ontario, it being one of the birds which moved in as the forest gave place to fields. It was first observed at Hamilton in 1868 by Mr. McIlwraith and reached Muskoka in 1887.

It haunts the open fields and roadsides, and this species and the Vesper Sparrow are the two birds most frequently seen on the road, both being often termed "grey-birds"—a common name covering a good many species of small birds.

The song of the prairie horned lark is a cheerful tinkling ditty, usually delivered from a stone or clod of earth, but it also, in the mating season, rises high in the air and sings while on the wing, like the Skylark of England. The call-note is a characteristic short-whistled note, usually uttered while flying. It is one of the few small birds which walk instead of hopping, and it keeps to the ground, being very rarely seen in a tree or even a bush.

This species is a very early breeder, the full set of three or four eggs often being laid by the end of March. Sometimes the nest is found under an overhanging snow-drift, and occasionally the eggs are frozen by a late "cold snap." W. E. Saunders, of London, Ont., one of our foremost Canadian ornithologists, records having once found young hatched in March.

The nest is built of grass in a depression in the ground, and is lined with horse-hair and feathers. The eggs are dull olive in color, spotted and speckled with brownish purple.

The prairie horned lark, being a bird of the fields, is one of the birds whose food habits are of the greatest interest to the farmer. Its food has consequently been investigated by the Biological Survey of the United States Department of Agriculture, the work being done by W. S. McAtee. This bird has been accused of eating sprouting wheat, and the investigation shows that it does so, but to an extremely limited extent. Nearly all the grain taken is eaten during the winter months, thus being waste grain and being no loss to the farmer. On the other hand, the prairie horned lark is one of the most efficient destroyers of weed-seed. It is particularly fond of the seeds of green foxtail, yellow foxtail, smartweeds, bindweeds, pigweed, purslane, ragweed, crab grass and barnyard grass. It also eats the seed of the corn-cockle, a weed which is a serious nuisance among wheat, as the size and weight of the seed make its separation from the wheat difficult, and because of its poisonous nature. Animals are sometimes poisoned by eating wheat with seeds of corn cockle in it, and fatal cases of poisoning of human beings have been known to result from the consumption of flour made from such grain.

The gizzard of the prairie horned lark is extremely muscular, and it has been found that the combined action of the gizzard and the gravel which it contains crushes every kind of seed which is eaten. Even the exceedingly hard nutlets of the gromwell or puccoon (lithospermum) are ground up and cherry pits are broken. Thus no seeds eaten pass through this bird's digestive apparatus in shape for germination.

A few seeds of cultivated fruits have been found among the stomach contents of this species, but no fruit pulp has been found, so that it is probable that the seeds were obtained from garbage heaps.

The prairie horned lark eats large numbers of insects of various kinds—beetles, grasshoppers, butterflies, moths, ants, flies, and wasps all being taken. The most conspicuous element of its insect food, however, is weevils of various species. Among the insects eaten are wireworm, cut worms, flea beetles, and many of the worst pests of the farm.

Thus, from a study of its food, we see that the prairie horned lark is the friend of the farmer and is eminently entitled to protection.

HORSES.

Now is the time to begin putting the "finishing touches" on the horses, and equipment in readiness for seeding operations. Read "Whip's" article in this issue and act.

In planning the spring's work for the horses, manage to give the in-foal mare and the newly-broken colt the easiest of the tasks. Giving them a little the advantage on the double-tree helps. Avoid putting the pregnant mare on the tongue on heavy-drawing implements, or where there is likely to be much swaying motion.

The Percheron Society of America is offering a number of special prizes at several Canadian exhibitions in 1913, in addition to the long list of United States shows. Calgary, Toronto, Magrath, Brandon, Macleod, Edmonton and Brandon Winter Fair are the Canadian shows to get these grants, which are given only to animals recorded in the Percheron Stud Book of America, and their owners must be members of the Percheron Society of America.

The total number of prizes awarded by this Society, including 46 American and 8 Canadian shows, reaches \$17,000 for 1913, the most of the money going to American-bred horses.

Many horses are, and many more would be benefited greatly by being clipped before going into the spring's work. A long shaggy, thick coat that brings forth undue perspiration, which causes the mass of hair to become soaked, and as soon as the horse stops working this entire "blanket" becomes as cold as well as wet, is a condition which is not in the best interests of the animal. Properly attended to the clipped horse is in a better position to withstand the demands of the greater exertion necessary during seeding operations than his unclipped mate. The horse may be kept clean with greater ease, and will usually show more vim and vigor. Every teamster knows how difficult it is to clean his team at night if they have a coat of long thick hair on them. They are often wet the next morning. Such a condition cannot be comfortable for the horse. Clip him, and the moisture leaves his body steadily and almost as fast as secreted.

Favors Grading Stallions.

Editor "The Farmer's Advocate":

In reference to the present stallion enrolment act, so frequently referred to in your columns and so heartily endorsed by some, permit me to say that the act, as it stands at present, fails to accomplish the purpose for which it was intended, namely, the elimination of the "scrub horse."

Even were the act so amended as to provide for compulsory inspection, it would still fall short of its intended object—for instance: a man may own a horse whose size, breeding and quality render him worth, say, \$2,000.00. His neighbor may own a horse whose under-size, inferior breeding and quality leave him worth, say, \$500.00. Both horses are registered and both are sound. On the payment of \$7.00 each horse is inspected and enrolled, and each owner receives exactly the same kind of certificate from the Enrolment Board, with the result that the owner of the "scrub horse" can point out to the intending breeder that his horse has just the same standing as his neighbors, in fact "is just as good," and the fee is say \$5.00 less. The procedure so far has defeated the very object it was intended to serve—namely the production of a better class of horses.

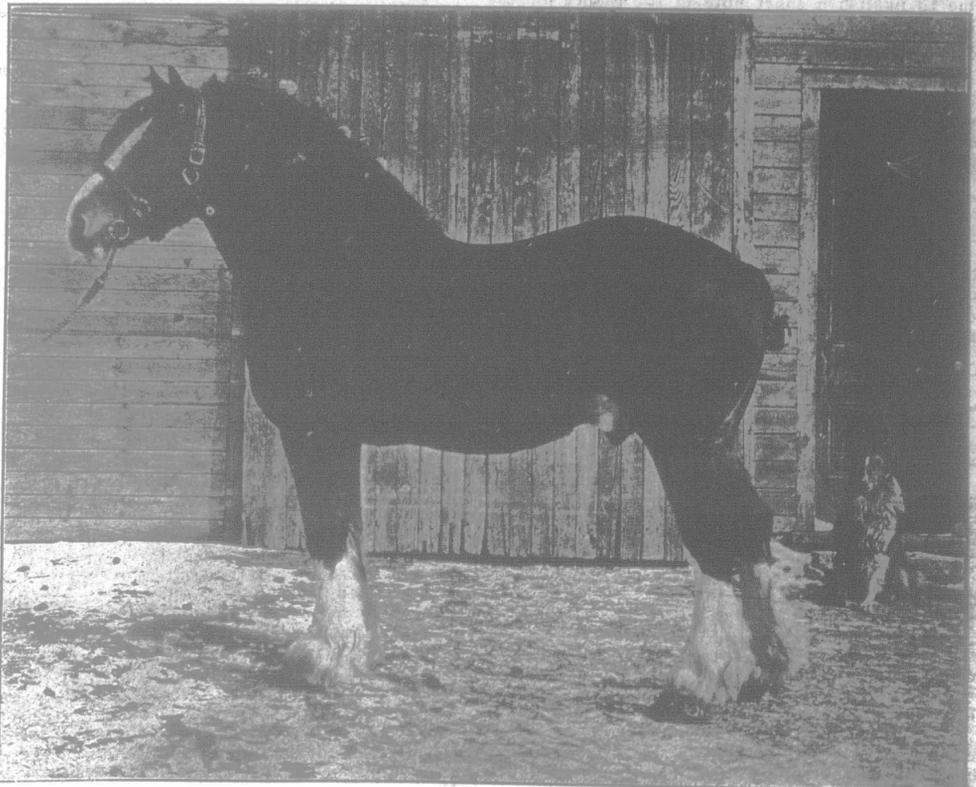
I think all good horsemen are agreed that an advance along the line of horse production is desirable, and that such advance can only be expected by the use of good sires. I know a poor man who started out on a small farm with two good grade brood mares. He used the best horse available; then adopted this with his fillies until he reached the required number of crosses for registration. He has produced in this way a span of two-year-old fillies which recently sold for \$1,200.00, and were cheap at that price.

Some one may object that the elimination of the "scrub horse" would cause a dearth of stallions in some neighborhoods. I think not, in fact I feel sure there are many men who would willingly invest their money in good horses, were it not for the competition of unfair ones costing perhaps less than one-fourth the price, and the proverbial short-sightedness of many breeders who, to save \$5.00 at time of service, will forfeit \$25.00 to even \$50.00 at time of sale. I would suggest, therefore, that the act be so amended as to provide not only for compulsory inspection and enrolment, but also the grading of the horses by a committee of competent judges. The horses, according to size, breeding and quality, to be graded as standard one two and three. The grade of the horse to be stated in the government certificate, and inserted in all advertising matter. I would further suggest that after a period of, say two years, a horse failing to reach standard three be disqualified from standing for public service.

There would be, of course, a court of appeal to which an aggrieved stallion owner could resort.

I may add that I had the honor of moving a resolution to this effect, at a meeting of horsemen held during Guelph Winter Fair. It was carried almost unanimously.

I feel sure our legislators are only too willing to meet public opinion in this matter, and any discussion that may lead to a clear full expression of that opinion is to be greatly desired. Middlesex Co., Ont. R. S. McVITTY.



Pacific [13173] (13113).

Clydesdale stallion, imported in February, 1912, by W. L. Mossip, St. Mary's, Ont., and sold to W. J. Cowan, Cannington, Ont.

The Horsetails are Poisonous.

Readers of "The Farmer's Advocate" will remember an article in the issue of April 11th, 1912, entitled "Is the Field Horsetail Poisonous." The opinion was expressed in it that it was not poisonous, but that its deleterious action was due to the harsh scouring effect of stems on the alimentary canal. Hay containing the weed, it was further advised, should be fed sparingly.

The report of H. T. Gussow, Dominion Botanist, for the year ending March 31st, 1912, deals, at some length, with the Horsetails and their poisonous effect on horses. The following is an extract from this report in which Dr. Gussow, from evidence given, concludes that even the common field Horsetail (*Equisetum arvense* L.) is poisonous to horses. The weed is known to most farmers. Read what the Dominion Botanist says:

The poisonous nature of a closely related species of Horsetail, *Equisetum palustre* L. by no means rare in this country, has been established beyond a doubt. This plant is correctly considered a highly injurious weed, both in the green and dry state. It is the common experience of observers, however, that, in the green state, this plant, and indeed a large number of other poisonous plants, is rarely eaten by stock; their power of discrimination serves as a fairly safe protection. As a rule, young and inexperienced animals fall victims to poisoning by plants more readily than do older animals. In the dry condition, in hay for instance, no animal is able to select its food, and hence the largest number of indisputable cases of plant poisoning are due to giving contaminated hay as food. Another point of interest is that some kinds of animals are far more susceptible to plant toxins than others. Thus pigs and sheep are singularly immune. Cattle and horses also vary greatly in their susceptibility. *Equisetum palustre* L. is far more serious to cattle, indeed often proves fatal, while it causes but slight trouble to horses.

Equisetum palustre L. has long been suspected as being a fatal poison, and the most recent investigations confirm this conclusion.

As regards the common Field Horsetail (*Equisetum arvense* L.) however, opinions continue to differ, some investigators regarding it as quite harmless, others as of slight importance as a weed injurious to stock from a merely mechanical aspect. In our experience cattle do not suffer any inconvenience at all from this weed, or only very slight disturbance of their digestive organs, while horses seem conspicuously subject to fatal poisoning by this species.

In co-operation with Dr. Rutherford, Veterinary Director General, we have been enabled to collect some very important data concerning this herb. A considerable number of cases of horses being mysteriously poisoned led to an examination of the herbage being made by a trained botanical assistant, and the constant association of this weed with such cases ultimately induced me to publish a short note in the report for the year ending March, 1910, warning the farmers against this weed (Dominion Experimental Farm Report, 1910, p. 280). Meanwhile we have continued the investigations, which have now established that the common Field Horsetail is seriously poisonous to horses.

A considerable number of cases of horses being poisoned have been reported during 1911, and an examination of the hay, on which they were fed, revealed, in every case, the presence of this species of *Equisetum*; moreover, as soon as the food was changed, the horses, if not seriously affected, made a rapid recovery. In no case was there present any other poisonous weed that could have been responsible for the trouble. Also the symptoms recorded by veterinary surgeons who have investigated the disease were the same in every case, so that the evidence is very conclusive.

After calling attention to the properties of this weed, a large number of inquiries were received, which showed that cases of poisoning were occurring far more frequently than one would have been led to believe.

One typical case was brought to our notice by an experienced veterinary surgeon which it is desirable to quote, as it appears of considerable interest:—

"We have a very common and peculiar disease in this locality which I call a form of spinal meningitis.

"Symptoms—Staggering gait, partial loss of motive power, very excitable and good appetite.

"As disease progresses, mucous membranes congested, constipation, urine highly colored, complete loss of motive power, declension of heavy breathing, convulsions and death.

"In all the numerous cases that have come under my notice and treatment, I find a certain rush or weed in the food, which I am forwarding to you.

"I honestly believe the toxins from this weed are the cause of this disease, and I further know that there is little use in treating the patients if allowed food with weed in it, for they seem to

have a craving for weed if once affected with this disease. The patients, if still able to stand, if the weed is kept away from them, and internal antiseptics, etc., used, will recover to perfect health."

The weed submitted to me for examination was *Equisetum arvense* L., common Field Horsetail. The description of the symptoms of the diseased animals agrees very closely with all other records, and those known of cases of poisoning by *Equisetum palustre* L.

Any one observing these symptoms should at once change the food, and submit a sample to us for examination. Dr. Rutherford kindly informs us that the treatment which he recommends, and which has been proved successful by those who have had the opportunity of investigating cases of poisoning by this weed, consists of a liberal allowance of clean, easily digestible foods, the administration of a sharp purgative followed by good-sized doses of nux vomica (two teaspoonfuls in food three times a day).

When this treatment is begun before the horses lose the power to stand and can be kept on their feet, their lives can be saved in practically all cases.

In conclusion, it may be said that these weeds grow commonly in moist, undrained localities; they will soon disappear if proper drainage is provided. It may also be useful to encourage the growth of good fodder grasses by giving the land a top dressing with seed at the rate of 10 pounds per acre. This would tend to reduce the percentage of the Horsetail in the hay, though this practice should not be considered a solution of the problem.

Preparing Horses for Spring Work.

There are many horses which have spent the last few months in partial or complete idleness on somewhat low rations, and there are also many young horses three or four years old which have spent their lives so far under like conditions and without having been taught to go in harness. A large percentage of each class will soon be expected to perform the functions of a work horse in the fields. While the food consumed has been in proportion to the energy spent and the horses look reasonably well, have a fair amount of flesh and spirits and their general appearance probably indicates that they are in fair condition for work such is not the case. By reason of want of function, their muscular, respiratory and digestive systems are all weak, and unless intelligent measures are adopted to give them tone, before they are asked to perform steady and hard work, unsatisfactory service and probably serious results will follow. The preparation should be systematic. It will require time and trouble, but the results will justify the time and expense spent to obtain them.

Teamsters, or those at present in charge of the horses, should at once commence a regular system of giving daily exercise or light work. At first the daily work should be light—four or five miles daily exercise, or one to two hours' light work, and the exercise or work should be increased daily as the horses become accustomed to it. The grain ration should be increased in proportion to the work. It will be wise to give the exercise in the harness that the horses will wear during the spring's work. This especially applies to the collars.

Shoulder trouble is more common than any other trouble in horses that are put to steady work without preparation after a long rest. Each horse should have his own collar and it should fit well. It is seldom we see two necks and shoulders of just the same size and conformation; hence, it is seldom that the same collar will properly fit two horses. When a collar is used only on one horse, there is a tendency for it to conform to the peculiarities of the conformation of the shoulders—somewhat the same as a man's shoe, that although not exactly comfortable at first soon becomes so unless it be too large or too small at first, in which case it can never be as comfortable as it should. The collar should be the proper length and proper breadth to start; then its face, being somewhat pliable, soon accommodates itself to the surface, against which it is pressed. In the meantime the muscles of the shoulder acquire firmness and tone as the result of pressure. It will often be noticed that a collar that fits a horse well at first will in a short time appear too large. This is especially the case when the horse is in high flesh when exercise commences. He may not have lost flesh in the meantime, but the muscles have, by reason of pressure and friction, become less bulky and the collar becomes too wide. This may not be noticed except by a careful and observant teamster. Some teamsters apparently think that so long as a collar is of the required length, it is all right. But so soon as from any reason the neck has not sufficient thickness to fill the collar, there will be more or less of a rolling motion, which, when the work becomes steady, especially in warm weather, results in scalds or bruises.

When this condition is noticed, it may be remedied by buckling the harness a little tighter. But as many collars are too stiff for this, the only safe means is to get another collar that will fit properly or wear a sweat pad under the old one to fill up the space. Great care should be taken to keep the face of the collar clean and the shoulders well rubbed and brushed. So soon as steady work commences, it is good practice to take the collar off at noon to allow it and the shoulders to become thoroughly dry, and before it is put on again, both should be well rubbed and cleaned. Care should also be taken to see that the horse's mane is not allowed between the collar and shoulder. When a little time is spent daily in preparing horses for regular work and, as stated, the grain ration gradually increased, the muscular, respiratory and digestive systems gradually acquire tone, and, when time becomes valuable, the horse is prepared to do a full day's work with satisfaction and reasonable safety.

Of course, during preparation the teamster must not neglect regular grooming. In many cases the horses under discussion have a long, heavy coat of hair, and in such cases so soon as the weather becomes warm enough to admit of clipping it certainly is wise to clip. A clipped horse requires more attention than an unclipped one, but especially in the spring he will do more work with much greater comfort to both himself and driver. The advisability of clipping under any circumstances is debatable; but, in our opinion, there can be no question about it in the circumstances under discussion, provided the teamster exercises reasonable care and judgment in protecting his horse when the weather becomes cold, raw or wet, as it occasionally will in spring.

The preparation of unhandled or unbroken colts for work should, of course, be on the same lines as the foregoing, but is even more imperative. We all know that the practice of allowing a colt to reach workable age without any handling or education, and then hitch him with an old horse, or in some cases with another green colt and put them to work at once, is too common. He, like the horse that has spent the winter in idleness, is totally unfitted and, in addition, totally uneducated; hence, the results cannot be satisfactory. A few weeks' regular handling before real work commences is eminently necessary in these cases. Even in heavy horses the ultimate value of an animal depends, to a great extent, upon his manners and early education. Hence, time spent in preparation has a tenfold benefit in the fact that it is educating the colt and at the same time fitting him to perform the functions of a work horse.

WHIP.

The Kicking Habit.

Editor "The Farmer's Advocate":

The kicking habit is a problem with which breeders and owners of horses will always have to contend. In attempting to deal successfully with the habit some horses have of kicking at persons or other animals in the stable, the disposition of the offender must be carefully considered. It will not do to adopt the same plan of procedure for all cases, as a plan which may be perfectly successful in some cases would be worse than useless in others.

Some horses are not naturally of a vicious or sulky disposition, but have learned to kick solely as a result of bad treatment. This is the most general cause of bad-tempered horses, and, in order to overcome the habit, the proper thing is to try to re-establish the confidence of the horse and to make him forget his hostility by consistently kind treatment, combined with frequent attentions when the horse is in the stable. If the habit is not of too long standing, and has not become completely ingrained in the horse, it may be eradicated by these means. In dealing with such cases, the first step to take is to remove the attendant who has been responsible for the horse acquiring the habit, for the horse is strong in his likes and dislikes, and will take a dislike to anyone who treats him roughly, and is not likely to give up any bad habits so long as he is under that person's charge.

Horses which are vicious by nature, or inclined to be so, sometimes get into the habit of kicking at persons without any real provocation, and simply as a result either of excessive high spirits or of sheer vice. This is particularly liable to occur with young horses and with those which are underworked and kept standing idle in the stable a great deal, while at the same time being highly fed. The fact of a horse being "lifer," owing to too little work and too much grain, is very apt to bring out any vicious tendencies which may be latent in his nature. In those cases in which a natural propensity toward viciousness or the high spirits and unruliness, which are often found in young horses, give rise to the habit of kicking, one must take drastic measures in dealing with them if the habit is to be cured. The offending animal must be treated

with great firmness, and requires to be kept in complete subjection. Whenever he kicks or offers to do so he should be sharply called to order, and the offence must never be allowed to pass unnoticed, as to do that merely encourages the horse to repeat it. Unless the animal in such cases is kept well under control and is firmly treated, he is most apt to take increased liberties, the habit gradually growing worse, and it may finally become so ingrained that eradication is impossible. In regard to actually punishing horses in these cases when they kick, this depends entirely upon circumstances, and due discretion must be observed. In many cases actual punishment would certainly make matters worse and serve to aggravate the bad habit instead of counteracting it. To hit horses in the stable with a whip is very often a sure way of making them kick, and a horse is turned into a pronounced kicker in this manner. In some cases, however, the infliction of punishment on an incipient kicker by means of a cut with a whip, whenever the animal kicks, is attended by satisfactory results and helps to stop the habit. It entirely depends upon the disposition of the horse whether it is advisable or the reverse to inflict punishment in the stable in dealing with vice or youthful unruliness. In any case great discretion must be exercised in regard to this question, and in most cases punishment will be out of place and harmful.

In some I have found that when horses were unruly in the stable and evince their unruliness by kicking, plenty of hard and regular work is all that is needed to render them more amenable and better behaved and to stop the bad habit.

J. S.

Wintering an Idle Horse.

At the Central Quebec Branch Experimental Station, at Cap Rouge, Superintendent Gus. A. Langelier conducted an experiment during the winter 1911-12 with a twelve-year-old gelding which received from November 15 to March 31 a ration composed of one pound of swede turnips, one pound of oat straw, and one pound of hay (mixed grasses from an old pasture) per day for each 100 lbs. of his weight. The horse worked until the end of October, after which the oats were gradually replaced by swedes and straw, and the timothy by the hay above-mentioned. By November 15 he was down to the new ration, and, though the change was quicker than it perhaps should have been, the animal did not decrease in weight. Of course, he did no work. The box-stall in which he stood was bedded with sawdust, so that there would be no chance of the gelding eating his bedding, and everything left in the manger was weighed, but there was very little of this. The only exercise which the horse got was to drive the cream down to the railway station—a distance of 1 1/2 miles for each trip—three times a week. On March 31st, at the close of the experiment, the horse weighed 20 pounds more than he did at the beginning.

The temperature of the box-stall next where the horse stood was taken three times a day all winter, and it was remarkable how the weight of the animal decreased during the weeks when there was a very cold spell.

LIVE STOCK.

Swine Feeding.

Editor "The Farmer's Advocate":

There is probably no class of live stock that offers greater returns upon the investment than hogs, and it has been proven by many farmers, especially in dairy districts, that hog raising is one of the necessary adjuncts to any general farming or live stock business, if the fullest profits are to be realized. On every farm we find an abundance of waste material and by-products, which if handled carefully will add to the general revenue, and the hog offers this income. Its products are of high value and quality, and demand a ready market throughout the year.

The increasing value of land, food-stuffs and labor is making it necessary for the feeder to economize as far as possible, in the case of high-priced foods and depend upon farm by-products and crops as his main supply, and if we note the feeding methods of the pork-producers who are making the most of this end of the farm, we will find them depending largely upon such a system.

When the young pigs are on the sow, is the period when the greatest and most economical gains can be had. The development, at this stage marks the progress of that later, and determines the age at which the hogs will mature and be ready for market. Feeding the sow a scanty ration and expecting a well-developed litter is losing sight of the goal. After the pigs are born the feed of the mother should be of a light, easily digested nature and tending to keep the bowels laxative for at least forty-eight

hours, as a means of warding off milk-fever and allied troubles. Tepid water and skim-milk with a little bran, shorts and oatmeal siftings mixed in, is all that is necessary, if the sow is in fair condition. If appearing sick or constipated, linseed meal, mixed in light quantities with the water or skim-milk, will under normal conditions restore health and vigor. The quantity of feed should then be increased until she is taking all she will readily have of skim-milk and shorts or ground oats or better shorts and ground oats mixed in equal proportions by weight. Such feeding will allow the sow to gradually develop full milk flow as the pigs come to need it. After the first two weeks, a slight amount of barley may be added, but if added earlier or in too great quantities the result is noticeable in an unthrifty condition of the pigs and congested milk flow of the sow. This is due to the "heating effect" of highly carbonaceous foods as barley and corn.

When two or three weeks old, the unweaned pigs should be encouraged to eat by supplying thin food in a shallow trough, which cannot be reached by the sow. Skim-milk with wheat middlings or oatmeal siftings (ground oats with the hulls sifted out) mixed in, will be of high value. This relieves the heavy burden on the sow, especially if the litter is large, and gives returns in faster growth and higher gains of the pigs. It also assists in preparing the litter for weaning by making them self-reliant.

The usual weaning period is when the pigs are seven to ten weeks old. If the sow is young, or a large litter is being improperly nourished, seven to eight weeks is long enough to have them nursing. Otherwise they may be left longer.

If the pigs have been taught to eat, they will need no extra care in feeding at time of weaning, but if not, great care must be exercised. The same feeds, as advised, may be used and if fed judiciously will start the youngsters in the right direction. Overfeeding will tend to stunt, as will underfeeding, but if the pigs are kept satisfied with nutritious foods and always ready for the next meal, no evil effects will occur. When weaned the ration gradually gained should be of a bulky protein nature to develop the digestive system and promote the growth of muscle and bone. No line of foods offer bulk and nutrition in combination equal to the clovers, rape or even pasture grass. The shotes should have a run and variety of these if possible, that may be adopted in a rotation of plots sown for the purpose. The other part of the ration may consist of skim milk, shorts and oatmeal siftings, until the pigs are three months old. After this the skim milk may be left out unless an abundance of it is on hand. The grains would then consist of a mixture of two of shorts, two of ground oats and half of peas by weight, and water, or they could be used in the place of skim milk. At three and one-half months old, barley could take the place of a part of the oats. Then at four months the ration would be one-and-a-half shorts, one of peas and one of barley by weight. The change from oats to barley is to begin a gradual change from a highly nitrogenous ration

(muscle and bone building) to one of a carbonaceous (flesh or fat forming) nature, thus gradually bringing the hogs to market condition and maturity without abrupt changes in feeds.

At four and one-half months of age more barley may be added gradually and at five months a ration of two of shorts, one-and-a-half of barley two of peas with a slight amount of corn will meet all demands. The corn will then gradually replace a part of the barley and the shorts may be omitted at about the age of five and one-half months. After this age the ration will gradually assume one of finishing qualities as one of corn, one of barley and one of peas, until at six months or shortly after the pigs are fit for market.

Such a system of feeding gradually brings the pigs from the weaning point to market, by first forming the frame or foundation from the protein foods, such as shorts, peas and skim milk, then developing the flesh later. The feeds adopted are those which any feeder can procure, but may be changed to suit conditions. Shorts has the advantage of being easily digested and adds bulk to the ration but might be left out earlier. Peas might be substituted by gluten meal. Feeding flour will take the place of barley, but it is of a more concentrated nature and need not be fed in such large quantities.

Many combinations and systems of feeding are being recommended and the feeder is justified in using them if they are cheap. Gradually develop the animal toward market and combine a pasture as a means of giving exercise and green food for the hogs. In the winter large quarters and roots will substitute the last necessity.

W. J. REID,
P.E.I. Instructor in Animal Husbandry.

Recommended for Scours.

White scours in calves is a common disease, and one which demands attention. A writer in the "Irish Farming World" advises:—Take one-quarter pound of tea, five pints of nice clean water, the amount of bread soda which will lie on a shilling; boil all down to three and a half pints. Then take half a pint of the best whiskey and a quarter pound of loaf sugar, grind the sugar, then mix with the whiskey; stir and light with a match; burn one minute and a half; then strain the tea and mix all together; of this mixture give one pint three times a day with a quarter pint of good new milk, but no more than a quarter of a pint. When the scour stops whiskey may be discontinued, but keep on with the tea, but not so strong. With two parts of new milk three times per day until the calf is cured. The writer says:—"I always get all the left tea kept for young calves and boiled." Give some night and morning; if this is done and the young calf gets only two pints of good new milk three times a day with a half pint of tea for the first ten days, it will not get sick; but a young calf should not get much milk at first.



Preparing the Season's Pork.

Gestation Table.

A subscriber to "The Farmer's Advocate" recently called at this office for an extra copy of a gestation table which was published some ten years ago in this paper, and remarked that he

would not take ten dollars for the one which he has if he could not obtain another. Few things are more valued by the breeder than this "ready reckoner." For the benefit of all our readers who keep stock we are repeating it.

Directions for use of tables:—Find the date of

service in the first column; then on the same horizontal line, and under the heading of "mare," "cow," "sow" or "ewe," whichever it may be, write the name or number of the animal. The date next to this is the date of the expected birth.

Table with columns: JAN., MARE, COW, SOW, EWE. Rows 1-31 showing dates for each category.

Table with columns: FEB., MARE, COW, SOW, EWE. Rows 1-28 showing dates for each category.

Table with columns: MAR., MARE, COW, SOW, EWE. Rows 1-31 showing dates for each category.

Table with columns: APRIL, MARE, COW, SOW, EWE. Rows 1-30 showing dates for each category.

Table with columns: MAY, MARE, COW, SOW, EWE. Rows 1-31 showing dates for each category.

Table with columns: JUNE, MARE, COW, SOW, EWE. Rows 1-30 showing dates for each category.

Table with columns: JULY, MARE, COW, SOW, EWE. Rows 1-31 showing dates for each category.

Table with columns: AUG., MARE, COW, SOW, EWE. Rows 1-31 showing dates for each category.

Table with columns: SEPT., MARE, COW, SOW, EWE. Rows 1-30 showing dates for each category.

MARCH OCT NOV DEC 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 What and wh feeder c at once

OCT.	MARE Sept.	COW July	SOW Jan.	EWE Feb.
1	2	9	21	25
2	3	10	22	26
3	4	11	23	27
4	5	12	24	28
5	6	13	25	Mar. 1
6	7	14	26	2
7	8	15	27	3
8	9	16	28	4
9	10	17	29	5
10	11	18	30	6
11	12	19	31	7
12	13	20	Feb. 1	8
13	14	21	2	9
14	15	22	3	10
15	16	23	4	11
16	17	24	5	12
17	18	25	6	13
18	19	26	7	14
19	20	27	8	15
20	21	28	9	16
21	22	29	10	17
22	23	30	11	18
23	24	31	12	19
24	25	Aug. 1	13	20
25	26	2	14	21
26	27	3	15	22
27	28	4	16	23
28	29	5	17	24
29	30	6	18	25
30	Oct. 1	7	19	26
31	2	8	20	27

NOV.	MARE Oct.	COW Aug.	SOW Feb.	EWE March
1	3	9	21	28
2	4	10	22	29
3	5	11	23	30
4	6	12	24	31
5	7	13	25	April 1
6	8	14	26	2
7	9	15	27	3
8	10	16	28	4
9	11	17	March 1	5
10	12	18	2	6
11	13	19	3	7
12	14	20	4	8
13	15	21	5	9
14	16	22	6	10
15	17	23	7	11
16	18	24	8	12
17	19	25	9	13
18	20	26	10	14
19	21	27	11	15
20	22	28	12	16
21	23	29	13	17
22	24	30	14	18
23	25	31	15	19
24	26	Sept. 1	16	20
25	27	2	17	21
26	28	3	18	22
27	29	4	19	23
28	30	5	20	24
29	31	6	21	25
30	Nov. 1	7	22	26

DEC.	MARE Nov.	COW Sept.	SOW March	EWE April
1	2	8	23	27
2	3	9	24	28
3	4	10	25	29
4	5	11	26	30
5	6	12	27	May 1
6	7	13	28	2
7	8	14	29	3
8	9	15	30	4
9	10	16	31	5
10	11	17	April 1	6
11	12	18	2	7
12	13	19	3	8
13	14	20	4	9
14	15	21	5	10
15	16	22	6	11
16	17	23	7	12
17	18	24	8	13
18	19	25	9	14
19	20	26	10	15
20	21	27	11	16
21	22	28	12	17
22	23	29	13	18
23	24	30	14	19
24	25	Oct. 1	15	20
25	26	2	16	21
26	27	3	17	22
27	28	4	18	23
28	29	5	19	24
29	30	6	20	25
30	Dec. 1	7	21	26
31	2	8	22	27

What is it about a pig that should be curly and what should be straight? Every good pig feeder ought to be able to answer these questions at once. Can you?

Feeding Pigs.

Editor "The Farmer's Advocate":

I have been reading articles in your valuable paper about feeding hogs, and now that you have left the subject open for discussion, particularly on the points of feeding three times a day vs. feeding twice a day, and the giving of water before or after meal ration, I will give my experience.

We know that hogs differ a great deal. Some require to be fed one way, some another, and the feeder must study his hogs carefully to find out how best to feed them. I would agree very much with Mr. Shearer, because I think they will take a better meal feeding twice than three times daily, although I have had pigs which made just as good gains with three feeds as others with two feeds. Of course if I feed three times a day I give the first feed before six o'clock in the morning, second after twelve o'clock, noon, and the third after seven o'clock p. m., so you see they were far apart. But in winter time it is difficult for the farmer to feed so early as that, for he is, most of the time, in bed yet by six o'clock.

As I have said before a feeder must know his pigs, if they have good appetites and take plenty of exercise when fed three times a day it is all right, but when a pig gets two feeds a day it is likely to take more exercise, and thus it gets ready for a feed.

I think soaking feed is work for nothing, for my neighbors who soak their pig feed are not making a better success than those who feed in other ways. I have been feeding with good results giving the meal dry, and then the water

Raising Calves.

Editor "The Farmer's Advocate":

On the first day of July 1912 there were on hand in the Province of Ontario, 1,044,177 milch cows. If we figure that a properly managed herd will reproduce 85 per cent of its number each year then we will have during 1913 calves to the number of 887,550. Many of these will be sent to the Toronto and Montreal markets as veal but many of them will be kept for stockers or for future cows in their respective herds.

It is during the beginning of life that cattle are most often stunted and we look for large animals to make great gains when these same animals never get a proper start in life. As it is nearing the time when the cows freshen in greatest numbers we will all be looking for the best and cheapest method of calf feeding. Suppose that we give these calves such good care that they will be worth five dollars more at the end of the first year of their lives than they otherwise would be. What does it mean? Simply this, that the farmers of Ontario will be \$4,437,750 richer by so doing. This can easily be done and we should be after the extra five dollars for each calf.

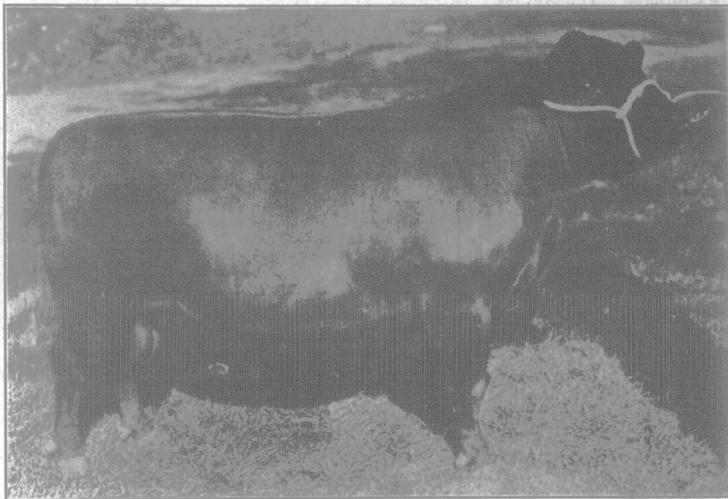
Some men allow the calf to stay with the cow for a few days while others remove it as soon as it is born. If the calf is allowed to stay with the cow it will be sure to get the first milk or colostrum. If the calf is removed from the cow be sure and give it the first milk. This is old calf gospel but is always worth repeating as there are some men who need telling many times before they will agree with what is right. If they lose a few calves by keeping the colostrum away from them then they will surely waken up and take better care of the others. Colostrum is a good laxative, and the young calf needs it to clean out the bowels before they are able to digest the later milk of the cow or the milk of another cow.

Many men make a mistake and try feeding the calf when it is too young. We often hear that the worst job with the calf is teaching it to drink. If we allow the calf to become good and hungry before we try to feed it the first time we will have less trouble getting it to drink. Some advocate leaving calves till they are from twelve to eighteen hours before feeding, but as a rule the calf may easily be taught to drink after it is from seven to eleven hours of age. At this age there is less need to place the calf in a stanchion or hold it tightly between the knees to make it drink. Use kindness and the calf will soon respond.

For the first two weeks at least the calf should receive whole new milk from its dam. After that a gradual change should be made from whole to skim milk. Make all changes gradually. When the fat is taken from the milk then something should be added to the ration to take the place of this fat. Perhaps the best to be added is ground flax seed. We cannot always get this. Ground corn is very good and sometimes cod-liver oil will make a good substitute for the butter fat. The writer tried this one year and had good results. It will not pay however to get the best cod-liver oil. If you can get some that has been refined and gone off color you can get it cheaper and the results will be just as good. We did not try it more than one year because we could not get it cheap enough.

As the calf becomes older gradually enlarge the amount of meal it receives. Bran, oats and corn meal are about as good as you can get. Or you may change the corn meal for some linseed meal, depending upon which is the cheapest and the easiest to get. Allow the calf all the good, clean clover hay it will eat. It will eat a good deal of hay and it needs it for the proper development of the body. Many think that because the calf is getting milk that it does not need more to drink. Try the calf with some water every day and you will be surprised at the amount it will drink. But do not allow it to gorge itself. This is worse than too little. Also add a little salt to the ration. All animals are very fond of salt and the calf is no exception to this rule.

Above all things do not over feed. This is a



Elm Park Wizard—4169—

Aberdeen-Angus two-year-old bull, winner of first at Toronto, and first and championship at London, 1912. Owned by Jas. Bowman, Guelph, Ont.

and milk, if I had any milk on the dry meal. During the past year I have been giving the milk first, then the water, then the meal last. I find they eat more quietly and don't run around in the pen nearly so much, and don't waste any food. I feed oats, barley and a little peas mixed. I don't care for barley if I can get wheat, peas or middlings, but want the oats. Many other kinds of feed can be fed with good results.

I have had pigs six months old weigh nearly two hundred pounds each. Last summer I had eight at six months and ten days of age, and they weighed 1,590 lbs. This winter a lot of six were seven months and a half old, and weighed 240 lbs. each.

Waterloo Co., Ont. S. M. BIRD.

Are Frozen Roots Wholesome?

An experiment was undertaken, at the Central Experimental Farm, Ottawa, to ascertain the correctness of certain statements appearing in the press to the effect that frozen roots were poisonous to stock, and that the feeding of such frequently gave rise to fatal results. In a trial, lasting four weeks, five pens of five pigs each were under observation, frozen mangels and mangels that had been repeatedly frozen and thawed being fed with an equal weight of a good meal mixture. While in certain of the pens the pigs made little or no gain, no impairment of health was observed.

The experiment is referred to in the 1911-12 report of the Experimental Farms, by the Dominion Chemist, Frank T. Shutt, who deferred publication of the data, however, until completion of the analytical work on the mangels, which was in progress when the report was being prepared.

common and bad mistake. It is very often the cause of scours. No calf should receive more than eighteen pounds of milk per day and very few of them can stand that much. About five pounds per feed three times per day will be nearly right for the great majority of calves.

Scours are also often caused by feeding in dirty pails and feed boxes. These should be kept as clean as possible. The best cure for this dread disease is prevention. However, if we do happen to get it in the calves we can very often stop it by giving a tablespoonful of blood meal three times per day. Burnt flour in the same doses often has the same effect. If you add about four drops of formalin to each quart of milk you will have another good check for this disease.

It is the rule in the cheese factory sections to have the cows freshen in the spring. However we will grow better calves and get greater yields of milk from the cows if we allow the cow to freshen in the fall. The calf then will be ready for grass in the spring whereas with the spring calf we have to keep it in the stable during the summer from the heat and flies if we are to have the best calf. Whatever method is followed in caring for the calf you will find that it will pay well to care for it during the first six months of its life.

Grey Co., Ont.

T. H. BINNIE.

Pig Feeding.

Writing on the subject of feeding pigs, Prof. G. E. Day of the O.A.C., Guelph, Ontario, says: "We have not conducted any experiments along the line of feeding twice and three times a day. It is a difficult experiment to conduct unless one has his hogs in separate buildings. I have no doubt that feeding twice a day would give very good results, though I am inclined to think that possibly feeding smaller quantities of feed three times per day would be rather preferable with animals, such as hogs, which have only a single stomach. I do not think any feed would be economized by feeding twice a day, but there would be less labor."

"We have done a little work with feeding meal wet and dry, but our results have been anything but conclusive. As a matter of fact, I do not think there is any material difference in the two methods, provided the dry meal can be fed in such a way as to prevent waste. One of the greatest troubles we had in feeding dry meal was to prevent the hogs wasting considerable of it. A hog would get his mouth full of dry meal and then back up from the trough and scatter a good deal of it on the ground. For this reason, I generally prefer to feed the meal wet. Experimental work does not show any advantage from soaking the meal, though, when meal is fed whole, soaking is usually an advantage."

THE FARM

Fertilizing Value of Rain and Snow.

This is a problem that has lately been receiving attention at the hands of agricultural chemists in many parts of the world, and thus, data of wide interest are accumulating towards a knowledge of the nitrogen compounds that may be annually washed out of the atmosphere by rain and snow to enrich the soil, in many latitudes, in countries of heavy and light precipitation, in rural districts, and in the neighborhood of towns and cities.

The systematic examination at Ottawa of every fall of rain and snow which would yield a sufficiency from the catchment area employed, was begun in 1907, so that the Dominion Chemist, Frank T. Shutt, is now able to present the results from the fifth year of the investigation. It is his intention to continue the examination until a record for ten years has been obtained. The Central Experimental Farm, where collections are made, is situated on the outskirts of Ottawa, a rapidly growing city, but which is residential rather than manufacturing, though, from time to time, a tall chimney is built to add its quota of smoke. As a rule the atmosphere is very clear, general smokiness or fog being exceptional. The catchment basin is placed about twenty-five feet from the ground, which, for some distance around, is covered with grass and shrubbery. This arrangement prevents, to a considerable degree, contamination with dust, a factor which the results show, from analyses after high winds, affects the data more markedly than smoke, though no doubt the direction of the prevailing wind, either to or from the city, somewhat influences the nitrogen-content of the rain. Another factor affecting this datum, and one that has been many times remarked, is frequently of precipitation. Thus, after a period of several days or longer of dry weather, the nitrogen-content will be high, whereas samples taken from succession of rains following one another at short intervals show a steady decline as the atmosphere is purified by

successive washings. Violent thunderstorms, especially after a period of drought, usually mean an excessive nitrogen-content in the rain, probably largely owing to the air at the time being full of dust resulting from the high winds usually accompanying them, though no doubt the electric discharges (lightning flashes) increase somewhat the proportion of nitrates.

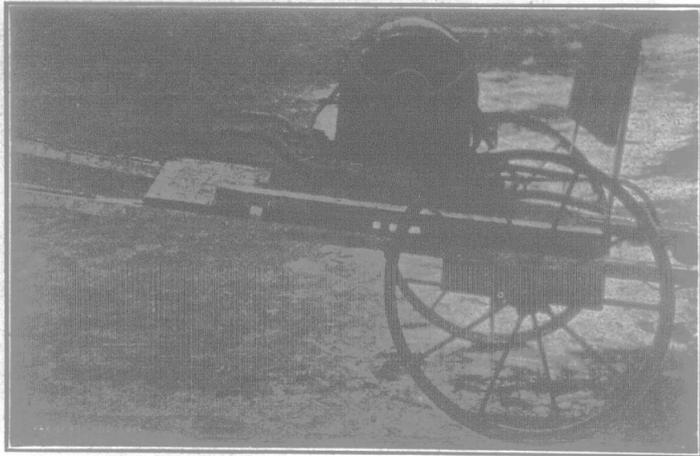
The amount of combined nitrogen in the rain and snow during the year ending February 29th, 1912, was 6.1 lbs. per acre, which is .829 lbs. more than the previous year, and, excepting 1909 when the results were abnormally high, owing to bush fires, 459 lbs., above the average from the yearly data during the period of investigation, February, 1907-February, 1912.

A Corn Grower's Testing Method.

Editor "The Farmer's Advocate":

Many stands of corn are lost or ruined each year because of the poor germination of the seed used. Testing is very important. The experience which I have had with corn has taught me that one cannot tell the germinating quality of corn by looking at it or by handling it. The only reliable method is that of testing, which is very simply and easily accomplished.

Make a flat box 30 inches by 20 inches and 3 inches deep. Get a little sawdust or sand and place 1½ inches of sawdust in the box. Then take a piece of cotton the same size as the box, mark it in 2-inch squares and number the squares. Place this in tester over sawdust. Now take your corn and from each ear take six kernels, two from butt of ear, two from the middle, two from the tip, each on opposite sides of ear. Place these kernels in a square. Number the ear to



A 2-H.-P. Electric Motor on a Hand Cart.

This is the electric motor in use on the farm of Geo. Raymond & Son, near Ingersoll, Ont., concerning which some facts and figures were published in "The Farmer's Advocate" of January 30th, page 177. The motor is easily moved from barn to house on this cart, or on a handsleigh, when wanted to run the washing-machine.

correspond with the number of the square in tester and so on till the tester is filled. When this is done place a cloth over the corn and cover with about 1½ inches of sawdust and dampen. Keep in a warm place for five days, when the test is complete. Save only the ears which show good vitality. Corn should not be used for seed which came from ears of low vitality. Half a stand of corn takes as much work as a full stand.

A CORN GROWER.

The Control of Insects.

The following are some paragraphs gleaned from an address by C. Gordon Hewitt, D. Sc., Dominion Entomologist, at the recent convention of the Manitoba Horticultural and Forestry Association.

Careful observations, extending over a series of years, have shown that insect pests destroy, on the average, from ten to twenty-five per cent. of the total crops, both of the farm and of the forest.

Insect pests took, at least, 5½ million dollars out of the pockets of grain growers in 1911. This is the normal loss which goes on from year to year, increasing in proportion to the increase in production. When there is a serious outbreak the loss is much greater.

About 35,000 acres of grain in Alberta were destroyed by cutworms in 1912.

An insect is a small creature; its work is often insignificant, but, increase it a million fold, provide it with abundance of food, and it may become as devastating in its effects as an invading army.

The effect of insect invasions is immediately to increase the cost of producing the crop.

It costs more today to produce a ton of clover, a pound of beef (beef is merely converted field crops), a bushel of potatoes, or a barrel of apples, than it did some years ago, and important factors, in many cases which cause this, are the cost of controlling and the losses resulting from insect pests, and increased cost of production means increased cost of living.

Methods of insect prevention are three—preventing the introduction of the pest where possible, preventing the increase or spread, and the actual protection of the plants.

The Destructive Insect and Pest Act prevents, as far as possible, the introduction of pests.

In the prevention of the increase and spread of insects, the most important of all measures is clean cultivation. Fences should be kept clean and clear of weeds; the refuse after a field crop, such as cabbages, turnips, beets, corn or other hoed crop, should be disposed of as soon as possible after the crop is removed; volunteer crops springing up after the crop has been harvested should be destroyed; clean up after threshing, burn screenings, and other refuse. A clean farm means fewer insect pests and fewer weeds; a clean mill means less grain moth and weevil; a clean orchard results in fewer insects and better fruit; a clean back yard means less flies, and a clean house less fleas.

If every farmer would endeavor to protect the birds on his farm, and encourage their visits, there would be less damage by insects. Birds are the best insect-destroying agencies we have, and the destruction of insectivorous birds is an unpardonable crime for which any farmer so responsible deserves to suffer incessant damage to his crops. Our birds are of all our fellow creatures, our greatest friends and allies in this constant war against the enemies of our crops and of our forests; let us treat them as we would our human friends.

The best means of protecting against grasshoppers is Criddle mixture. Sixty pounds of droppings are poisoned by mixing in one pound of Paris green; two pounds of salt dissolved in half a pail of water are added, and the whole is thoroughly mixed in a barrel. This mixture is scattered broadcast round the infested or likely to be infested crop or field.

Root maggots are small white maggots frequently found in the roots of cabbages and cauliflowers, in radishes and turnips. Other species are found in onions, beans and corn. Where these occur, such crops as cabbages and cauliflowers may be treated by means of

small tarred felt-paper discs placed round the stems of the plants when they are planted out. These discs prevent the adult flies from depositing their eggs on the roots of the plants. In the case of onions and radishes, the most effective preventive measure is watering the plants every seven or ten days with hellebore decoction, made by mixing two ounces of hellebore to every gallon of water.

Cutworms are most readily destroyed by means of poisoned bran mash. This mixture is made by slightly moistening fifty pounds of bran with water, preferably sweetened with a little molasses, and mixing in half a pound to a pound of Paris green. The mixture should not be too moist, but should be dry enough to crumble through the fingers. Individual plants are protected by sprinkling a little of the poisoned bran around them. In the field it may be scattered broadcast from a cart or distributed by means of a seeder. Traps made by poisoning green vegetation, such as clover, by spraying it with arsenical poison, may be placed where the cutworms are abundant. Young plants may also be protected by placing small cylinders of tin, about 2½ inches in diameter, around them. Clean cultivation and the destruction of weeds and rank vegetation are most important adjuncts to the successful control of cutworms.

Blister beetles sometimes appear in swarms and attack garden crops. They are usually associated with grasshopper outbreaks, as the larvae of certain blister beetles feed upon the eggs of grasshoppers, and in that respect are useful insects. Should they be unusually injurious they can be controlled by spraying with an arsenical.

THE DAIRY.

A Successful Huron County Creamery.

Can first-class, good-keeping creamery butter be made from gathered cream, pasteurized and churned without the use of culture or starter of any kind? "Impossible!" many will exclaim. Yet, it is being done, and has been for years, at one of the largest creameries in Canada. The orthodox teaching is that after pasteurization, the cream should be ripened with a pure culture of lactic acid to develop desirable flavor and forestall the development of undesirable bacteria. But W. G. Medd, proprietor of the Winchelsea Creamery in Huron County, Ont., is enough of a Daniel to stand alone. He has an idea that the use of a starter is superfluous, if not worse. Besides the difficulty of propagating, under ordinary working conditions, a perfectly clean-flavored starter, he criticises the use of it from another point of view. His ideal butter has a sweet-cream flavor, and there is no doubt that the public taste is verging steadily this way. A lactic-acid starter tends to develop a stronger flavor, much like that of the best grades of dairy butter once preferred by the majority and still liked by a few, but becoming less popular every year. Prices talk, and what do they say? In 1912 the Winchelsea Creamery sold 419,842 pounds of butter for \$116,945.06—an average of 27.85 cents per pound—being usually about a cent a pound above ruling market quotations, and the demand is such that orders from regular customers are being almost daily refused or only partly filled. Butter from this creamery is regularly purchased by the expert butter judge, J. B. Muir, of Ingersoll, who uses it on his own table, as does J. A. Ruddick, Dairy and Cold Storage Commissioner, Ottawa. Keeping quality is attested by the fact that Mr. Medd won a silver cup at the recent Winter Dairy Exhibition in Woodstock for a box of October creamery, the only class in which he competed. He has likewise been successful at various other exhibitions.

The cream is gathered three times a week in summer and twice in winter, and is pasteurized in a continuous pasteurizer at the high temperature of 180 degrees, which gives the butter a cooked flavor, plainly evident the day after it is made, but scarcely discernible the third day even by an expert, and completely eliminated in a week's time. In his early years at the creamery, when he was not receiving quite such high-testing or clean-flavored cream as at present, Mr. Medd sent three samples of butter down to the Agricultural College to be scored in competition. At the first scoring his ranked only about medium in a class of 38 or 40 samples, being variously scored for "burnt flavor," "old-cream flavor," etc. In three months' time the same sample scored second, being beaten by another sample also made without culture, and likewise rated only about medium at the first scoring.

When George Medd bought the Winchelsea Creamery for a thousand dollars, eight years ago, from the joint-stock company which had been running it, considerate friends advised him that he was foolish. This was a wheat section, they said, and farmers here wouldn't go in for dairying. The make was down to a pretty low ebb. Up to that time the creamery was a milk-gathering one, having held out against the hand-separator idea. But the new proprietor was too wise to stand in the way of progress. He refused to purchase the power separators, which were dealt off for hand separators. He paid five hundred dollars down, deferring the balance of payment till he could see whether he could make it go or not. He then proceeded to adapt himself to conditions. He went out canvassing for cream, not urging people to go in for dairying extensively, but saying in substance: Keep your dual-purpose cows, or whatever kind you have, and raise stock as you have been doing. Send me your cream and keep the skim milk at home to feed. That idea appealed to common sense, and patronage began to increase.

Temptation came, too, in those early years, as it does to every business man. Because Mr. Medd made a good article of butter and gave fair tests, his overrun was but normal—comparing rather unfavorably with that of one or more competing creameries. A friendly business man advised the new creamery man in this wise: "You know the old saying, that you must fight the devil with his own weapons. No doubt, the other creamery is cutting the reading of its tests. You do the same and your patrons will be satisfied. Otherwise they will leave you and go to the other creamery. I don't see that you will be doing any wrong. You won't be robbing them. You will be dividing the proceeds among them in the same ratio as at present."

But Mr. Medd's principle was proof against any such sophistry. To read the tests down

might not be cheating, but it would be deception, and against that he set himself solidly. "No," he said, "I'll run this creamery on the square, and, if I can't make it go that way, I'll simply have to pull out and quit." We were told these facts in confidence, but take the liberty of making them public because we believe they explain in large measure the phenomenal success of the Winchelsea Creamery, the make having increased from \$16,164.63 in the eleven months of 1905 to \$116,945.06 in 1912—a growth of over a hundred thousand dollars, or approximately six hundred per cent., allowing for the fact that the first was not quite a full year. The increase of 1912 over 1911 was about 8,000 lbs. of butter and sixteen thousand dollars in value. Directly in line with this straightforward attitude was the proprietor's determination to publish each year clear and complete statements of the business, giving the proceeds paid patrons in terms of price per pound of butter, as well as per pound of fat. Many creameries state merely the price per pound of butter fat, and, while this is theoretically ideal, it leaves many of the patrons more or less in the dark. When the price per pound of butter is also stated, the patrons can readily determine how the values netted by the creamery compare with those they could realize for home dairy butter. Butter they all know; fat is to some of them an unknown quantity.

Mr. Medd's excellent system of creamery accounting was described and illustrated in "The Farmer's Advocate" of March 10th, 1910. It consists of several books:

In the Patrons' Account Book, two opposite pages are allotted for each route. On the left-hand page, in a series of vertical columns (one for each gathering day in the month on that particular route) are the respective amounts of cream received from each patron. In the first

column on the right-hand page is the number of pounds cream; then the average monthly test of each patron's cream; then his total pounds butter fat for the month; then the percentage of overrun; pounds butter; price per pound of butter; price per pound of fat, etc. A Butter Record Book is kept at the creamery. It is a simple record of churnings and butter made each day. There is a Sales Book showing the audited financial statements for the successive years, with monthly and annual totals and averages. For instance, the 1912 totals and averages were as follows: Total pounds of cream 1,209,728.5; average test, 29.58 per cent.; total pounds fat, 357,948.58; total pounds butter, 419,842; overrun, 17.29 per cent.; total money received, \$116,945.06; amount paid patrons, \$102,880.54; average selling price, 27.85 cents; average price per pound butter paid patrons, 24.50; average price per pound fat paid patrons, 28.74; cost of making and cream hauling per pound, 3.35 cents; total cost of making and cream hauling, \$14,064.52.

In addition to the above records, a route hauling card is kept, which shows the cost of hauling per pound butter for each route each month. The average of the vertical columns gives the average monthly cost of hauling for the whole creamery and the averages of the horizontal rows of figures give the average annual cost of hauling for each route, while the total annual average for all the routes is likewise calculated and set down.

It was our privilege to attend the annual meeting of the patrons, incidentally addressing

them, and a more harmonious gathering could not be desired. There were no objections and no complaints voiced by any of the five hundred patrons. The meeting unanimously voted to renew the standing condition that the charge for making should not, in any month, exceed four cents per pound. Inasmuch as the average charge last year was only 3.35 cents, this could not be regarded as a very drastic condition, although in the early years, when the make was small, it meant that the proprietor, instead of making any money in the winter months, had to dig down into his pocket for \$50 or \$60 a month to pay expenses, making it up, of course, in the summer. The proprietor addressed the meeting briefly, pointing out the importance of the creamery as a local industry. During the past eight years it has made nearly half a million dollars worth of butter, and besides the cream checks, it pays out locally, for supplies and labor, most of the fourteen thousand dollars charged for making. The cost of hauling cream was 1½ cents per pound of butter. The quality of the butter was excellent, there having been no complaints of lack of body as was the case with the output of some creameries last summer.

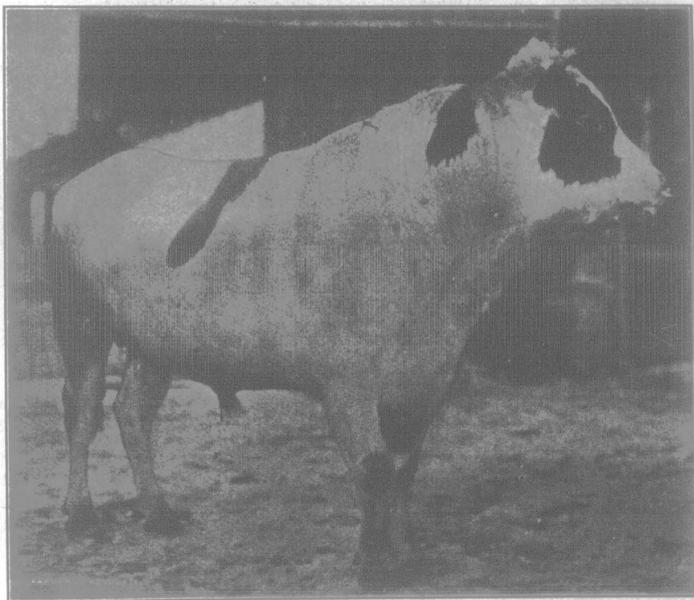
With the idea of grading cream and paying two prices, Mr. Medd has no sympathy. He recognizes only two grades, viz., cream that will make first-class butter, and cream that will not. He accepts all his patrons can send of the former. The latter is not wanted, and the drivers are instructed to reject it.

The cream is hauled in jacketed cans, drivers being guaranteed a minimum rate per route, and paid in excess of that according to the amount of cream brought in. All the canvassing done by anyone is by the drivers, and even they do very little. The business has grown on its merits. The cream is tested with the Babcock test, the samples being weighed. After being pasteurized the cream is cooled directly to 56 degrees, and afterwards lowered further in summer, to a churning temperature of 50 degrees to 52 degrees, this being made possible by pasteurization and rich cream. Churning is done the day after pasteurizing.

For the last three years the butter maker has been paid by the ton of butter, he finding and paying his own help. This plan works out well. In this article we have space left for but a word about the district. The territory is fifteen miles across, reaching that of the Exeter Creamery on the north west, and Centralia on the south west. Of the five hundred patrons about three hundred send in winter. It is chiefly a general-farming and stock-raising section with an excellent class of dual-purpose cattle, and a few herds

of Jerseys and Holsteins. Of late years many farmers have added one or more dairy-bred cattle, owing to the difficulty of keeping up the milking quality with the class of beef-bred bulls now available, but there are many good herds of grade Shorthorns, and we saw one of grade Herefords, owned by John Delbridge, whose eight cows last year brought him \$54.97 apiece from the creamery, in addition to a liberal quantity of butter, milk and cream used at home. He had a fine bunch of seven calves worth \$25 to \$30 apiece, and eight yearlings that would be good buying at \$55.00. Many similar stables of Shorthorn cows and young cattle were seen. In every stable cows and young stock were well developed, and in excellent condition. No hatracks here.

The district prides itself particularly upon its horses, and well it may, for we have seen in no other locality quite so many first-class well-conditioned farm teams. The farms are well ordered and thrifty, with comfortable houses and good large barns. Good crops are raised and the country bears every evidence of a permanent system of agriculture. "The Farmer's Advocate" has a strong hold here, and half a dozen men declared to us that it was the first paper read in their homes. Neatness was evident on every farm, scarcely an implement being seen exposed to the weather. The people are largely of Devonshire and Scotch extraction, though, come to think of it, there must be some Irish, for the Orange Lodge is strong at Woodham, just across the Perth County line, where the meeting was held in the hall built by that organization at a



King Fayne Segis Clothilde.

Included in A. H. Teeple's sale, Woodstock, Ont., March 11th.

cost of \$3,200 and used by various societies. It is 32 x 60, with a kitchen 10 x 22, a basement, a balcony and a large platform. Walls and ceilings are very attractively finished with art metal, and the whole effect is very pleasing. As a rural hall, it would be hard to improve upon.

There are four creameries in South Huron, and the total make of butter amounts to about a quarter of a million dollars. Though help is scarce, as elsewhere, the people do not seem worked to death. Happy Huron!

Feeding an Experimental Dairy Herd

The winter ration of the dairy herd at the Central Experimental Farm, Ottawa, is thus given in the 1911-'12 report of the Experimental Farms. It has been on the average about as follows:

Hay (mixed clover and timothy)...	6 lbs.
Corn (silage)	30 lbs.
Roots (mangels and turnips) ...	10 lbs.
Straw (oat)	4 lbs.
Meal (usually consisting of a mixture of 800 lbs. bran, 300 lbs. gluten and 200 lbs. of oil cake or cotton seed cake)...	7 lbs.

In estimating the cost of feeding the following values were used.

Pasture per month	\$1.00 a cow
Meal Mixture	\$25 per ton
Clover Hay	\$7 per ton
Straw	\$4 per ton
Roots and Ensilage	\$2 per ton
Green Feed	\$3 per ton

POULTRY.

As a means of furthering the policy of developing the poultry interests of the Dominion in which the Live Stock Branch of the Department of Agriculture is actively engaged, the Live Stock Commissioner is anxious to secure the name and address of each breeder of poultry in Canada who is systematically endeavoring to improve the quality of his stock, particularly from the standpoint of increased egg and meat production. The information is desired in order that the Live Stock Branch may be brought more closely in touch with progressive poultrymen throughout the Dominion and with those whose names might be eligible for inclusion in a Dominion Poultry Directory. As a means of securing this information, in part, at least, all those who are interested are requested to write the Live Stock Commissioner, Ottawa, indicating: (a) The breed, variety and strain, or family, of poultry they are breeding; (b) The extent to which selection for increased egg and meat production is being practised; (c) A brief but specific statement of what has been accomplished; (d) Whether or not they are actively engaged in trap-nesting at the present time. If not, what means are being used to select the most desirable individuals for the breeding pens. Letters giving the above information should be addressed to the Live Stock Commissioner, Ottawa. Such communications do not require postage.

The Best Time to Hatch Out Chickens.

The experience of many years in hatching chickens, at different periods of spring time, leads A. G. Gilbert, Poultry Manager at the Central Experimental Farm, to the conclusion that chickens hatched out during the first week in May make the most satisfactory growth, catching up to and frequently surpassing the earlier-hatched birds. For that reason, the first week in May is recommended as the best period for the farmer to have his hen, or incubator-hatched chicks make their appearance.

It may be said that the first week in May is too late to hatch Brahma, Cochin, or Orpington chicks. But we do not recommend either of the first named breeds to farmers, for the reason that they are too slow in maturing. If the Orpington chicks are well cared for and fed from time of hatching as all chickens should be, the first week in May will not be found too late, but chicks hatched later than the middle of May, more particularly of the heavy varieties, are not to be recommended. If the conditions are favorable, by all means have earlier birds. In the case of the farmer, conditions in the shape of brooder house, or other means of keeping the early-hatched chickens warm, independent of outside temperatures, are not frequently found. Hence the recommendation to the farmers to have their chicks come out during the first week in May. At that time the weather is usually warm enough to permit of the young birds being

placed outside on the rapidly growing grass. With proper treatment the chicks will be found to literally grow with the grass. When twelve or fourteen weeks old, the pullets should be removed from the cockerels and gently pushed, so as to have them layers in November. The cockerels should be disposed of as soon as fairly well developed, unless kept for breeders.

Hens Eating Eggs.

Editor "The Farmer's Advocate":

What causes hens to eat their eggs? We have about one hundred hens, and they eat them just as they lay them. They can get out around where there is water and sand, and we feed them mixed grain and apple and potato peelings boiled.

E. T.

Ans.—Hens eat eggs because they like them. The habit of egg eating is commonly induced by the hens getting a taste of soft-shelled or thin-shelled eggs, accidentally broken. From this they go on to break eggs with normal shells. It is probable that a deficiency of meat food in the diet may make them more eager. Once a flock has developed a general habit, as yours has done, cure is not easy. Possibly it would pay you to chop their heads off at once, and market them as dressed poultry. However, you had better try remedies first. If you can check the habit now, the hens may partly forego the practice of the vice during the summer, and may have forgotten it before another laying season. First of all, seek to strengthen the shells by providing plenty of lime. Get a sack of crushed oyster shell at your feed store, and keep a supply continually before the birds in hoppers. Give them also a little green cut bone two or three times a week. Guard against over-fatness, by compelling the chickens to scratch in deep litter for all their grain feed. Darken all the nests, having them open towards a rear passage between nests and wall, or, if that is not convenient, hang sacking down in front of the nests. Another plan is to construct trap nests, so that the egg laid will roll gently down an inclined plane to a padded receptacle out of the hen's reach. Sometimes it happens that certain birds will not lay in the nests—even ordinary open ones—and then it is difficult to cope with the habit. Where the nests are regularly used by most of the flock, the methods prescribed will be likely to give satisfaction, saving a majority if not all the eggs.

GARDEN & ORCHARD.

The Kitchen Garden.

It is not a far cry, in these days of practical endeavor, from the garden beautiful, to the garden bountiful; that is to say, from flowers to vegetables and small fruits. But strange as it may seem, the city man, with his approximate 40-by-100-foot lot and manifest disadvantages, frequently achieves better garden results than his country cousin who has acres at his disposal. Indeed, in matters of home vegetable-raising, the commuter and the suburbanite seem to be qualified to impart information, rather than receive it. The following picture of the average

countryman's vegetable garden, drawn by one who, in the practice of his profession is acquainted with "all sorts and conditions" of men belonging to this class, is not flattering, although it is true enough to life to be recognizable.

"Their usual garden," said he, "consists of a few square yards of land out in the meadow, with a sprinkling of those little raised beds devoted to the growing of beets, carrots, and weeds, reinforced, perhaps, by a dozen cabbages, and a dozen or so of tomato plants set in a plot of ground two yards square, with the usual result—great growth of vine, some green tomatoes, and rarely any ripe ones."

There are good reasons why a well-cared-for kitchen garden should form a feature of every home. The importance of fresh fruits and vegetables as essential articles of diet; the decrease in doctor's bills consequent upon their use; the beneficial influence of out-door garden exercise; and the economy of self-raised produce, as compared with the expenditure made too often for stale and wilted market vegetables, are salient points in its favor. But the chief advantage of the kitchen garden is summed up in the simple statement that from it "one gets better things than money can buy—fresher vegetables, better kinds."

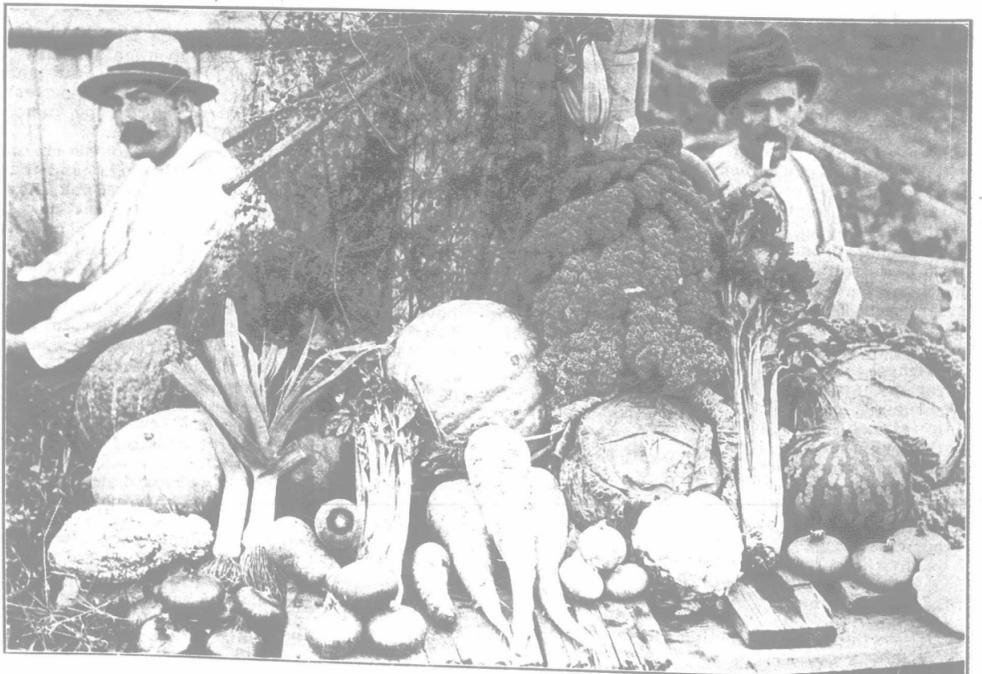
A fence-enclosed garden with a gate, selected from the best acre of land lying as close as may be to the kitchen, is the ideal one for vegetables and small fruits. Such gardens are practically extensions of the kitchen, and ease of access contributes greatly to the comfort and pleasure of the owner; the idea being to avoid waste of time in travelling. Personal preference, and existing conditions, govern the question of size, but, broadly speaking, it should be large enough to raise from a given area as great a quantity and as wide a variety as possible of the vegetables and small fruits which one relishes most. Tree fruits should be relegated to an orchard by themselves, but the small bush fruits may be associated with the vegetables, for they both love the same kind of soil—one which liberal dressings of fertilizers have made rich and full of humus.

Produce from the home garden is a revelation as to quality, and when the height of the harvest is reached, the amateur begins to single out with pity those of his neighbors who do not own similar gardens.

Desirable vegetables for the home garden may be roughly classified as follows:—(1) pot-herbs, or greens; (2) salad plants; (3) seeds and fruits; (4) root crops.

Pot-herbs should be grown rapidly, in order that the leaves, which are served cooked, may be crisp and tender. The ground should be well-tilled, and supplied with a generous amount of quickly available nitrogenous fertilizer—especially when the plants are nearing maturity. Spinach, celery, cauliflower, cabbage and asparagus, are members of the family. The last named furnishes one of the most delicious of vegetable dishes, and comes when there is very little else to be got from the garden. In the autumn all foliage should be cut away, and the asparagus dressed with coarse salt, and a heavy coating of manure.

Salad plants and sweet herbs are served uncooked. Here, too, rapidity of growth and rich, moist ground are conditions which produce the best results. Parsley, endive, the various brands



What the Kitchen Garden Will Produce.

of "quality" lettuce, horseradish and cress, occupy a prominent place in this division.

Seed and fruit-vegetables, with the exception of the pea, are warm-season plants, susceptible to frost, and with a grudge against being planted until the ground is warm. Corn, cucumbers, lima beans, musk melons, snap beans, pumpkins, squash, tomatoes, egg-plant and pepper, belong to this class. The last three vegetables should be started in heat, or in the house, if a good crop is to be realized. Every day that the home gardener gains on his tomatoes before August 1st is clear profit, for once a tomato plant begins to bear it will keep on producing, until killed by frost. "Spark's Earliana," and "Chalk's Early Jewel," can be cheerfully recommended for advance crops, while the "Matchless" possesses many good points as a larger variety.

Root crops, such as turnips, beets, carrots, parsnips, radishes, and onions, are cool-loving plants, and make their best growth in spring and autumn, rather than midsummer. They flourish in circumspect rows, and require no special skill in raising. Radishes should be sown every ten days if successive crops are desired, and the amateur must be heedful to pull his turnips before they become "corky."

A little off the beaten track of ordinary vegetables are the salsify, or oyster plant, with its delicate oyster-like flavor, and the Swiss chard, which is in reality a sort of beet. Young chard leaves are eaten like asparagus; later, the stalks are cut into inch lengths, boiled until tender, and covered with a cream sauce. By reason of its hardness, the seed can be sown in April or May, in rows half a yard apart. The plants should subsequently be thinned to a foot apart.

"Keep your ground loose," and "keep all the ground busy all the time," are two general precepts framed from actual experience, and put into practice from May until September by an ardent home gardener. He held that an empty garden is sure to be a weedy one, and in this connection it might be suggested that, where space is plenty, the kitchen garden should be brightened with a corner in annuals, adapted for cutting purposes.

Nowadays no extended arguments are needed to convince the amateur who is in earnest of the advantages attending the home cultivation of small fruits. The person who has never eaten strawberries self-picked from the bed where they hang in rich, red clusters, sun-warmed and luscious beneath their leafy covert, has missed one of life's most pleasurable experiences. For earliness, and quantity, no method surpasses the "matted-bed" system; although the individual berries may not be as large as those grown in hills. The chief point to be remembered in strawberry culture, is to plant a fresh bed every season, not a large one, necessarily, and the old bed need not be demolished forthwith, as it often continues to produce if kept clean, but for abundant and continuous crops, one should always keep "a bed ahead," so to speak. In following the "matted-row" plan, a good rule is to set the plants eighteen inches apart, each way—which intervening space the runners soon find use for. Well-drained soil, as rich as one can get it, is another requisite. There is no danger of making the strawberry dyspeptic. It will take all one is willing to give, and, like Oliver Twist, will "ask for more."

Widely speaking, the bramble fruits—raspberries and blackberries, with their plebian relations, the gooseberries and currants—are shallow-rooted plants, yielding quickly to good care and dependant, to a great extent, on the richness which has been provided for the surface of the land. The supply of moisture in the soil is also a determining feature as regards bearing. This moisture is stored and saved by careful tillage, thus putting the land into "good heart," as farmers say.

Thorough and continuous cultivation is, in short, the first essential to success in bush fruit-growing, with intelligent pruning a close second. The kind of soil required is not as important as its quality. Raspberries have been known to thrive in loam, clay, sand, or even muck, "provided" an authority on the subject explains, "the necessary food is given to develop the highest perfection of cane and berry. Soils rich in humus, and nitrogenous matter, can be supplemented so as to give the best results in fruit, by the addition of small quantities of unleached ashes and ground bone—at a minimum of expense." Wise discrimination in the selection of varieties; thinning the canes to from three to five to each plant; pinching back the shoots in order to develop side branches, and vigorous fruit-buds; and trimming back the branches in spring, for the purpose of limiting the production of fruit to what the plant can develop to perfection; are other little guide-posts along the road to successful raspberry culture.

The blackberry with its dark, seductive beauty, also does well in cultivation. It may not be as poetic to slip into one's garden ten minutes before meal time, and pick with ease and comfort a heaping bowl of luscious "El Dorado," or

"Rathbun" blackberries, for the evening meal, but it is more economical than tearing clothes, and wasting energy in scouring the wood-lot for "wildings."

When all is said, however, "the keenest enjoyment is not found in the fruit upon the table, but upon the plant. The pleasure one gets from taking his friends into his small-fruit patch, and saying: 'Now help yourselves, and tell me which variety you like best,' is one that cannot be considered alongside of a bank account."

Stanstead Co., Que. MARY SPAFFORD.

Starting an Orchard--III.

[Note.—The series of articles of which this is the third, are written from a British Columbia fruit-grower's point of view. For Eastern growers, they make interesting reading, though not in every point a safe guide in practice.—Editor.]

PREPARING SOIL AND PLANTING TREES

Generally on cultivated land very little extra preparation is needed before setting the trees for an orchard. There are many opinions on the advantages gained by subsoiling in preparation for the setting of trees. It would seem advisable where there is a hardpan close to the surface to break it up by running a subsoil plow in each furrow when plowing, for this reason; the subsoil keeps the tree roots close to the surface, and in localities subjected to winter root killing this is not desirable. Subsoiling also permits the roots to secure a greater feeding area and gives the tree a better opportunity to fortify itself against excessive winds.

There is nothing that prepares the ground better for an orchard than a crop of alfalfa or clover; especially is this the case on new land. On virgin soil an orchard set out just after breaking, in five years, will not be as far ahead as the one set out where the virgin soil has been broken and then seeded down to alfalfa or clover. There are several reasons for this; the clover and alfalfa carry nitrogen into the soil and the penetrating roots, especially of the alfalfa, break up the hard soil deeper than the plow, and makes it easily accessible to the tree roots, not only this, but both of these crops will leave considerable plant food in the soil through decayed roots, leaves, etc. One instance comes to mind:—a horse rancher seeded down a strip of alfalfa on a mountain side and after three years sold this property to an orchardist who set it and the adjacent land to peaches and apples. These trees are six and seven years old now, anyone can notice the difference in favor of the trees on the strip where the alfalfa grew.

On irrigated land it is the height of folly to set out trees without first of all grading so that water will run readily. The grading can be done more cheaply and quickly. Grading afterwards may leave roots exposed and often the roots are torn and trees barked while the scraping is being done. It is time and money well spent to thoroughly prepare irrigated land before planting an orchard.

In setting, one of the first problems to settle is

the plan upon which to set out the trees, whether there are to be any fillers or not. "Fillers" is a term applied to trees set in an orchard to remain only a short time till they have borne say four to seven years and are then cut down to leave room for the "Permanents". Here in Summerland a great number of the orchardists planted apples with peach or pear fillers, planting an apple then a peach (or pear), an apple and then a peach (or pear), the trees being fifteen feet apart in the row and the rows thirty feet apart. When the peaches begin to shade the apples they are cut out, which will be perhaps seven years, allowing them to bear perhaps four or five times. The pears would last longer, not being such a wide-spreading tree. Many use apples as fillers taking early-bearing varieties such as Salina Pippins, Wageners, etc., and this is better as apples require different treatment from peaches or pears, and it is a question whether it pays to bring peaches into bearing and have to cut them out at six or seven years of age, as would be the case if grown fifteen feet apart in the rows.

There are various plans upon which planting is done, such as the hexagonal, i.e. four trees in a square. And then one set in the middle of this square. The square is the most common and is the easiest to work where clean cultivation is practised. As it is the most common we will deal mostly with it.

Working under the supposition that the piece intended for use is in sod and planting is to be done on the square 15x30, strips five feet wide should be plowed deeply, in the fall if possible, (if necessary following in each furrow with the subsoiler), where the tree rows are to be set. This will leave sod strips about twenty-five feet wide, running across the field. In the spring as soon as the ground is in condition to work these strips should be gone over with the harrows to secure a good dust mulch to retain all the moisture possible.

Order year-old trees and have them delivered early. If a fall delivery can be secured so much the better for the trees can then be heeled in deeply, covered well with manure and straw, leaving just a few inches of the tops sticking out of the ground. The reason why it is better to secure fall delivery is that the nursery companies are so rushed in the spring that the trees are likely to be shipped and arrive too late. In the rush of spring orders the companies cannot give careful attention to selection of stock.

Staking out the plot is the next problem and if the land is uneven it will require care and patience. Laths or pickets of some kind should be set on each spot where a tree is to go. Measure the first two rows very accurately and see that the stakes are in line before planting is started.

In planting pull up the first picket, dig a hole about eighteen inches deep and about a foot across, take one of the trees and prune off all broken roots and all roots that have black centre. All the larger roots should have a little cut off the ends as this will tend to force the tree to send out hair feeders and also help to detect any black-hearted roots. If the roots show any black, prune back till the black is gone and if that



The Best Kind of a Picnic.

Sap-boiling in the open, with an arch and pan. A shelter over the arch is usual and commendable. The fun is better in a thicker bush—one where you can't see out.

takes you to the main stem cut off of it till you get rid of the black. A good branching root is much better than a single tap root. If the tree has two or three main roots prune some off the end of each root. This will force these roots to send out new feeders and a mass of feeding roots will be the result, whereas if the main roots were left they would develop in size and not in feeding ability. Prune off all branches on the main stem i.e. prune to a whip but do not cut the top off till the trees are all set. Set the tree in the hole dug for it, and then line it up with the stakes in the rows it is in. Pack the ground tightly around the roots, then line it up again, and also see that it is straight. If the ground is put in loosely it doesn't get close to the feeding roots, and the tree will starve to death no matter how damp the ground may be. Plant all the trees in this way, then when they are all set, put a chalk mark or tie a string around the leg just about eighteen inches from the sole of the boot and go over the lot cutting off all the trees to the height of the mark and the result will be a uniform height for all the trees when they are well grown.

There is one pest that is generally hard on the young trees especially on those planted where sod has been, that is the cutworm. Many planters rely on putting about the trees, a mixture of bran, paris-green and sugar to kill these worms, but the safest is to go to each tree, tie, not too tight, a strip of cotton batting, about an inch wide, around the trees about a half a foot from the ground. The cutworms can't crawl over this, and the tree is then safe. The cutworms crawl up the trees at night and eat the buds before the leaves burst and often eat the tender leaves.

CARE OF THE TREES THE FIRST YEAR

A short time after planting, and frequently during the summer, cultivate the trees in rows, cutting a figure eight about the trees with the cultivator. Get close in to the trees but avoid scuffing the bark.

If the plot has been in alfalfa every care should be taken to hoe out any of this that starts to grow out among the trees, for it is such a strong grower that it might get such a foothold as to kill the trees. Clover is bad, too, though not so strenuous as alfalfa. Clean cultivation is certainly the method to bring on a big strong growth, though its continuous practice in a bearing orchard is as detrimental as continued sod.

Keep an eye open for aphids during the summer and should they appear use the tobacco solution in preference to whale-oil soap, but spray if the aphids show up in numbers because they often stunt and thus seriously injure the tree.

The trees will send out young shoots all the way up the stalk, these should all be rubbed off with the exception of four or five. It is better to do this before the shoots become large enough to be woody; in fact best done when they first show up. By doing this the growth will be thrown into the branches upon which it is intended to build the tree.

If summer pruning is to be practiced then give these trees their first pruning in July or early August, i.e. the branches that need it, in order to prevent the development of long weak branches. If the trees make unusual growth some may be the better of nipping back the first week in September, though this is rarely advisable, as growth sent out after this is not likely to ripen enough to carry it through the fall and winter frosts.

In irrigation districts cease irrigation August first and cultivation August 15th. This gives the wood grown ample time to ripen and does not encourage the growth of more wood than will ripen, hence less danger of top killing. If the alfalfa or clover or whatever sod crop is used should need irrigation after August 1st., irrigate in the inner furrows but not on the edge of the sod next the trees, nor in the cultivated strip. In rain areas cultivation should cease at the end of August under general conditions. Late in the fall plow as close to the trees as possible and plow towards the trees. If the sod has been encroaching on the clean-cultivated strip it will be wise to take a furrow on each side of the trees off the sod and turn it under. Trees cared for in this way generally start on their second year with very few losses either from cutworms or winter killing.

Tobacco Prices.

Editor "The Farmer's Advocate":

I read in the "Farmers Advocate" of Nov. 7th, 1912, on page 1949, a piece headed "Tobacco Growing in Ontario". This piece goes on to state that tobacco growing in the South-western peninsula of the Province of Ontario has become a profitable branch of farming, also states that during the past three years the average price secured by the Government Experiment Station at Harrow in Essex Co., was 25 cents per pound or an average gross return of \$250 per acre. This Govern-

ment's instruction in growing tobacco advises us farmers to grow nothing but white Burley tobacco as this was the best and most profitable kind to grow. Last year I grew this White Burley, got my seed from W. T. Gregory, Leamington, Ont., took very best care of this tobacco, harvested it without rain, and this tobacco cured fine and has good color, and all I have been offered for same so far is nine cents per pound. It would seem from this that the farmers here in Ontario do not get the same price for their tobacco as the Experimental Stations. Would you kindly answer in the "Farmers Advocate" for the benefit of the Ontario growers, what is the reason we cannot get the same price as the Experimental Stations. Tobacco is surely not a profitable crop for us farmers to grow at nine cents per pound for first-class tobacco.

Elgin Co., Ont.

D. H. McCALLUM

Your correspondent has misunderstood the substance of the article on "Tobacco Growing in Ontario." The tobacco for which we received 25c. per pound, or \$250 per acre gross return was the fine-cured type Warne variety, which variety requires to be cured with artificial heat and demands considerable skill in the curing and subsequent handling. This type requires to be graded into four grades; consequently the higher price.

I may say, however, that the price of White Burley fluctuates from year to year. Supply and demand regulate the price. During 1911 some 15,000,000 pounds were produced and the price immediately dropped. This past season the price varied from 6 to 12½c. depending on the quality of the leaf. The average was eight or nine cents. This low ebb of prices was the outcome of the over-production in 1911.

This past season the tobacco grown on the Experimental Station, Harrow, was sold in the open market to the highest bidder. No preference has been shown us at any time. The price obtained for the Burley was 12½c., and 20c. per pound for the fine-cured. Representatives of the different companies looked over the crop and volunteered prices.

During the past season tobacco was bought according to quality largely. Unless a sample of Mr. McCallum's tobacco was available the writer could not state what the value really was. Samples might be sent to Lewis Wigle, W. T. Gregory and F. S. Moss all of Leamington. These men represent the leading manufacturers.

W. A. BARNETT.

Our Apple Industry.

Editor "The Farmer's Advocate":

The apple business of Ontario, for the last few years, has been of such a varied nature and so uncertain, and especially this past season have the results been so unsatisfactory to both growers and dealers, that many who are engaged in the industry are beginning to wonder if it is not all a gamble, and the pleasure and profits to be derived therefrom, which have been held up so alluringly before the would-be fruit grower's eyes; only a "delusion and a snare."

The time has arrived when something more than talk must be done, or the Canadian apples, which we have looked upon with such pride, and boasted of as being the best the world can produce, are going to fall from that high pinnacle, and the industry in Canada receive a severe shock, which may ruin the prospects of those engaged in it.

I have just returned from a trip to England and Scotland where I visited most of the large apple markets of those countries, and I found not Canadian apples taking the lead as they used to, but apples from the far Pacific Coast, and from Virginia and even from Maine and New York States, in some cases, taking preference over our Canadian apples. The fruit from these places was of so much better color, better assorted and graded than most of the Canadian apples, that buyers were bidding for fruit that they could rely upon as being properly put up, and of uniform quality and showy appearance.

They all told me Canadian apples were not as they used to be, they were off in color, and the grading was not satisfactory, and many poor spotted apples were put up that should never be shipped there. Again so many inferior varieties and odd sorts were being forwarded, that they scarcely knew what to expect in a shipment of apples from Canada.

They still felt loyal to Canadian apples, and longed for the high flavor and keeping qualities of our fruit, which they claimed were better than the Western or more Southerly-grown apples, but they must have clean, well-colored, uniform fruit of good grades and standard varieties, or give Canadian apples the go by.

The Old Country market has been deluged with apples this season from the States and Nova Scotia, besides a big crop of their own. Consequently prices for everything but the choicest stock have been very low, and

disastrous to shippers from this country where comparatively high prices were paid. It has certainly been a year of experience, and should produce lessons of value for both growers and shippers. It should teach the growers that it will pay them to grow only the best-varieties of fruit, and to do that scientifically. It should teach the shippers that it is folly to ship No. Three apples and inferior varieties to such distant markets, and that, in a year like this, only a limited quantity of No. Two apples, even of the standard varieties, should be shipped.

Nova Scotia especially has a big lesson to learn. I was surprised to see the many barrels of No. Three grade apples shipped into London from that province in a year like this; when apples are so plentiful, and there are enough of the better grades to more than supply the demand at remunerative prices. Even where any returns would be received from those inferior grades and varieties, it would be at the expense of the better grades, and the reputation of Canadian apples.

Now there are three very essential matters to be observed and worked out to save our apple industry and put it back where it belongs, in the top notch; for we have the climate, we have the soil, and surely we have as intelligent people as any country in the world. It only requires that we apply our intelligence in a thorough manner, and make use of all our advantages and the information supplied us by the Government and other sources where this work has been scientifically carried out—to succeed in again producing the best the world can supply.

These three essentials are: First, the intelligent growing of the fruit; secondly, the proper packing, assorting and grading; and thirdly, the right methods of marketing.

Perhaps there is one other thing I should mention here, which probably will be the greatest enemy to overcome.

It was said by one of our most successful fruit growers, "That it was not frost, flood or drouth, it was not insect pests nor plant diseases, nor yet the unscrupulous middleman, that was the fruit growers' greatest enemy, but it was the crooked grower who puts out his product under false pretences, and thinks his short-sighted tricks are putting him ahead in the game. He fouls the whole nest for himself and every one in the business next to him was the man who is too ignorant of standards and up-to-date business methods, to put up a really honest pack of anything. It's much more popular to pound the middleman, and look upon him as the robber, but the enemy within the camp is always far more dangerous than those outside the ranks. The grower who willfully or ignorantly puts up a dishonest or improper pack is a more effectual enemy than the greedy middleman, and one such grower does more harm to the industry than a dozen good men can overcome.

The matter of growing or producing is no doubt the most important of all things concerned, for no amount of after work in assorting, packing or marketing can make up for a mistake here. This is something that must not be neglected. We must intelligently spray, prune, cultivate and fertilize our orchards, or stay out of the business. All these things must be done in the proper season and manner, or the whole thing will mean failure.

The packing, grading and assorting of the fruit require a great deal of study and experience to get the best results, and is also, if not of as much importance as the growing, very essential to the success of the apple grower. It has been truly said that "Expert scientific honesty" is the only brand that will bring the top price. The marketing of the apples, although of the greatest importance, need not concern the grower so much. Fruit properly grown, scientifically and honestly put up, when once known, will command the market itself.

The matter of disposing of the fruit to the best advantage, and the selection of the different varieties to suit the different markets and the distributing thereof, should really be a separate business; and, as a rule, the grower will find it to his advantage to dispose of his apples at his railway station, selling his whole crop to one man who is making a study of the markets and is equipped with warehouses, cold storage building, etc., and has a business knowledge that enables him to realize more out of the fruit than the grower possibly could. Again, the grower finds he has all the work and care he needs to properly grow and put up the fruit. He has spent months of study and labor in doing this and has been under heavy expenses. Therefore, it is better for him to get his money promptly when he delivers his apples in the fall, and thus be better prepared to go on with his work for another year.

Regarding co-operation in fruit growing, there is no doubt in my mind that co-operation amongst fruit growers, when properly worked out, is the right method to pursue in order to bring about the desired results. A grower, of

course, who has a large orchard of good standard apples, can no doubt work independently of other apple growers; but, in my mind, even the large grower can in co-operation with others in his locality work to better advantage.

Buyers are always attracted to localities where large quantities of choice reliable fruit can be had. Cars can be made up and the work of shipping be carried on to much better advantage where larger quantities are available. Again, in co-operation, the growers can get together and discuss the various questions arising and benefit by each other's experiences. Spraying outfits and materials, as well as packages and other requirements, can be procured to better advantage by a number working together.

As for the small growers in these localities, it can readily be seen of what immense value it is to them to be able, not only to dispose of their apples with their neighbors, but, in company with them, receive the benefits to be derived in co-operation in carrying out the work in the care of their orchard. In order for a co-operative fruit association to make a success very strict rules and regulations must be adopted governing all members, and no member should be allowed to depart from these rules. The whole success of the association depends upon this. The spraying, pruning, fertilizing, etc., must be thoroughly done by all, or it is of no avail. One careless or dishonest member will injure the whole body. Anyone therefore who refuses to follow out the rules, or who finds fault with or interferes with the manner of assorting and grading, as prescribed by the association, should be rejected at once. The association is far better off without such members. They cannot afford to keep one dishonest or greedy member in the ranks.

The Association should employ for putting up the fruit, as far as possible, the same packers each season, and these men should be experts—they should have very thorough practical knowledge of the work before attempting to oversee the packing of apples. Good apples often sell at low prices from being ignorantly put up. It is an easy matter to learn just what apples will do to go in the barrels, and what to throw out; but it requires a great deal of practice to learn to put up apples in a package right. The facing, tailing and racking down of apples, all require skill, and experience to know just how full a barrel requires to be so that the fewest apples will be bruised in pressing, and yet the barrel full enough that the fruit will not become slack in handling.

The whole system of disposing of the apples to the dealers has been wrong for years. The time is past when a buyer can go out early in the season—haphazard through the country—and buy apples or orchards from the farmers as they come, and put them up, no matter how carefully, and expect to come out ahead in the game.

The business has become too much of a gamble. Apples are generally bought before the buyer can have any definite knowledge of what the market will be. Usually either too high or too low prices are paid; in fact, it is mere speculation, and not business at all. Unless it is put on a legitimate basis and done in a business-like manner, the buyers will have to drop out and the growers ship their own apples. This has been tried at different times by growers, individually and collectively, but has generally not proved a success.

To solve the problem correctly, the business must be systematized and the buyers and growers come to a better understanding with each other. The grower must realize the fact that he must give and put up an article that he can guarantee and the buyer realize the fact that only up-to-date honest business methods can win out with the keen competition now in existence. This can be done by the growers engaging or putting their fruit into the hands of some competent person to distribute them in the market, or in selling outright to buyers at their station, at a price which may be decided upon when values can be fairly arrived at by both parties. And thus by honest, scientific methods, and fair dealing, a proper standard may be established, whereby Canadian apples will again be the leaders in the market at fair prices, and be profitable both to the growers and those who deal in them.

Essex Co., Ont.

G. W. HENRY.

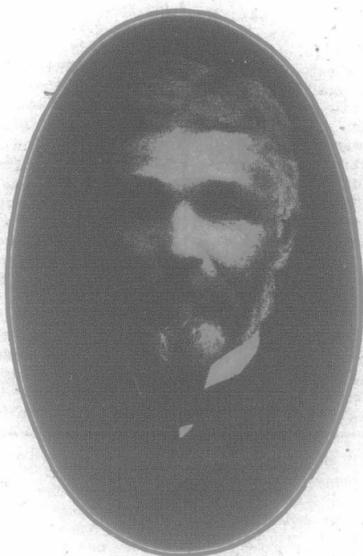
THE FARM BULLETIN

Another Stock Breeder Passes.

The old guard of Canada's great live-stock breeders is being gradually thinned out by the grim reaper. Robert Miller, of Stouffville, Ont., sends "The Farmer's Advocate" the following letter, which will be sympathetically read by Mr. Davidson's hosts of friends:

One of Canada's foremost live-stock men joined the great majority on Wednesday, February 19th, in the person of John Davidson, Ashburn, Ont. Mr. Davidson, who was in his 71st year, was

the eldest of the family of the late James I. Davidson, and was born on the home farm, adjoining that on which he lived until his death. He may well be classed as a pioneer in all that is progressive in farming and in the improvement of the live-stock of the country. Reared in that household, where the one self-allotted task was the improvement of domestic animals, where every moment that could be devoted to business, was used for the solution of that problem, it is little wonder that the life just ended has been spent in one continual effort to complete the work so early and so well begun at his father's fireside. Success may well be attributed to the efforts of Mr. Davidson, for he has been for many years considered as a great and constructive breeder—all the animals on his farm had to be of good form, all had to be well bred, and all had to be well fed. Animals that would not make good returns and give a profit for liberal feeding had no home there.



The late John Davidson.

The work in the fields, too, had to be done in a good commonsense way, for while good crops were always forthcoming under his management, the fields were expected to increase in fertility, and they did so.

That was the business side, and it seems again to be proven that if there is work to do, you must ask a busy man to do it. With all his moments apparently taken, John Davidson yet found time to sympathize with all within his reach. His warm interest was assured to those that came to him in trouble. Their hardships were his hardships for the time being, and he entered into them and gave that encouragement and solace that only the generous and the big-hearted can give. It has been well said, "That the bravest are the tenderest."

Seventy years of a busy life has left behind a record that may not appear in history, but for real good to humanity and to this country it may mean more than the lives of some that make history's exciting and interesting pages.

His family consists of his life's companion, who for years has been an invalid, and who has had devoted to her the affection of the kindest of husbands, three sons and two daughters—all taking an active part in the affairs of life.

His house was in order; he might well have said, "I have tried to do my duty," and the heart that beat so strong and so warm for others stopped beating, and that was the end here.

Confusing Misprints.

Several unfortunate typographical errors occurred in last week's issue. On the editorial page in the phrase "Shakespeare of the Speed" the word "speed" should have been capitalized. "Speed is the name of the river which flows through Guelph. On page 365, in the communication signed "A B C and D," the paragraph in the second column, just above the cut, should have read "Importer to Exporter—Last consignment of cheese per S.S. Canada not satisfactory," etc. "Exporter to Importer—What's the matter," etc. In Peter McArthur's letter on Banking, page 370, the word "menace" was changed to "means," thus almost reversing the sense.

On the editorial page of the present issue in the article "Can Soil be Drained Too Dry?" in the second paragraph seven consecutive words were omitted. The second and third sentences of the paragraph should read "From scientific study . . . we are convinced that this is rarely if ever liable to occur. We are not quite certain but that on semi-arid soils," etc. Further down the adverb "too" was omitted before "thorough-

ly." The missing words were inserted on the press, so that most of the copies of this article are correct.

Must Have Good Roads.

Over three hundred delegates assembled in Toronto, Wednesday, Thursday and Friday of last week, to discuss ways and means of improving Ontario's roads. The Ontario Good Road's Association always holds an interesting convention, but in attendance and in enthusiasm, this year's meeting was easily far in advance of that of any former year. In conjunction with the convention, which was held in the Dairy Building on the grounds of the Canadian National Exhibition, a large exhibition of good road's machinery was held, and it was said that over \$100,000 worth of this machinery was sold to the various municipalities represented at the convention. This was the first exhibition of this kind, and results justify its continuance as a factor in furthering the good road's scheme.

All the discussions were entered into with a spirit which is bound to achieve something. The subject of statute labor was warmly entered into, and a resolution was finally passed: "That, in the opinion of this Association, the Ontario Legislature should consider the abolition of statute labor on roads, and give legislation that would bring it about in all townships."

It was also resolved that where a road, that is part of a country road system passes through a village or town, government aid should apply to such part of the road to the extent of the width and cost of approved road in purely rural sections.

Among other important questions raised these were, besides those already alluded to, the most important:—

That the Provincial Government should give a grant towards the maintenance as well as the construction of roads, and that the government proportion toward the cost of building country roads should be increased from one-third to one-half and that the government should regard permanent roads in the same light as railroads, which were subsidized to the extent of \$6,000 a mile.

That automobiles should be either taxed per horsepower or per weight, the revenue thus received to apply towards the maintenance of roads, and that the license fee on autos should be raised from \$4.00 to \$25.00 a year, and the revenue applied toward road-making.

That good roads, as a medium of quicker transportation, would be the chief factor towards repopulating the rural sections, and would do much towards reducing the cost of living.

That in apportioning the municipalities' share of the cost of building permanent roads, an assessment should be made against the properties benefitted somewhat after the local improvement plan.

In reading over this list one sees at a glance that the bill of fare was sufficiently elaborate to occupy three full days, and three busier days have never been put in by the Association in convention, but with such able speakers as the Hon. Martin Burrell, Dominion Minister of Agriculture; W. A. McLean, Engineer of Highways for Ontario; Dr. L. I. Hewes, Maintenance Engineer of Washington; Sir Edmund Walker; Major T. L. Kennedy, retiring president of the Association; G. G. Powell, Engineer of Toronto, and others, all the matters under consideration were thoroughly threshed out.

The automobile is the big factor to be considered in good roads legislation. It was intimated by some of the speakers that there would be little or no road-building in their districts until new automobile legislation is passed.

Sir Edmund Walker said, "Our roads are unspeakable, in fact abominable," and then proceeded to say that if Ontario had only good roads there would be 25,000 autos owned in Toronto alone in a very few years, and if each auto were taxed \$25.00 a year instead of \$4.00, there would be an annual revenue of over half a million dollars which could be applied to road-making.

Under present conditions the country roads would only be harmed by an increase in automobiles, and even if Toronto had 25,000 of these machines and each were taxed \$25.00 yearly, we fear that the country roads would get little of this money. Rural districts have little to gain as far as roads are concerned by an increase in the number of autos, but Mr. Walker's open statement, in favor of a higher tax, must be commended.

The council of the County of Hastings showed their interest in the movement by attending in a body. Other councils might follow the example at future conventions.

The officers for 1913 are:—President, N. Vermilyea, Belleville; First Vice-President, J. A. Sanderson, Oxford Station; Second Vice-President, S. L. Squires, Waterford; Sec.-Treas., G. S. Henry, Oriole; Executive, M. Leach, J. H. Garbutt, R. H. Lush, J. J. Parsons, A. K. Hodgins and S. R. Wheelock.

MARKETS.

Toronto

REVIEW OF LAST WEEK'S MARKETS

At West Toronto, on Monday, March 3rd, receipts of live stock numbered 48 cars, comprising 786 cattle, 686 hogs, 52 sheep and lambs, 5 calves, and 28 horses; no business being transacted at the city market. Hogs sold at \$9.50 fed and watered, and \$9.15 f. o. b. cars.

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

	City.	Union.	Total.
Cars	13	324	337
Cattle	240	3,660	3,900
Hogs	—	8,462	8,462
Sheep	183	582	765
Calves	111	431	542
Horses	17	240	257

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

	City.	Union.	Total.
Cars	175	143	318
Cattle	1,896	2,063	3,959
Hogs	4,422	2,047	6,469
Sheep	1,605	888	2,493
Calves	229	26	255
Horses	65	149	214

The total receipts of live stock at the two markets for the past week show an increase of 19 cars, 59 cattle, 1,993 hogs, 287 calves, and 43 horses; but a decrease of 1,728 sheep and lambs, compared with the corresponding week of 1912.

Receipts of cattle for the past week were greater, almost, than the demand called for, while those of sheep, lambs, hogs, and calves, were less than the active demand called for, especially sheep, lambs, and hogs. Prices for the three latter classes have advanced accordingly.

Trade in cattle lacked activity, and was not as good as for the previous week. On Tuesday, early in the morning, there were 2,008 cattle offered, market opening up fairly active, but gradually eased off during the day, closing dull and draggy, with over 400 cattle still unsold, and prices fully 15c. per cwt. lower. On Wednesday, trade was of the same nature as at the close on Tuesday, with prices easier in all classes of cattle, and again a fairly large number were left unsold.

Few buyers from outside points was one reason for the dullness in cattle.

Exporters.—About two carloads of export quality cattle sold during the week at \$6.75 to \$7, being bought by the local abattoirs.

Butchers'.—Choice butchers' sold from \$6.25 to \$6.75; loads of good, \$5.90 to \$6.25; medium, \$5.40 to \$5.75; common, \$5 to \$5.25; inferior, light cattle, \$4.25 to \$4.75; cows, \$3 to \$5.25, and a few heavy cows of extra quality sold at \$5.40 to \$5.60; bulls, common to choice, sold at \$3.75 to \$5.40; canner cows, \$2.50 to \$2.75.

Stockers and Feeders.—There were a few lots of stockers and feeders bought. Stockers sold at \$4.75 to \$5.25, and feeders, 850 to 950 lbs., sold at \$5.30 to \$5.60, and even \$5.75 was paid.

Milkers and Springers.—There was a better demand for milkers and springers, although the offerings were not large. Prices ranged from \$45 to \$80 each, two cows bringing the latter price. The bulk sold at \$55 to \$65 each.

Calves.—Receipts were moderate, and prices firm, but unchanged. The quality of the calves was poor, the bulk of them being common, rough, heavy stuff, that had no fat, and little flesh. This class sold at \$3.50 to \$5 per cwt.; veal calves, medium to good, at \$7.50 to \$9, and choice calves, \$9.50 to \$10 per cwt.

Sheep and Lambs.—Sheep and lambs were scarce, not half enough to supply the demand. Sheep—Ewes sold from \$6 to \$7.15 per cwt.; rams, \$5 to \$5.75 per cwt.; lambs sold at \$9 to \$9.80 per cwt.

Hogs.—On Tuesday, the market opened up at \$9.25 for selects fed and watered, and \$8.90 f. o. b.; on Wednesday, prices advanced to \$9.40, and \$9.50 for selects fed and watered, and \$4 to \$9.15 f. o. b. cars at country points; on Thursday, the market remained strong, at \$9.50 fed and watered, and \$9.15 f. o. b. cars.

TORONTO HORSE MARKET.

At the auction sale of Clydesdales and Percherons held at the Union Horse Exchange on Tuesday and Wednesday,

February 25 and 26, there was a large gathering of dealers. The number of horses was large, and generally of fine quality. Horses of choice quality brought good prices, while medium quality were not much in demand. There were some registered Clydesdale fillies and mares that did not sell at any higher prices than some that were not registered. At the regular weekly sales at all of the different sale stables, trade was quiet, and prices were quoted as follows: Drafters, \$175 to \$250; general-purpose, \$150 to \$225; expressers, \$160 to \$225; drivers, \$100 to \$300; serviceably-sound, \$40 to \$110 each.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 95c. to 96c., outside; inferior grades down to 70c.; Manitoba, No. 1 northern, 97½c.; No. 2 northern, 95c., track, lake ports. Oats—Ontario, No. 2, 38c. to 34c., outside; 38c., track, Toronto; Manitoba oats, No. 2, 41c.; No. 3, 39½c., lake ports. Rye—No. 2, 60c. to 65c., outside. Peas—No. 2, \$1.15 to \$1.20, outside. Buckwheat—5½c. to 52c., outside. Barley—For malting, 56c. to 60c.; for feed, 45c. to 50c., outside. Corn—No. 3 yellow, 56c., track, Toronto, all-rail shipment. Flour—Ninety-per-cent. winter-wheat flour, \$3.95 to \$4.05, seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.30; second patents, \$4.80; in cotton, 10c. more; strong bakers', \$4.60, in fute.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, \$12 to \$13 for No. 1, and \$11 to \$11.50 for No. 2.

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

Bran.—Manitoba bran, \$19 to \$20 per ton; shorts, \$21.50; Ontario bran, \$19 to \$20, in bags; shorts, \$21.50, car lots, track, Toronto.

TORONTO SEED MARKET.

Alsike No. 1, per bushel, \$11.50 to \$12.50; alsike No. 2, per bushel, \$10.50 to \$11; alsike No. 3, per bushel, \$9.50 to \$10; red-clover seed, Ontario-grown, \$7 to \$9 per bushel; timothy No. 1, per bushel, \$1.90 to \$2.25; timothy No. 2, per bushel, \$1.25 to \$1.60.

P. S.—The seed prices given are those paid to farmers for seed that needs re-cleaning by the seedsmen.

COUNTRY PRODUCE.

Butter.—Market steady. Creamery pound rolls, 22c. to 34c.; creamery solids, 28c. to 29c.; separator dairy, 28c. to 30c.; store lots, 22c. to 24c.

Eggs.—Market not too firm, at unchanged quotations. Strictly new-laid eggs, 28c. to 30c., by the case. Cold-storage eggs, easy, at 20c. to 22c., by the case.

Honey.—Extracted, No. 1 clover honey, 12½c. to 13c. per lb., and \$2.75 to \$3 per dozen for combs, in sections.

Potatoes.—Market steady. Car lots of Ontario potatoes, track, Toronto, 65c. per bag; car lots New Brunswick Delawares, 80c. per bag, track, Toronto.

Poultry.—Receipts small, and not equal to the demand, and prices very firm. Turkeys dressed, 25c. to 26c.; geese, 18c. to 20c.; ducks, 20c. to 22c.; chickens, 22c. per lb.; hens, 16c. to 18c. per lb.

Beans.—Broken car lots, hand-picked, sold at \$2.60; primes at \$2.25, down to \$1.25 per bushel for inferior qualities, and there are many of these.

HIDES AND SKINS.

No. 1 inspected steers and cows, 13c.; No. 2 inspected steers and cows, 12c.; No. 3 inspected steers, cows and bulls, 11c.; country hides, cured, 11c.; country hides—green, 10c.; calf skins, per lb., 14c.; lamb skins, \$1.10 to \$1.50; horse hides, No. 1, \$3.50 each; horse hair, per lb., 37c.; tallow, No. 1, per lb., 5½c. to 6½c.

FRUITS AND VEGETABLES.

Apples—Spies, No. 1, per barrel, \$4; No. 2 Spies, \$3 to \$3.50; Greenings, No. 1, \$3; No. 2, \$1.75 to \$2; Kings, \$3 per barrel; cabbage, \$1 per barrel; onions, Canadian, 75c. to \$1 per bag of 90 lbs.; carrots, 50c. to 60c. per bag; parsnips, 60c. to 75c. per bag; turnips, 40c. per bag; Florida strawberries, 45c. to 55c. per quart, retail.

Chicago.

Cattle.—Beeves, \$6.85 to \$9; Texas steers, \$5.20 to \$6; stockers and feeders, \$6.15 to \$8.10; cows and heifers, \$3.25 to \$7.50; calves, \$7 to \$10.50.

Hogs.—Light, \$8.25 to \$8.50; mixed, \$8.20 to \$8.50; heavy, \$8.05 to \$8.45; rough, \$8.05 to \$8.20; pigs, \$6.50 to \$8.25.

Sheep and Lambs.—Sheep, native, \$5.25 to \$6.85; yearlings, \$6.75 to \$7.90; lambs, native, \$7.40 to \$8.60.

Montreal.

Live Stock.—The tone of the market for cattle last week was rather easier, owing to the lower prices in the country. There was a decline in price of about ¼c. per lb. Offerings of choice steers were free, and buyers would not pay more than 6½c. for them, as a general thing, though quotations ranged from 6½c. to 7c. per lb., fine quality being 6½c., good being 6c. to 6½c., medium 5½c. to 5½c. per lb., and common 4c. to 5c., with canners selling down to 3c. per lb. Some spring lambs came in, weighing from 25 to 35 lbs. each, and these sold at \$8 to \$10 each. Yearlings were 7½c. to 7½c. per lb., ewes being 5c. to 5½c., and bucks and culls 4½c. to 4½c. per lb. Calves ranged from \$5 to \$12 each. Hogs were lower, at 9½c. to 10c. per lb., weighed off cars.

Horses.—There was some demand for horses from carters during the past week, but there was evidently very little interest in the market outside the city. Requirements for horses for hauling ice have not been so great this year, owing to the fact that there was very little to be harvested until the past week or so. Prices were steady, at \$300 to \$400 each for heavy draft animals, weighing from 1,500 to 1,700 lbs.; \$225 to \$300 for light draft, 1,400 to 1,500; \$125 to \$200 for those weighing 1,000 to 1,100 lbs.; \$75 to \$125 for broken-down animals, and \$350 to \$500 each, for choice carriage or saddle animals.

Poultry.—The market for poultry was firm, and stock was plentiful. Prices were from 22c. to 24c. per lb. for choice turkeys; 18c. to 20c. for ducks and chickens; 15c. to 17c. for fowl, and 14c. to 15c. per lb. for geese. These prices were, for the most part, a record for this time of year.

Dressed Hogs.—The market for dressed hogs was rather easier, in sympathy with that for live, and sales of fresh-killed, abattoir-dressed, were made at 13½c. to 13½c. per lb., while country-dressed, light weights, were 13c. to 13½c., and heavy stock was 12c. to 12½c.

Potatoes.—The market for potatoes was about steady. Prices showed little or no change, being 72½c. to 75c. per 90 lbs. for Green Mountains, carloads, track, Montreal, and 60c. to 65c. for Quebec grades. In smaller lots, the market was 25c. higher.

Butter.—Owing partly to the mild weather of the present winter, no doubt, as well as to importations of butter from New Zealand, the price of butter has been lower of late than it was earlier in the year, instead of being higher as is usually the case at this time of year. Prices were 29c. to 30c. for choicest, in small lots, and ¼c. less for larger lots. Fine stock was quoted at 27c. to 28c., and fresh makes were not in demand, and were quoted at 25c. to 26c. or 27c. for very finest. Dairy butter was 23c. to 25c. per lb.

Eggs.—The market was weak, and prices declined several cents per dozen. Receipts of fresh eggs were large as compared with a year ago. Eggs have not been as good a stock to hold this year as was thought. Fresh-laid sold at 28c. to 30c. per dozen, while select, held stock, was 23c. to 25c., and No. 1 stock 18c. to 20c. Seconds were down around 15c. to 16c.

Syrup and Honey.—Prices were steady, at 16c. to 17c. per lb. for white comb honey, and 14c. to 15½c. for dark. Maple syrup was quoted at 7c. to 8c. in wood, and 10c. in tins. Extracted white honey was 11½c. to 12c., and dark, 8c. to 9c.

Grain.—There was little new in the market for oats. Prices of No. 2 Canadian Western were 41c. per bushel, carloads, store, while extra No. 1 feed was 40c.

Flour.—The market for flour was steady. First-patent Manitobas sold at \$5.40 per barrel; seconds at \$4.90, while strong bakers' were \$4.70. Ontario winter-wheat patents were \$5.25, and straight rollers, \$4.85 to \$4.90.

Millfeed.—The market was steady. Bran sold at \$20 per ton in bags, while shorts

were \$22, and middlings \$25. Demand for mouille was fair, and prices were \$35 to \$36 for pure grain, and \$30 to \$33 for mixed.

Hay.—Prices were \$14 to \$14.50 per ton for No. 1 hay, carloads, track, Montreal, for pressed; \$13 to \$13.50 for No. 2; \$12 to \$12.50 for No. 2 ordinary, and \$10 to \$12 for clover and for No. 3.

Seeds.—Instead of timothy seed being almost impossible to obtain, as was the case a year ago, there is a regular glut of it this year. As a result, prices were exceedingly low, and dealers were only paying \$3 to \$4 per 100 lbs. for it at country points. It would seem that even at this price there was too much offering. For red clover, \$6 to \$10 per bushel of 60 lbs. was paid. The quality was poor. Alsike was \$9 to \$12 per bushel, and was of good quality. It has already nearly all been marketed.

Hides.—As predicted the previous week, the market for beef hides dropped ¼c., and was 12c., 13c. and 14c. per lb. for Nos. 3, 2 and 1. Calf skins were 14c. and 16c., and lamb skins were \$1 to \$1.10 each, while horsehides were \$1.75 and \$2.50. Tallow was 1½c. to 3c. per lb. for rough, and 6c. to 6½c. for refined.

Buffalo.

Cattle.—Prime steers, \$8.25 to \$8.60; butchers', \$6 to \$8.15; bulls, \$5 to \$7; stock heifers, \$4 to \$4.50; shipping, \$7.25 to \$8.25; heifers, \$5 to \$7.65; cows, \$3.55 to \$6.75; stockers and feeders, \$4.50 to \$6.75; fresh cows and springers, \$35 to \$82.

Veals.—\$4 to \$12.

Hogs.—Heavy, \$8.80 to \$8.85; mixed, \$8.85 to \$8.90; Yorkers and pigs, \$8.90 to \$9; roughs, \$7.90 to \$8.10; stags, \$6 to \$7; dairies, \$8.75 to \$8.90.

Lambs.—Lambs, \$6 to \$9.10.

Gossip.

SHORTHORNS AND LEICESTERS AT AUCTION.

On March 12th, as advertised in this issue, will be sold by auction the entire herd of Shorthorn cattle and flock of Leicester sheep, property of the late John W. Martyn, of Canton, Ont., four miles from Port Hope, a station on the G. T. R., thirty miles east of Toronto. Mr. Martyn had been a breeder of Shorthorns for over thirty years, having succeeded in establishing a very fine herd in type and breeding, tracing to importations from the noted herd of Robert Syme, of Dumfriesshire, Scotland, and other good-milking strains. The sheep are excellent representatives of the Leicester breed, and should find ready buyers, as the prospect is bright for an active demand this year. For further particulars, write A. P. Pollard, R. F. D. No. 3, Zion, Ont., Executor.

GLASGOW STALLION SHOW.

The fifty-third annual Clydesdale Stallion Show was held the first week in February. In the aged class of eighteen entries, John Pollock's four-year-old, Silver Wood, by Silver Cup, was placed first.

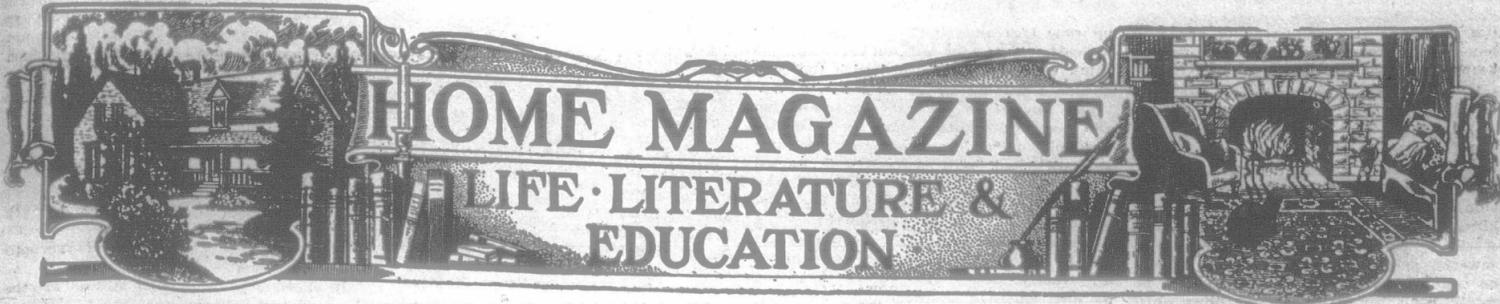
The three-year-olds were a much better class, in which W. M. Ritchie's Prince of Balkairn, by Scotland Yet, out of a Baron's Pride mare, was the winner, second being Matthew Marshall's Masaniello, by Marcellus.

In the open class for aged stallions, the first prize was awarded, without hesitation, to Wm. Dunlop's Dunure Footprint, by Baron of Buchlyvie, rising five years old, the second prize going to W. T. Malcolm's Prince Ossian, by Royal Favorite.

The three-year-old stallions were a splendid class, in which the first award went to Wm. Dunlop's The Dunure, by Baron of Buchlyvie, and second to the same exhibitor's Dunure Peer, also by Baron of Buchlyvie.

Two-year-olds were a very fine class, in which Matthew Marshall was placed first with Montecello, by Yokama, out of a Marcellus mare, and bred by Wm. Murray. Mr. Dunlop was second with Dunure Stephen, by Baron of Buchlyvie, and out of the celebrated mare, Minnieawa.

The Cawdor Cup and Brydon Shield went to Wm. Dunlop, for The Dunure, the reserve for the Cawdor Cup being Mr. Marshall's two-year-old Montecello. The reserve for the Brydon Shield was W. T. Malcolm's three-year-old Prince Ossian, by Royal Favorite.



The Canadian Abroad.

When the croon of a rapid is heard on the breeze,
With the scent of a pine-forest gloom,
Or the edge of the sky is of steeple-top trees,
Set in hazes of blueberry bloom,
Or a song-sparrow sudden from quietness thrills
His delicate anthem to me,
Then my heart hurries home to the Ottawa hills,
Wherever I happen to be.

When the veils of a shining lake vista unfold,
Or the mist towers dim from a fall,
Or a woodland is blazing in crimson and gold,
Or a snow shroud is covering all,
Or there's honking of geese in the darkening sky,
When the spring sets hepatica free,
Then my heart's winging north as they never can fly,
Wherever I happen to be.

When the swallows slant curves of bewildering joy
As the cool of the twilight descends,
And rosy-cheek maiden and hazel-hue boy
Listen grave while the angelus ends
In a tremulous flow from the bell of a shrine,
Then a far-away mountain I see
And my soul is in Canada's evening shrine
Wherever my body may be.
—From "The Many Mansionsed House and Other Poems."—By E. W. Thomson.

Letters from Abroad.

**II.
ON MEDITERRANEAN SHORES.**

Taormina, Sicily, January 5th, '13.
Dear Jean,—Our night ride from Rome was equal to a penny thriller. We fell into a regular nest of bandits, and came nearly being asphyxiated. I can just see your hair rising as you read this. Well, it wouldn't have happened if things had turned out as we expected, but "the best-laid plans of mice and men gang aft agley," and our plan miscarried.
You see, we intended to get to the station early, tip the guard, and have a compartment to ourselves, but this fine scheme was frustrated by the perfidious conduct of the foxy facchino who had us in charge.

Unfortunately, we got to the train too early—the doors were not open. The gray-haired facchino, after depositing our bags in the waiting-room, stood before us and gave a tragic oration with marvellous pantomimic accompaniment, which seemed, as far as we could make out, to mean that his wife and seven children were on the verge of starvation, that he himself was a prey to a wasting disease, and if we would graciously consent to give him a few soldi, he would return as soon as the train was ready and conduct the beautiful ladies to the best seats in the car. Having more faith in Italian porters than we have now, we gave him the desired soldi, and he departed. We sat patiently for a time waiting his reappearance, but as he did not come, Miss Morris went to investigate, and rushed back to say the train was nearly full. We hastily grabbed what we could, signalled another facchino to carry what we couldn't, and made a mad rush down the platform. Facchino number two dumped our suit-cases in a non-smoking compartment where there were already two men—both smoking. By the time the train started there were six men there, and a piratical-looking crew they were. Each one of them looked as if he had a concealed dagger,

and might jerk it out any minute. They all smoked. We expostulated by pointing to the sign, "No Smoking," but they just shrugged their shoulders and puffed harder than ever. Our prospects for a peaceful night seemed to be fading away. But the men were going to get off at Naples at midnight, and we thought we could stand it till then. I went out to look through the car in search of vacant seats, and when I came back one of those unmannerly wretches had appropriated my corner seat. And do you think he would give it up? No; he absolutely refused! He was a swarthy individual, with heavy eyebrows, and a jaw like an ape, and he leered at me from under his slouch hat with insolent eyes. I could have choked him on the spot.

I can just hear you telling this to old Mrs. Davidson, and see her putting down her knitting and lifting her hands in dismay, and saying, "My land! what will happen to that girl next?" The smoke was terribly thick, and the widow was looking pale, so we sent her into the next compartment where there was a vacant seat.

Those brigands then tried a new scheme to make us uncomfortable—they shut the door which opened into the corridor. Now, just imagine being boxed up in a little coop with six human smoke-stacks, and every crevice closed. It was unendurable. We couldn't tolerate it. We opened the door. This made them more antagonistic than ever.

We were not a bit frightened; on the contrary, we were very much amused, and, although we hated to surrender, we

in a vain attempt to be comfortable, I finally hurled it to the floor, and used it for a footstool.

We were glad when day dawned and we could look out and see something. But the tunnels!

We seemed to be in a constant state of plunging into darkness, and emerging into light. The railroad borders the sea, and bores through every obstruction on the way.

It was most saddening to see the devastation as we neared Messina. Evidences of the dreadful earthquake of four years ago, when two hundred and fifty thousand people were killed, were everywhere apparent, and Messina itself seemed to be a wilderness of ruins, except for the acres and acres of little wooden houses with tin roofs contributed by America. We even saw a corrugated-tin church—bell, tower, and all complete—and just beside it the fine old ruins of the wrecked church.

At last we reached the Taormina station, but not the town itself, for that is perched up on a precipice 700 feet high, and reached by a zig-zag carriage road three miles long.

Poets and artists have raved about Taormina, about its color and beauty and loveliness, but all I can say at present is that the sky is dull gray, the "beautiful blue Mediterranean," a dull, dismal, slate color, and the hotel so cold that I feel, as someone said, "as if all the ices I had ever eaten were sitting on my back-bone."

And this is "Sunny Sicily"—without the sun. In my next, I'll tell you about Taormina.

Hope's Quiet Hour.

Song of the Sparrow.

I'm only a little sparrow,
A bird of low degree;
My life is of little value,
But the dear Lord cares for me.
He gives me a coat of feathers—
It is very plain, I know;
Without a speck of crimson;
For it was not made for show.
But it keeps me warm in winter,
And it shields me from the rain;
Were it bordered with gold or purple,
Perhaps it would make me vain.
And now that the springtime cometh,
I will build me a little nest,
With many a chirp of pleasure—
In the spot I like the best.
I have no barn nor storehouse,
I neither sow nor reap;
GOD gives me a sparrow's portion,
And never a seed to keep.
If my meat is sometimes scanty,
Close pecking makes it sweet;
I have always enough to feed me,
And life is more than meat.
I know there are many sparrows—
All over the world they are found;
But our Heavenly Father knoweth
When one of us falls to the ground.
Though small we are never forgotten,
Though weak we are never afraid;
For we know that the dear Lord keepeth
The life of the creatures He made.
I fly through the thickest forest,
I alight on many a spray;
I have no chart or compass,
But I never lose my way.
I just fold my wings at nightfall,
Wherever I happen to be,
For the Father is always watching,
And no harm can happen to me.
I am only a little sparrow,
A bird of low degree;
But I know that the Father loves me—
DOST THOU KNOW HIS LOVE FOR
THEE?

Not Forgotten.

Are not five sparrows sold for two farthings, and not one of them is forgotten before God? But even the very hairs of your head are all numbered. Fear not therefore: Ye are of more value than many sparrows.—S. Luke xii.: 6, 7.

I find as I grow older that when the troubles of life press heavily, and I want something to make me glad, my heart turns instinctively to the tender messages which our Father has sent us by our Elder Brother. There are so many great things happening, matters of world-wide interest, that we feel almost ashamed to interrupt the King of kings with our trifling concerns. Unless He had invited us to tell Him everything, we should never have imagined that He cared. But He has told us that not even a sparrow is forgotten by the Father, and that nothing can possibly interest one of His children without receiving His full attention. He is far more interested in our affairs than we are ourselves, for He says: "Even the very hairs of your head are all numbered."

Our Great High Priest, Who ever liveth to make intercession for us, is touched with the feeling of our infirmities. He has tasted the joys and the sorrows of human life, and has not forgotten. His sympathy is real and deep. It is not the easy pity of a far-off God, but the fellow-feeling of One near of kin to us, Who is—even now—feeling everything that touches us.

Last week a brave and patient woman said to me: "I have great pain nearly all the time, but HE suffered far more."



Gardens, Taormina.

Growing Old Gracefully.

(By Robroy.)

To-day we are always talking of ideals. What is the highest ideal that any man or woman can have? To join in the vulgar scramble for money, for political power, or social position? These all taste at last like Dead Sea Apples.

But the art of growing old gracefully, is not only one that will tax the best in any person, but is one that will be an inspiration and delight to the locality in which a person lives. What so beautiful as a woman, white-haired, but bright-eyed, sweet, tender, and true? What more inspiring than an old man, who has fought the battle of life among men, but is without bitterness, who is strong, but has never forgotten to be tender? Think of how few of the old people you know are growing old gracefully, then make a mighty resolve to be one of them.

finally had to, because the air got so sickening, and the loud talking of the Neapolitans so irritating, we retreated to the corridor for fresh air, but fortunately some people in the compartment with the window got off and we secured their places. It was a long, tiresome night. We tried hard to sleep, but a perpendicular attitude in a joggley train is not conducive to restful slumber, although the Italian couple that shared the compartment with us seemed to find it comfortable enough. How I envied them! It didn't seem to make the slightest difference to them at what perilous angle their heads tilted over, or whether their muscles relaxed at the waist or not. They snoozed quietly through everything. I had purchased a soft-looking (?) white pillow at the station before leaving, on which to rest my weary head during the night, but I think it was stuffed with crushed stone, and it was about as pliable as a stick of firewood. After skinning my ears with it

His sympathy—the sympathy of one who has suffered—is her greatest comfort, and keeps her from complaining.

In Old London, some years ago, the City Council was asked to pay the men who worked in the sewers a minimum wage of thirty shillings a week. One of the members of the Council—a prominent philanthropist—opposed the resolution, on the ground that the men were already receiving the usual pay for such work. "Have you ever been down a sewer?" asked the Labor leader. When he said, laughingly, that he had not, he received an invitation to go down into the sewers and see for himself what it was like. He accepted, and went through a manhole in Russell Square, guided by a sewerman. They waded through horrible filth, varied by an unexpected rush of water occasionally. They struck out with their sticks at innumerable rats. They moved painfully, stooping their heads, and sometimes got wedged fast in one of the four-foot-six drains. After an hour's wading, they came out through a manhole in Clerkenwell.

"Well," said the Labor leader, "is it worth thirty shillings a week?"

"I wouldn't do it for thirty pounds a week!" gasped the other. He supported the resolution with all his might.

Ever God could not enter perfectly into our human joys and sorrows unless He had lived as Man on the earth.

The Bible tells us the wonderful story—too wonderful to have been invented—which satisfies our ideals and our hearts. Can anyone imagine a more perfect way of entering into uplifting fellowship with us? Those who disbelieve the Gospels must either believe that this marvellous universe came together without a Mind to direct it, and upholds itself blindly, yet intelligently, or they must believe that God exists, yet has not done the grandest, highest thing we—His creatures—can conceive of. God must be what we should like to be. Our ideals cannot possibly flow from a spring beneath them. We look confidently for perfection in God, and can never rest except on Infinite Love.

"Oh, Thou, above all blessing blest,
O'er thanks exalted far,
Thy very greatness is a rest
To weaklings as we are;
For when we feel the praise of Thee,
A task beyond our powers,
We say, 'A perfect GOD is He,
And He is fully ours.'"

God's people are so near to Him that the prophet was able to say: "He that toucheth you toucheth the apple of His eye." We know how sensitive the eye is to the tiniest speck of dust. So everything that touches us is instantly felt by God. We know how constantly the eye is being cleansed by water from the tear duct. It has been remarked that men who come up from the coal mines are dirty all over—except the eyeball. The dust is never allowed to stay on that, but is constantly being washed off. So our Master still comes to each of His disciples to wash away the dust of everyday sins—if we will let Him. No sin of ours is too small to hurt our Lord.

When anything touches the apple of our eye we are instantly conscious of it, so when anything touches one of us, the touch thrills instantly to the Heart of the Living JESUS. When we are unkind to one of the least of His brethren, we are striking at Him. When we put out a hand to help another, we find our hand clasped warmly in His.

I wish "A Country Woman" could have seen the face of the poor mother who received her kindly gift. She has four children, and her husband has not been able to work for some time. The little lift gave her fresh courage. She could trust God's love better when she saw its reflection in practical human sympathy.

The sparrow is not forgotten by our Father. If we are to be His children in deed, as well as in name, we must not forget to be kind to His other children. If He cares for the birds and the flowers, what right have we to think anyone or anything in our Father's house is uninteresting or unimportant?

A man was once asked by a friend to go on a trip with him, and see the beauties of Rome and Venice. He wrote in reply: "I ought to go with you to Rome, but my difficulty is to appreciate my own little back garden, our copper beech, our weeping ash, our little nailed-

up rose tree and climbing creepers. My difficulty is to get all out of that. I think when I have finished with the back garden I will go as far as Rome."

Can any of us exhaust the interesting and beautiful sights around us? Someone told me a few days ago that some sparrows had built a nest and started a family in this winter weather. Who but God can enter into the joy and anxiety, the romance and sorrow of a little bird's warm heart? Sparrows are not to Him only a flock of little birds, all exactly alike. He knows them one by one, and has a special love for each. "Dost thou know His Love for thee?"

DORA FARNCOMB.

The Roundabout Club

Results---Study III.

[Subject: If you were compelled to spend a year on an island, and were allowed but one book (exclusive of the Bible), what book would you choose?] Talk about the worry and confusion of mind induced in the solving of the problem, "How old is Anne?" (For, you, O Madame Crusoë, is this simile especially concocted, as will appear later.) Talk about the desperation brought upon the poor, unoffending students of the Roundabout Club by propounding the question, "If you were compelled to live

add to the world's happiness by bringing forth its smiles?"

Finally, however, the marking was accomplished, and the results tabulated as follows:

Prize-winners:—"Rue," Welland Co., Ont.; "Sherard McLeay," Perth Co., Ont.; "Rura," Halton Co., Ont.; "A Friend," Prince Edward Co., Ont.; "Taps," Wentworth Co., Ont.; "Bernice," Bruce Co., Ont.; "Madame Crusoë," Lambton Co., Ont.; "Marion Belle," Middlesex Co., Ont.; and "Wester," Essex Co., Ont.

Honor Roll:—"H. M. P.," Montreal; "Solitude," Essex Co., Ont.; "Rosalind," Middlesex Co., Ont.; "Grit," Grey Co., Ont.; "Enoch Arden," Grey Co., Ont.; "Lindsay," Halton Co., Ont.

Some of the prize essays will appear as soon as possible.

A New Competition.

STUDY IV.

(The last for this season.)

There are two private schools, one in Philadelphia, the other in Buffalo, which hold, annually, an examination whose aim is to test for general intelligence rather than mere diligence. The examinations are given without warning, and there is no especial preparation for them. "Class-work, book-reading, newspaper reading, home conversation, individual interests, curiosity and retentiveness of the mind; these are all



Street Scene, Taormina.

upon an island for a year, and were allowed but one book (exclusive of the Bible) what book would you choose?" Neither could be compared with the difficulties encountered by the judges in setting the awards in Study No. III. So many minds, so many books, so many ways of taking up the subject—and not a single quite unworthy essay received! Some of the students, it will be noted as the essays appear, approached the question from a deeply serious standpoint, and gave good advice and sensible reasons for their choice of this book of books; others, on the contrary, seized upon the opportunity for a playful attitude so well afforded by the subject. There was merit in both treatments, merit in being able to distinguish a good book and give reasons therefor, merit in having the originality to see where the humorous could be fittingly enlisted, and merit again, in being able to write humorously. It is a rare gift, this last, and who is there who is not willing to give honor to the man or woman who can

tested." Recently a list of the questions placed before the students in one of the schools was published in that very excellent magazine, The Independent, with the following query appended: "How many of these questions can be answered without recourse to the encyclopaedia by your pupils, by your sons and daughters, or even, dear reader, by yourself?"

The whole idea, in short, recommended itself as an appropriate exercise for our Literary Society. All such examinations must be, to some extent, a self-revelation, and in this lies the merit; self-revelation is very likely to lead to inspiration. We have adopted most of the questions as given, substituting only where those given were of interest to citizens of the United States only, and we leave it to your honor, students, to take up this self-test in the spirit in which it was instituted, making neither investigation nor inquiry, precisely as though you were in an examination hall.

Since, then, time, in this case, is not

required, kindly send your papers so that they may arrive at this office not later than ten days after the date upon which this paper is issued.

1. Name three of the political parties in the last United States election.
2. Name the political parties of Canada.
3. Of Great Britain.
4. Name the Presidents of Mexico, China and France.
5. Name the President of Toronto University.
6. Designate the chief allies in the war against Turkey.
7. Mention some event of recent or current interest associated with each of the following: Sun Yat Sen, Jahn Addams, Nogi, Adrianople, Amundsen, Alexis Carrel, R. N. Scott.
8. What is an artery? What is a vein?
9. What are the emergency directions for a severed vein? For a severed artery?
10. What is the normal temperature of the body?
11. What is a meridian? A parallel of latitude?
12. Explain these abbreviations: R. F. D.; C. O. D.; F. O. B.; R. S. V. P.
13. How many leaves to a stem, or group, has the poison ivy? The Virginia Creeper?
- 14.—Give an example of a powerful alkali.
15. Strong ammonia when spilled on green cloth usually creates a red spot. If you rub vinegar on this the color is restored. Why?
16. What State mines the most coal? Name a noted coal-district in the Canadian Northwest.
17. Name a peculiarity of the River St. John, N. B.
18. What is meant by a baritone voice?
19. What is the meaning of the word "Gospel"?
20. Who said, "Whither thou goest I will go; and where thou lodgest I will lodge"?
21. Who were: Alexander the Great, Caesar, Hannibal?
22. Who defended Thermopylae against the Persians?
23. Who were: Michael Angelo, Galileo, Robert Bruce, Jenner, Beethoven, Watt, Rembrandt, Bismarck, Florence Nightingale, Tolstoi, Cervantes, Gutenberg, Sir Isaac Newton, Schiller, Richelieu, Darwin, Jenny Lind, Cecil Rhodes.
24. Who was the chief engineer of the Panama Canal? Who the Sanitary officer?
25. Who painted Mona Lisa? Name an interesting occurrence in connection with that picture?
26. Name a work by each of these authors: Milton, Scott, Goldsmith, Burns, Hawthorne, Dickens, Tennyson, Stevenson.
27. Who wrote (a) "All the world's a stage, And all the men and women merely players."? (b) "God's in His Heaven, All's right with the world."?
28. Quote a verse from the sermon on the Mount.
29. Name two of the leading high-yielding varieties of the following cereals, roots and tubers:—wheat (winter and spring), barley, oats, peas, corn (dent and flint), mangels, turnips (fall and swedes), sugar beets, carrots, potatoes (early and late).
30. From the large list of apples grown in this country, what six would you select for domestic and commercial trade?
31. What has "mixed farming" to commend it over "specialized farming," and vice versa?
32. What is the average production of wheat per acre in Canada, and how does it compare with that of the United States and Great Britain?
33. What size (length and width) should stalls be for mature horses and cattle, the former to be considered as draft work horses, and the latter good sized dairy or beef cows?
34. How many square feet of space per hen is necessary in housing hens of the meat or general-purpose breeds, and hens of the Mediterranean or non-sitting breeds?
35. Name three of the best known breeds of heavy-draft horses, beef cattle, dairy cattle, short-wooled sheep, long-wooled sheep, and bacon hogs, in Canada, and give a short history of the origin of each breed.

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Styles for Spring and Summer.

With the coming of March, the words of the poet may be realized, "In the spring a young man's fancy lightly turns to thoughts of love;" but just as surely, with the swelling of the leaf-buds and tinting of the catkins, do the thoughts of the young woman, turn, and not too lightly sometimes, to—yess, the fashions. Very prosaic that sounds, and yet, what is one to do? Ruefully turning



7686 Semi-Princess Dress for Misses and Small Women, 16 and 18 years.
7633 Cutaway or Straight Coat for Misses and Small Women, 16 and 18 years.

over last summer's wardrobe, not a thing seems available for "best." Something, therefore, must be bought, and in these days of high prices it is necessary to consider well and wisely what the choice shall be. If dollars grew on bushes, this would not be necessary; one could then buy any pretty thing that chanced to take her fancy. But dollars do not grow on bushes, so, for the great majority of us, the necessity arises to fix upon the garments that will wear well, that will be suitable to our circumstances and the "occasions" that may arise, and, last of all, those of which we will not tire.

A woman must be clad appropriately to the occasion, that goes without saying, therefore the first question should be, "What shall I need most?"

Take it for granted, then, that, nine times out of ten, when I go "out," my trips are church, and business trips—shopping, banking, etc.—with an occasional call thrown in. Shall my first investment, then, be a fancy silk dress and a hat with plumes? The veriest tyro in dressing must recognize that this would be foolish, and that my chief concern should be to make sure of one of two "outfits" (both, if my purse, which is "trash" (?) will stand it). (1) A neat and well-made suit. (2) A neat, serviceable, one-piece dress, and a long coat.

There is something to be said in favor of each of these. The suit, consisting of short coat and skirt, is trim, comfortable, and, unquestionably, "stylish." One can go to church in a suit, shop in a suit, or make an afternoon call in a suit, and feel quite appropriately dressed all the time. But there are three objections. In the first place, the skirt is likely to wear out sooner than the coat; in the second, the coat seldom looks well with any other skirt than the one made for it; and in the third, the suit, in these luxurious days, has become almost useless so far as evening wear—parties, etc.—is concerned.

The long coat, on the other hand, seldom looks as trim as the suit, but it has a host of recommendations. If plain, it, also, is quite suitable for ordinary wear, while it may be made to take the place, very nicely, of the recognized evening cloak or coat, especially in a country district where the opera does not figure. It may also be worn over any dress, and so may be made to yield its money's worth. Assuredly, if there must be choice, she who must count her pennies, will decide upon the one-piece dress and the long coat, rather than the two-piece suit.

This settled, the question as to what else will be needed may be considered. In passing, it seems clear that most

women and girls will need: (1) Two or more rather plain, thin-goods dresses, for hot-weather wear, or at least a light-weight skirt and two or three cotton or linen blouses, and (2)—in preparation for parties, possible weddings, etc.—one fancy dress of silk, or thin material.

MATERIALS FOR SPRING AND SUMMER.

A fine choice of materials is already appearing in the shops. For spring and fairly cold-weather wear in suits, the ever-popular all-wool serge, perhaps heads the list, but all-wool whipcords, Panama cloth, vicuna cloth, and heather mixtures, are also shown, besides diagonal suitings, and striped materials. For the cotton summer suit, which many choose, depending upon a long coat for spring and fall wear, there is a fine variety. Cashmere-finished duck suiting, Irish linen pongee suiting, kindergarten suiting, galatea, cotton rep, pique, crash and ratine, are all "good," and will give excellent satisfaction for wearing on coolish summer days, when a woollen suit or coat would be too warm.

For one-piece dresses, the choice is simply legion, and the best way to decide is, after having fixed upon the most becoming color, to go into the stores and just explore. There are thin woollen materials for cool-day wear; pongees and rajahs for serviceable silk gowns, and taffetas, charmeuse and paillette silks for more dressy ones; linens, challies, cotton crepes, percales, cotton voiles, muslins, dimities, checked zephyr ginghams, etc., ad infinitum,—surely enough to cover all possible occasions, formal and informal.

All colors are, of course, shown, but it is said that browns in all the soft tones of tan, bronze, and "tobacco," will enjoy a popularity unknown for long enough. Following out the same note, yellow, for a dash of color, will be popular in millinery.

THE "STYLES."

There is no startling difference in the patterns shown for spring and summer. Sleeves will still be small, and skirts tight, although, in thin materials, overskirts and paniers will give the fullness



DESIGN BY MAY MANTON.
7670 Fancy Blouse with Vest,
34 to 42 bust.
7671 Two-Piece Skirt,
22 to 30 waist.

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suitable to such textiles. The fashion magazines talk about a return to the natural waist line, yet the illustrated designs continue to show, almost exclusively, the high line, lowered just a little from that of last year's designs. Suit-coats will be short, and three-quarter length separate coats will be popular, although they can never fill the place of the handy long coat.

THE HATS.

"Made" hats, say the milliners, will be very popular, and many of them will have soft "melon," or "Tam" crowns. The lines, in large hats, will be, for the most part, lengthwise, with a notable extension behind. Very little of the trimming will stand up; most of it will sweep gracefully toward the back.

It is gratifying to know, however, that such a variety of shapes will be shown, that there will be little difficulty in suiting all faces,—and that, after all, is the chief thing, is it not?

Just one point more: When trying on hats, ask to be taken, if possible, before a full-length mirror, so that you can see the whole effect. You have no idea what a difference it makes. Through neglect of this rule, behold the sights one sees, and the awful smiles that pop into one's mind,—the very short girl in the very large hat, who suggests nothing but a mushroom; the narrow, high-crowned hat that makes the "six-footer" look like a telegraph pole; the "helmet" shape, that makes the woman of commanding appearance look like a general; and the wee little hat on the very large, florid woman,—a pea on a pumpkin.

Choose your hat for yourself, and don't be influenced by the "perfectly lovely" of the shop-girl. She may be expressing an honest opinion, or, again, she may not. She may have learned all that ecstasy by rote, and, in nine cases out of ten, may be working it off on you quite without conscience.

Home Millinery.

(By L. H. Holmes.)

Have you thought that it will soon be time for straw hats? Easter comes early this year, and, of course, Easter always brings spring millinery.

In these days of high prices, I feel very thankful I can make my own hats, and I often wonder why more girls do

not try. It is not necessarily a sign of poverty, as I know many well-to-do women who do their own hat-trimming. Just lately I heard a lady (who has all the comforts of life and many luxuries) remark that she trims all her hats, as she does not like to pay the prices asked nowadays.

It is a little early to say just what the spring styles will be, but they are sure to be very much like those of the past season.

It seems to me the first thing to think about is what is most becoming—style comes second—and surely no one knows better than yourself what you can wear.



7631 Blouse with Robespierre Collar 34 to 42 bust.

7643 Semi-Princess Dress for Misses and Small Women, 16 and 18 years.

Suppose, then, you try to make your own hat this spring.

I hope you have a junk-box—I mean an old trunk, box, or drawer—full of odds and ends of ribbon, lace, velvet, straw, flowers, feathers, buckles, in fact, anything which has ever belonged to a hat. You have no idea how much can be done with these cast-offs.

Of course, straw hats are made on wire frames (except the factory-made ones). I have not the space to tell you at present how to make wire frames, but they can usually be obtained at the milliner's, and are very cheap.

Rip up an old straw hat and see how the straw is sewed on. There is nothing easier in millinery than sewing straw. Simply start at the outside and go around and around; the stitches do not need to be invisible. Perhaps you have an old hat which would do if the crown were higher or lower, and the color not so faded. Rip off the crown, and if too low, sew a piece of buckram, or something stiff, to the bottom, and replace on hat. The buckram can be covered by the trimming. If the crown is too high, it is very easy to cut some off the bottom.

Hat dyes can be procured at any drug store, and I know positively, hats can be made to look like new by using these dyes.

You may have some old velvet or velvet ribbon which would be just the thing if fixed up.

Place a hot iron upside down on table, put a wet cloth over iron, then place the wrong side of the velvet on the wet cloth and brush the velvet side with a whisk. The steam comes through and removes all wrinkles, making the velvet look like new. Panne velvet must be brushed just one way.

Do you know that the crown of a large hat will sometimes make a cute small hat if trimmed well? The trimming should be high, and a fold of silk or velvet will look well on the bottom. To put on a fold nicely is one of the fine arts of millinery.

Cut your material the width you want it, on the bias; measure tight around hat; first sew ends together; then stitch fold on the hat, turn in edges, pin here and there, and sew very carefully, first on one side and then on the other. Not a stitch must be seen. This becomes easy with a little practice.

If you watch the papers and magazines, you will get ideas for making pretty rosettes. In fact, there is no end to the things one can do with bits of ribbon.

Always curl ostrich plumes with a dull knife; scissors are too sharp, and, unless your plumes are especially nice, I would



DESIGN BY MAY MANTON.

7635 Fancy Blouse with Robespierre Collar, 34 to 40 bust.

7477 Four-Piece Envelope Skirt, 22 to 30 waist.

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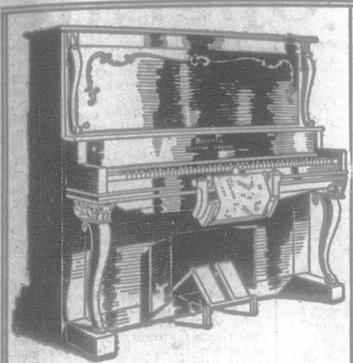
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FRANCIS AUTO SCHOOL, 60 T. Beaver St., New York, N. Y.

not advise you to put them on a hat, as old or poor feathers make a hat look dowdy—a nice bow of ribbon is in better taste. Good style does not depend upon a large amount of trimming. The prettiest hats are usually very plainly trimmed.

Now, to do anything well, one should have the proper "tools" to work with. Millinery needles, which are very long, are necessary; a pair of millinery pinners are needed for cutting wire; wire, too, is good to have on hand, to make bows stand up, or to wire a limp hat.

I am sure, if you will only try, you will be surprised to see the amount of

just right (unless the pattern is a very poor one, which is seldom the case).

Mark and cut all the notches. Be particular about this, as the notches are a splendid guide in making.

After you have cut out the article, match the notches, baste, and try on. If it fits properly, you can then sew it by machine; then, try it on again to be sure it is right, and right here let me give you a good motto for sewing, "Never weary of fitting or ripping." Rip, rip, rip! if necessary, and do not give up until it fits exactly. I always have my doubts about a dress when I hear a woman say she made it without trying it on. It is not well to be in a hurry.

Press all the seams well. One cannot be too particular about pressing; and be very careful to have the skirt even around the bottom. This may be managed very well at home by using a ruler or bit of straight stick notched to the right height, and measuring upward from the floor. Of course, you may need to get someone else to do this. I have heard of the following plan, if no one to help is available. Rub chalk thickly all along the edge of a table. Put on the skirt, then turn round and round, pressing against the chalked table edge. This will leave a mark on the material, and all that remains is to measure downward evenly with a tape-line. You see, the patterns are made quite symmetrical, but very few people are symmetrical. Nearly every one is larger on one side than on the other. The unevenness occurs about the hips, above the chalk-mark on the table, hence the value of this plan of measuring. The plan of measuring from the floor is, however, safer, if one can possibly get someone to give assistance.

You may find it difficult to fit yourself, but, like everything else, it requires experience, and there is nothing like trying.



7605 Stralce Blouse with Robespierre Collar 34 to 42 bust.
7675 Two-Piece Skirt for Misses and Small Women, 16 and 18 years.

talent you possess; and I am also sure you will have good reason to be very proud of your first nat.

Home Sewing.

(By L. H. Holmes.)

A few generations ago, almost every woman had to do all her own sewing, in fact, all the sewing for the whole family, and had to do it all by hand, too. Nowadays, when we have sewing-machines and patterns, there seems little excuse for a woman who cannot make at least a few simple things for herself; and it is comparatively easy if one will just have patience and perseverance to try, try again; for one can learn by one's mistakes and failures to be more careful next time.

I am glad to see narrow skirts are still in vogue. I am very fond of narrow skirts (I do not mean tight skirts), they are so neat looking, and, above all, so easy to make. I almost shudder when I think of the plaited skirts of a few years ago, which required a genius to construct. The styles at present are nearly all plain and sensible, and it seems to me that just now is a splendid time to learn to make one's own clothes. The cost of having a dress made is often far more than the price of the material. Hence, one could have twice the quantity of clothes if she would just try to make them.

Some women have dresses of beautiful material laid away because they are out of style, or because they are heir-looms. I cannot see why they do not get to work and make them over. What is the sense of letting things decay which could be of use.

I am going to give you a few little hints that may help you in your sewing. First of all, never try to make anything without a pattern; and above all things, when you buy a pattern, be sure to get it large enough; few people are built exactly in proportion, and it is very distressing to find a garment too short or too small in some particular, while, you know, it is so easy to take in seams a little if it is too large. For example, if your bust measure is 38, buy a size 40 waist pattern.

When you are going to cut anything, have a piece of chalk handy, plenty of pins, and a tape-line. Full instructions for cutting are always given on every pattern.

After pinning the pattern on material, I usually draw a line all around the pattern with pencil or chalk, so that if it slips or pulls while I am cutting, I can safely follow the line. Cut close to the pattern, and if you have the correct size you can allow nice large seams. Another thing, if you cut a skirt exactly like the pattern, you will have no zig-zagging around the bottom; it will hang



DESIGN BY MAY MANTON.

7677 Fancy Waist, 34 to 40 bust.

7678 Three-Piece Draped Skirt, 22 to 30 waist.

THIS WASHER MUST PAY FOR ITSELF.

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right," but pay me first, and I'll give you back your money if the horse isn't all right.

Well, I didn't like that. I was afraid the horse was "all right" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now, this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in Six Minutes. I know no other machine ever invented can do that, without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it don't wear the clothes, fray the edges, nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 25 to 75 cents a week over that in washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 50 cents a week, send me 50 cents a week 'till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer, that washes clothes in six minutes.

Address me personally:
B. B. MORRIS, Manager 1900 Washer Co., 257 Yonge St., Toronto, Can.

A WIFE WANTED

to have a beautiful, clear complexion, free from blemishes. She consulted us and we gave her candid advice upon which she acted. Her husband writes now that his wife is so much prettier that he is also going in for improvement.

A GOOD COMPLEXION

may be yours if you will give us the same confidence. We cure Pimples, Blisters, Eczema, Wrinkles and Discolorations. Our Electrolysis treatment is the only sure one for removing Superfluous Hair, whether on the face, neck, hands or arms. Twenty years' experience. Consultation invited personally or by mail. Booklet "F" and sample Toilet Cream on request.

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DERMATOLOGICAL INSTITUTE
61 College St., Toronto

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Bear the script name of Stewart Hartshorn on label. Get "Improved," no tacks required.

Wood Rollers Tin Rollers

Seed Corn for Sale High germination test white cap yellow dent, grown on our own farm. **TISDELLE BROS., Tilbury, Ont. Essex County.**

After using patterns a few times they become easy to understand. Carefulness, neatness, exactness, and an abundance of patience, are needed in dressmaking. Begin on something simple, and keep on trying, even if you do spoil the first. You will soon have "nerve" enough to tackle anything—even a coat, or an evening gown!

Home Dressmaking Help.

Many women in the cities are now making their own clothes, suits, coats, and all, by the help of adjustable fitting forms. For further information about these most valuable dressmaking aids, see the advertisement of the Hall-Borchert Dress Form Co. (156 N. Bay St., Toronto), elsewhere in this issue.



DESIGN BY MAY MANTON.
1679 Semi-Princesse Dress for Misses and Small Women, 16 and 18 years.

A Canadian Winter Idyll.

(By Rupert Mar.)

Round me my cattle crowd,
At the well drinking;
Slowly the daylight fades,
And I stand—thinking.

Sharp the red fox's bark
Breaks through the brush;
Mournful, the lonely coon
Wails in the bush.

Loud crack the freezing trees,
Their volleys telling;
Steele is the frost-king's grip,
Iron-willed—compelling.

Deep the sun's ruddy glow,
This bleak December;
Crimsons the spotless snow
With dazzling splendor.

Clear rings the singer's voice,
Chanting his lay;
Far, o'er the snowy waste,
Dying away—

When—on some future eve—
In bleak December,
Low lies the singer's head,
Deep in his frozen bed,
With the bright stars over head,
—Who will remember?

The Ingle Nook.

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

Dear Ingle Nook Friends,—Have you made any of the new crash fancy-work yet? Last week a friend and I made a call in a very dainty and very up-to-date house. As the house and furnishings were both "new," we were shown all the rooms and everything in them, and so, under the circumstances, were privileged to examine and praise and comment all we liked. In the living-room, where the walls were buff, and the rug an oriental mixture of brown, olive-green and old blue, were two crash cushion-covers, and a table-runner embroidered in golden-brown and olive, outlined with black. In one of the bedrooms were a dresser-cover and a table-cover of the same material, the embroidery this time being in varying shades of blue to match the color-tone of the room, in which the walls were of a linen shade, the rug dark blue, the curtains blue-printed scrim. The embroidery, of course, was all done in the "raised," over-and-over stitch that everyone knows how to do; the designs were conventionalized—not floral; and the thread used was mercerized embroidery cotton. We thought it very pretty, and resolved to do some ourselves in the near future. Such serviceable fancy-work appeals ever so much more than the old, useless, "airy-fairy" articles of satin and lace, and is, in addition, very much less expensive.

Some weeks ago, in speaking of the Women's Institute Convention, held in Toronto, I remarked having overheard a delegate from a newly-organized branch say, that "one would think the Women's Institute was a work of the devil himself," if one were to judge from the opposition it had aroused in her neighborhood.

The observation made me smile, for I had heard of the same condition in so many other newly-organized districts. A certain number of people (but not, surely, in your neighborhood, O, reader) are, it seems, so filled with conservatism, so enamored of all that is old-fashioned and non-progressive, so afraid of anything new or different, that they must needs rise in arms and say bitter things about anything that savors of change. And so, when the Women's Institute makes its appearance, all the women who feel that they already know everything that is worth knowing, stand loftily aloof and criticize, and all the stand-patters among the men jump to the conclusion that this awful new association may entice their wives away from "the home." They see visions of neglected children, and fires gone out, and supperless tables, and imagine all the women rushing wildly around from meeting to meeting, and haranguing in the most unwomanly manner from platforms, and so they cry, "Down with the Institute!"

Well, all this is not, perhaps, to be wondered at. There never was a reform brought forward in the world yet that did not arouse opposition or bring down censure from some quarter. There never yet was an inventor who sought to bring anything new into the world, no matter how useful the invention promised to be, who was not at first voted a fool or a crank, at least, by the element that believes in no-change. When Lillenthal went hurtling down the Alpine ravines in his glide-machine, he was thought to be crazy, yet now the flying-machine is an established fact; when Dr. Faust invented his printing apparatus, he was held to be in league with the devil; there were those who scoffed at Sir Isaac Newton, and Watts, and Ruskin, and Morris, and Darwin, and Graham-Bell. Nor can we fail to remember the furious opposition which heralded the passing of the various Reform Bills in Great Britain, the fight which was the price of responsible government here in Canada, and which is the price of "local option" to-day; the toll of blood that has been shed to secure liberty of conscience and security of life and property

Easy To Operate



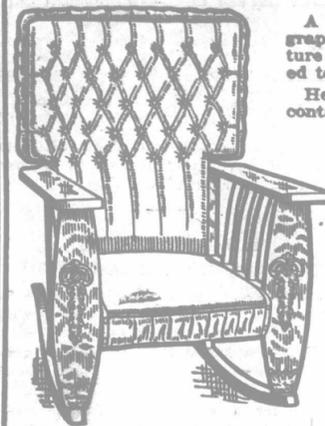
Ease in operation is one of the strong features of the "One Minute" Washer. The secret of this ease lies in the fly-wheel, under the tub, which runs on ball bearings. You push the handle one way and the fly-wheel forces it back to you. The Clothes Agitator inside of the tub throws the clothes against the corrugated sides and bottom (the washboard) twice as often as any other machine, forcing the water through the clothes often, and therefore does the washing in half the time required by all other machines.

A few features of the "One Minute": 1. Washes clothes quicker and better than any other machine. 2. Runs on ball bearings, therefore easy to operate. 3. It is built of Southern Cypress, the wood which does not decay. 4. It is not necessary for you to stand up. You can run the same sitting down as shown in illustration. 5. The lid of the "One Minute" is double and fits tight, keeping all the steam in the machine. 6. Your dealer will guarantee the "One Minute".

There are a number of other features about our machine that we wish to tell you about, so drop a card to-day for full information. We will also send you some of our unsolicited testimonials.

Address: THE "ONE MINUTE" MFG. CO., 74 Logan Ave., TORONTO, ONT.

WRITE FOR CATALOGUE 7



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Here is one example of what Catalogue contains:—

This Cosy \$6.95
Rocker only

A splendid rocker, exactly as illustrated, has solid oak frame with nice carvings on front posts, comfortable deep spring seat, and with buttoned back, coverings of best grade imitation leather. Well worth \$10.00. Order to-day.

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\$5,000,000.00 FOR PEERLESS WAY POULTRYMEN

Into the pockets of the users of The Peerless Way last year went five million dollars made from the poultry these people raised. Yet chickens are scarce in Canada and eggs are the scarcest of all food commodities. That is positively the fact.

To-day there are not enough Canadian CHICKENS or EGGS to go around. Thousands of chickens and hundreds of thousands of dozens of eggs are being shipped into Canada from the United States and other countries to help meet the demand.

Yet there is a shortage! Eggs are commanding a tremendous price—chickens are worth dollars.

Now is the time to take advantage of this situation and make money out of it yourself. You can raise and sell 600 chickens this next year, and you will find a quick and sure market for every one of them. You can get the top notch price for all the hundreds of dozens of eggs that your poultry lay.

Let us tell you how!

Poultry raising is the best business for any farmer, any farmer's wife or farmer's child. The poultry crop is the one crop that never fails. It pays better for the time and money invested; the profit is surest; it isn't overcrowded and never will be.

Our book "When Poultry Pays," will show you. Let us send it to you. It is interesting; it is instructive, and it contains the proof.

You need this book. It will be mailed free. A post card will bring it.

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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, sogginess.

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

In almost every country in the world. Can such a moderate reform, then, as that striven for by the Women's Institute, hope to escape without its share of criticism and censure?

Let the women, however, who belong to these new and struggling branches, take courage in knowing the fact that, in those localities in which it has held its place for some years, the Women's Institute is steadily living down the taunts launched against it. Like Goldsmith's good clergyman, whose influence was such that "those who came to scoff remained to pray," the Institute has been making converts. The men have been finding out that the women who belong do not spend "all their time," or any objectionable portion of it, running around to meetings. They are finding out that their wives are no more bossy nor bumptious than before, but that, on the contrary, they are being provided with new interests and new topics of conversation decidedly more interesting and more profitable than the old neighborhood gossip. They are even finding that sundry new dishes of delectable flavor, "Women's Institute dishes," are beginning to appear on the table, and that new and very salutary ideas are beginning to creep into the general housekeeping. And so, in some localities, these one-time-kicking men have thrown their prejudices to the winds, have heartily embraced the Women's Institute (understand, oh ye literalists, that I speak figuratively!) and have had, at intervals, the fun of union Women's Institute and Farmers' Club meetings and banquets.

Perhaps the opposing women have held off a little longer—women usually do, you know—but even some of them have begun to feel a little "out of it," to realize that, after all, there may be something "in" the Institute, and that it is very foolish to keep out of any

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For the City Residence

For the Country Home

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Remember, we are largest buyers on wire market: our price is 20 per cent of any other manufacturer. We employ no agents nor jobbers, but sell direct to the consumer for cash, saving you the dealer's commission, and heavy expenses incident to a credit business. We have just published a catalogue. It tells of the greatest fence offer ever made. You owe it to yourself to read this great REGAL offer. Use the blank form herewith and mail to us today and we will forward to you our special offer at once.

one of the the Canadian buying price lower than that manufacturer. We employ no agents nor jobbers, but sell direct to the consumer for cash, saving you the dealer's commission, and heavy expenses incident to a credit business. We have just published a catalogue. It tells of the greatest fence offer ever made. You owe it to yourself to read this great REGAL offer. Use the blank form herewith and mail to us today and we will forward to you our special offer at once.

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Consistently the highest quality material and service of your REGAL FENCE. Send for our catalogue without expense to you. Terms Cash.

Every foot of Regal WE GUARANTEE. If you are not satisfied, we will refund your money. We will also refund your money if you are not satisfied with the quality of the material or the service of our agents. We will also refund your money if you are not satisfied with the quality of the material or the service of our agents. We will also refund your money if you are not satisfied with the quality of the material or the service of our agents.

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BEST RESULTS ARE OBTAINED FROM ADS. IN "ADVOCATE."

good thing out of sheer stiff-neckedness. So, even the stand-patter women are coming in, and are receiving a hearty welcome. If the Women's Institute stands for anything, it stands for breadth of mind, for reaching out to broader and better things, and for lack of silly conceit, and so its members are glad to receive these women, understanding fully that it is laudable for any woman to change her mind if she changes it for the better.

Now, I know that I am talking to stand-patters as well as to progressives in regard to this matter. To you, stand-patter, I would say, Don't feel "ugly" at the Women's Institute. It stands for good, not for evil. Regard it, at least, with an open mind, and, some day, when you feel a bit warm to it, throw your prejudices to the winds, go to one of the members, and say, "See here, I'm going to join that Institute of yours, if you'll let me."—and see how pleased she will be.

To you who are members, I would say, as one who has had an opportunity of observing many Institutes, try to have every meeting educative, at least for part of the programme; try to keep a real fire of friendliness and sympathy burning brightly among the members; if you have any predisposition to show off or "boss" in your nature, kill it, as you would a serpent, remembering that service and usefulness are the greatest things in a human life,—for nothing will wreck an Institute sooner than an air of showing off and "running things" in a few of the members. Steer clear of gossip in the meetings,—the Women's Institute should be above that—and try to keep something that is really interesting on the move all the time, requiring each member to do her share, for in doing is interest.

Imperfections may, it is true, creep

"IDEAL" FENCE---"MADE-TO-LAST"

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Gauge hard drawn steel wire—tough, highly tempered, springy, heavy wire of the best quality possible. Some fencemakers use 9 gauge for the horizontals and softer, weaker wire for the stays—but not "IDEAL" Fence. It's ALL heavy hard wire—that's why "IDEAL" is the fence that outweighs all others; and THAT'S why you get more *use* and more *wear* for your dollars when you buy this perfected farm fence.

Just Trust "Ideal" Woven Wire Fence

The galvanizing stays with it; the lock won't loosen under any strain a fence ever conceivably will have to stand; and the strength, the tautness, the springiness, the SERVICE is THERE—there every time in every foot of "IDEAL" Fence. Look into the matter carefully and you'll agree that here's the fence that WILL last.

Glad to send you details of all the many "IDEAL" styles—there's one for every fence purpose. Drop a card for catalog 121

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It's fit for almost any kind of power work—plowing, harvesting, baling, sawing, hauling, building roads, etc.

On a 160-acre farm an Oil Pull will show a profit—on a 240-acre farm you can keep it busy all the time. The Oil Pull is a handy, durable tractor—it burns cheap fuel and really costs less to run because it lasts longer.

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into any branch, but the business, then, is to get rid of those imperfections, not to throw the whole thing over without moving a finger to mend matters: the Institute and its aims are not to blame for anything a few individual members may do. Keep the Vision of the organization as it should be, and as it may be, before you, and so you may make it and find it a great instrument for good.

Now, isn't this a "preachment"?
JUNIA.

RE MAKING DRESS.

Dear Junia,—I have been a silent reader of your columns for some time, and have received many helpful hints, but would like one more, please. Would you kindly tell me how to make a sea-water-silk dress for a girl of fourteen, so it would look neat and becoming? She is five feet six inches tall, but is slim. How long should her skirts be? What colors would look best with sea-water? Thanking you in advance.

SIMPLE SEVENTEEN.

Peterboro Co., Ont.
I do not know "sea-water" silk. Is the piece you enclosed, of pink and green shot silk, a sample? If so, it would look very pretty made by pattern 7455, last issue. As the girl is so tall, her skirts would need to be made longer than those of the ordinary fourteen-year-old girl. No trimming will be needed for 7455, except, perhaps, a little harrow, green-velvet ribbon, of the exact shade of the green in the silk, for the banding, and little bows shown in the design.

BREAD YEAST.

Dear Junia,—I have just been reading the short sketch of the life of "Kate Douglas Wiggin," in "The Farmer's Advocate." We enjoy the serial, "Rebecca of Sunnybrook Farm" so much. Could we not have another of her stories? say, "Mother Carey's Chickens."

"The Farmer's Advocate" is so widely known and read. We in the country appreciate it very much, as the articles are so well chosen that we are glad to see our children interested in it. I know one young girl who has been helped and inspired by reading "Rebecca," and has resolved to make her life a success along that line.

Here is a good recipe for bread yeast: Twelve medium-sized potatoes; boil; have ready mixed together: four cooking spoonfuls flour, two cooking spoonfuls sugar, one cooking spoonful salt. When potatoes are done, pour water over this, scalding it well. Stir smooth, then add enough cold water to make about two gallons (while lukewarm), add three yeast-cakes which have been soaked well in warm water. Keep warm until it has ceased working. When making your bread, pour about one cupful boiling water in the middle of your pan of flour, then add yeast enough.

INTERESTED READER.

Essex Co., Ont.

FIRELESS COOKER.

I am very much pleased with "The Farmer's Advocate." We have had sample copies sent to us several times,



Own your car—don't let it own you. A new Mr. Dooley rises to remark that there are only two kinds of cars—"the Fords and the can't affords." You'll want a Ford when the season is on. Then buy it to-day.

There are more than 220,000 Fords on the world's highways—the best possible testimony to their unexcelled worth. Prices—runabout \$675—touring car \$750—town car \$1,000—with all equipment, f.o.b. Walkerville, Ont. Get particulars from Ford Motor Company of Canada, Limited, Walkerville, Ontario, Can.

Auction Sale of Farms, Farm Stock Implements, etc.

On north part of Lot 10, Con. 1, R. N., and south part of Lot 9, Con. 2, R. N., Township of Ekfrid, County of Middlesex, 2½ miles from Appin, Ont., on

Wednesday, March 12th, 1913, at 1 o'clock p.m.

Consisting of two rich and productive farms suitable for beef or dairying, containing 100 acres with buildings and 118 without; soil, clay and sandy loam; well tile drained: good brick dwelling; modern bank barns, all painted, with cement block and brick foundations, cement floors and litter carriers; with rock water before stock, and silo, all nearly new. Ten acres woods and three acres orchard, remainder cleared. Seventy acres seeded to alfalfa and red clover: fourteen acres under wheat; eighteen acres ready for spring crop. Rural mail and long distance telephone.

The stock consists of twelve Clyde and Percheron horses, (including brood mares and colts.) Fat cows, heifers, steers, milk cows and sheep, farming implements, etc.

Farms will be sold subject to a reserve bid and terms which will be easy made known on day of sale. Stock and implements will be sold without reserve, on account of ill-health. Conveyances will be at station to meet those from a distance.

L. L. McTAGGART, Auctioneer

A. B. McDONALD, Proprietor, Appin, Ontario

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The "Empress of Asia" will leave Liverpool June 14, calling at Madeira, Cape Town, Durban, Colombo, Singapore and Hong Kong, arriving Vancouver August 30. Vessel remains 14 days at Hong Kong. "Rate for Entire Cruise, \$639.10," exclusive of maintenance between arrival time in England and departure of "Empress of Asia," and stop over at Hong Kong.

Full particulars from any C. P. R. Agent, or write M. G. Murphy, District Passenger Agent, Toronto.

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SHORTHORNS, LEICESTER SHEEP, etc.

Property of the late JOHN W. MARTYN, Canton, Ont.

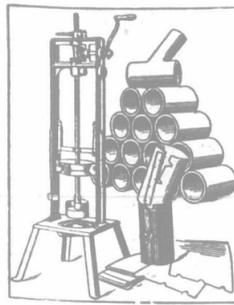
Wednesday, March 12, 1913

The entire herd of Shorthorns of over 30 years' breeding. Also a fine flock of Leicester sheep, will be sold at auction. Sale will be held on Lot 15, Con. 4, Township of Hope, five miles north of Port Hope, G. T. R. For further particulars, apply to

A. P. POLLARD,

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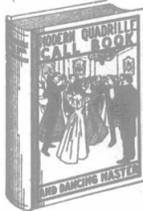
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Big commission for reliable agents. Exclusive territory to be allotted for

The Best Everyday Vacuum Cleaner

Best hand-power machine on the market. Will sell by hundreds this spring. Write

LONDON SPECIALTY CO. 94 Fullarton St. London, Ont.

but never subscribed until last year, and find we have missed a lot of good reading. I enjoy reading the Mending Basket Department. Some of the letters are amusing. I am glad I do not have the burnt matches to contend with, and think husband and wife should help each other. I also think it a mother's duty to teach children to wait on themselves. This morning I was getting breakfast, and our boy of twelve years came down stairs with his braces ripped from his overalls. He went into the sewing-room, opened the machine, and as I passed through, he said, "I bet you ten cents that won't rip again," and he had it firmly sewed, white thread on black overalls. It saved mother's time, and he did it just as well as I could. I am writing this to find how to make a fireless cooker. "Interested," Bruce Co., tells us any woman can make one, and I am sure it would be a great help. Will you please tell us how it is done? Leeds Co., Ont. MINNETAKI.

Here is one way to make a home-made fireless cooker. Perhaps "Interested," Bruce Co., has a better plan, and will send it.

Take any large, close box, with a lid, or an old trunk. Line the inside well with layers of paper, woollen cloth with padding, anything, in short, that will tend to keep the heat in, letting none of it escape. Now pack the trunk tightly with hay, excelsior, any non-conductor of heat. Make little holes, or pockets, in this to set the kettles into, and provide a thick, padded cushion, to put over the top. Boil the potatoes, or whatever it may be that you wish to cook, on the stove for a little while, then pop the pot into the cooker, boiling hot, put on the cushion, and fasten the lid down tightly. Do not look at the contents while they are cooking, or the heat will escape, and, of course, the cooking will stop.

As you will perceive, this method of cooking is only good for things that will cook well slowly—stews, boils, porridge, scalloped potatoes, etc.

The commercial cookers, sold at from about \$8 to \$15, are, of course, very much better. Some of them are even provided with disks which may be heated so that baking and roasting may be done in the cooker, greatly to the saving of fuel. The combination of a blue-flame coal-oil stove, and a fireless cooker to save the oil, should, I think, be part of the summer equipment of every farm home which is not supplied with natural gas.

MAPLE SYRUP.

Dear Junia,—I noticed in your issue of January 30th, a request regarding how to seal maple syrup to keep. We have quite an extensive plant, and make a lot every year, and I have found the best plan to keep maple syrup in sealers, well sterilized, with new rubbers, putting the syrup in when cold, as then the jar is as full as you make it, and it should be filled all it will hold, whereas if filled hot, it will not be full when it gets cold, and this space is liable to get mouldy. I have some maple syrup for over two years; it is as good as ever. We make ours with a Grimm evaporator. I hope this will help some, as it is near maple-sugar-time.

A SUBSCRIBER.

Waterloo Co., Ont.

Only imperfect sterilization will ever permit moulds to grow or bacterial action to set in. When jars are absolutely sterilized and filled completely with boiling-hot substance, then perfectly sealed, no moulds can grow and no fermentation can take place, because all "germs" have been killed, and none can get in from the air. A vacuum may, it is true, appear at the top of jars so sealed, but this is merely vacuum; there is no air in it. It has been caused by contraction of the liquid in cooling. The reason that mould ever appears in this space may be traced, then, either to imperfect sterilization of jars and tops, or to incomplete filling or sealing.

We are very glad to know, however, that maple syrup will keep well when put into the jars cold, as putting it up that way must be much more convenient. It is better to keep the jars in a very cool place, is it not?

We are always pleased to hear from people who have had practical experience, and thank them for giving us all the benefit of it.

BUTTER TARTS—VARNISH REMOVER

Dear Junia,—Will you kindly send, through your valuable paper, a recipe for butter tarts, how to make the crust and all, as I am a new beginner; also one or two blessings to be asked before meals, just nice short ones—not too long. This question seems quite different to any I have seen asked in "The Farmer's Advocate," but I felt sure, Junia, you could answer it for me. I really don't know what we would do without you. This is the first time I have ventured to ask any questions.

Since writing the above, I thought about some chairs I would like to ask about, too. I have half a dozen old chairs which my grandmother had for her best ones. A few years ago they were varnished over, but I want to take the varnish off and do them all over fresh, as they are real good ones. Could you please tell me the best way to do them? Thanking you, I hope I haven't asked too much.

Ontario Co., Ont.

N. W.

Among all my cook-books I cannot find a single recipe for butter tarts. However, our Ingle Nook friends are so obliging that I am sure someone will come to your rescue.

Neither do I "know" any blessings other than those which you must be already familiar with. The very sweetest ones I ever heard were those spoken by an old lady at a table over in Illinois. They were just little prayers, impromptu, and varied with the occasion.

There are preparations to be had for removing varnish, but I cannot tell you just where you can get them—probably at any first-class hardware store. If you wish to try a "homemade" process, you may find the following, from Scientific American, efficacious. Make a hot lye with caustic soda, and apply with a cotton swab. It must not be allowed to touch the skin or it will cause trouble. When the wood is clean, wash it well again, using a cotton swab tied to a stick for the first washing. The strong lye darkens the wood, but this may be corrected, if wished, by brushing the wood with dilute muriatic acid, applied with a bristle brush. When the color is satisfactory, wash the wood with water, and finish with a weak solution of soda to neutralize the last traces of the acid.

BLUEBERRY WINE, ETC.

Dear Junia,—About eighteen months ago I wrote to you for a recipe for blueberry wine.

Received the following recipe: To 1 peck berries take 2½ gallons water, ½ lb. sugar, ½ pint yeast or its equivalent. First bruise the berries, then add the water, and boil until the berries are soft enough to extract all the juice. Strain through a thin bag, add the sugar and yeast, while the liquid is still warm. Set in a warm place for ten days to ferment, then cork tightly and let stand for three months before attempting to drain it off, and put into bottles.

This I tried last summer. Made it in August, bottled off in December. It tasted more like vinegar than wine; must have been a mistake in recipe. Will some kind reader let me know if they ever tried this recipe, and with what results?

I would like to get a tested recipe for mustard pickle, which does not require turmeric. I do not like the taste of that. Also what kind of vinegar should be used, white-wine or cider?

Would also like tested recipe for coffee jelly and rusks.

N. S. SUBSCRIBE C'S WIFE.

The recipe given was obtained from a perfectly reliable source, but the wine that you made may have been kept in too hot a place. As everyone who is accustomed to making home-made wine knows, there are two fermentations, the first, or alcoholic; and the second, the acetous, or vinegar. Great care has to be exercised not to keep the product exposed to the air too long, or in too warm a place. When the wine is ready, that is when the alcoholic fermentation has been completed (this can be ascertained by tasting), it is necessary to cork the cask, and keep it in a place cool enough to check the second, or acetous fermentation. Many people add brandy to the wine before corking the cask, to help in the preservation. Ac-

\$2.00 Worth for \$1.00

The 2 in 1 Automatic Awl is a combination of the two best known dollar tools in the world, the Awl using a waxed thread and the Awl using a copper wire. This illustration shows the inside working of the 2 in 1 Automatic Awl. There are several dozen different kinds of Automatic Awls on the market, but this is absolutely the only Awl in the world that will sew with both waxed thread and copper wire. Did you ever try sewing with copper wire? If you haven't, get a 2 in 1 and try it—you will be delighted. Some of the other improvements to be found only in the 2 in 1 are: special hollow grooved needles to prevent the thread from cutting, patented needle for sewing boots, diamond pointed needles, and everything packed inside the handle, so that it will slip in your pocket like a knife. We will send the 2 in 1 Automatic Awl complete, with three extra needles, including the patented needle for sewing shoes, a large reel of best waxed thread and a skein of our special process copper wire. We will send the whole outfit complete, by mail, charges paid, to any address for \$1.00.



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Dept. 40 31 Queen St. West, Toronto, Ont.
AGENTS WANTED



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, Grimaby.

ENGLISHMAN DESIRES SITUATION, modern poultry farm, Western Ontario, has some Canadian experience, willing worker. Box D, Farmer's Advocate, London, Ont.

FOR SALE—2 foxhounds, 5 years old, exceptionally good workers; nicely marked, 3 colors. Price \$50.00. Apply to Box 87, Georgeville, Que.

FARM FOR SALE OR RENT, 130 acres or 180 acres well drained sandy loam and clay loam, well adapted for dairying or grain growing. Joseph Weld, Farmer's Advocate, London, Ont.

WANTED—Reliable young man to drive milk wagon and make himself useful around dairy. Must be strictly temperate. References required. Wages three hundred dollars first year. Thorn Hill Farm Dairy, North Bay, Ont.

WANTED by April 1st for mixed farm reliable married man; must be temperate; good with stock. Apply with references. A. H., Blair, Ont.

WANTED—Three good men for dairy and mixed farming; good milkers. Wages three hundred and sixty dollars a year and board. Corfield, Kokilah, Vancouver Island, B. C.

WANTED—Three first class milkers; wages \$28 per month and board; only first class men need apply. Erindale Farms Ltd., Erindale, Ont., (near Toronto.)

YOUNG MARRIED MAN seeks situation as farm manager or would work one on shares. Good references; address: B. Cooper, 82 Forfar Street, Pt. St. Charles, Montreal.

\$4,500 WILL BUY choice farm, forty acres, more or less, lot 6, con. 4, Delaware Township; ten acres of fruit trees, fine sugar bush, large brick house, fine fruit house, barn and drive house; over one hundred magnificent spruce trees along front and driveway. Address: Miss Doust, Lambeth P. O., or on the premises.

WANTED—CUSTOM TANNING—Send me your cattle and horse hides, and have them tanned and made into robes and coats. Deerskins tanned for buckskin, also made into mitts and gloves. We tan all kinds of hides, skins and furs. Send them to me and have them dressed right. B. F. BELL, Delhi, Ont.

O. A. C. NO. 21 BARLEY.

Another supply of beautiful seed now ready. We increased one pound to nine hundred bus. in three crops. Price 90 cents per bus. Also a supply of clean and pure improved Siberian Oats, the leading variety. Price fifty cents per bushel. Best cotton bags twenty seven cents.

Jno. Elder, Hensall, Ont.

SEED OATS FOR SALE—Yellow Russian. These oats will win you a place in the field crop competition. 1912, I won 1st in competition crop, 1st at Ottawa winter fair, 2nd on sheaf and 6th on grain at Ottawa fall fair. This oat won 1st 2nd, 3rd, 5th in our field crop, 1911, won 1st and 2nd in field crop; I won 4th at Ottawa winter fair and 1st at Toronto on sheaf, 1910, I won 2nd on sheaf at Toronto and 2nd on grain at Ottawa. Price, 50 bushel lots 85¢ per bushel; 5 bushel lots \$1.00; bags 25¢ each. THOS. COSH, Bobcaygeon, Ont.

Strawberry Plants that will grow in any soil. I have improved strains, standard varieties, list free. **ONTARIO NURSERY CO., WELLINGTON, ONTARIO.**

Improved Section in Alberta Would let on shares to reliable farmer. ELIZ. HUSBAND, 129 Main W., HAMILTON, ONT.

According to Scientific American, a little resin or silicate of soda is often added to prevent the formation of acetic acid, or the bottles may be set in water, with loosened stoppers, and heated to 180 degrees F., then sealed hot and inverted. The greatest care must be exercised in cleaning and scalding casks and bottles in which wines are kept, or results may be disastrous. Bottles should be stored on their sides, and the temperature should be kept as even as possible, preferably about 55 degrees F.

By the way, don't you think sealed fruit juices, unfermented, nicer and safer than the fermented products?

LILY-OF-THE-VALLEY—GRAPE VINE.

Dear Junia,—Here is another little stranger of the grove who has been interested in the reading of the Home Magazine for some years, and now has come for a little help.

We have lily-of-the-valley over five years planted, but never has any bells. It is green and fresh, with large leaves, and has plenty of blossoms, but they all dry up. Only one or two stems with a few bells are noticeable once in a year. This lily-of-the-valley is cultivated. We also have some that is not cultivated, but that is the same.

We have also a grape vine that the blossoms dry up. It is covered with blossoms every year, and has only two or three bunches of irregular grapes. Can anyone give advice how to attend those plants?

As this letter is getting lengthy, will close for this time, wishing the cozy Ingle Nook every success, and may I, too, join it?

WOODLAND WHISPER.

There may be something the matter with the conditions under which your lilies-of-the-valley are growing. Bailey says they require moderately-rich ground and partial shade; also that it is best to replant the beds every few years with vigorous tips, as the old beds are liable to run out, the roots and runners becoming crowded, and but few flower-stalks produced. The bed should be made rich with very old, thoroughly-decayed manure.

In regard to your grape vine, Prof. Hutt, of the O. A. C., in a reply to a similar question, previously sent to our paper, says that many varieties of grapes are more or less self-sterile, that is, they do not produce pollen which is potent to fertilize their own blossoms, hence produce blossoms that shrivel up. The remedy, other conditions being right, would be to plant near the vine one or two other varieties which are likely to furnish pollen for fertilization.

You understand what pollen is, do you not?—the yellowish "powder" contained in the anthers of the stamens of flowers. It is necessary that the liquid in the pollen-grains be conveyed to the ovary of the pistil of the flower before seeding, or fruiting, can take place. In order that this may occur, the pistil of the flower is provided with a sticky "stigma," to which the pollen adheres, carried thither by bees and other insects, or by the wind, all of which thus help in the creation of fruit. In some plants, the pistil stands in the center of the flower, with the stamens, topped by their little yellow anthers, ranged around it,—as in the white Easter lily. In others, the willow, for instance, all the pistils are on one plant, all the stamens on another.

Recipes.

Boiled Rice.—After washing the rice, put it over the fire in plenty of actually boiling salted water, and let it boil fast for twelve minutes, then drain off all the water and place the saucepan containing the rice in the oven with the door open, and let it steam ten minutes. Every grain will be distinct, and the rice free from moisture. Serve with cream and sugar.

Drop Cookies.—One-half cup butter, 1 cup sugar, 2 cup sweet milk, yolk of 1 egg, 2 teaspoons baking powder sifted with 2 cups flour. Drop with a spoon, and put a raisin in the center. Bake quickly to a light brown.—Sent by "Cook," Sherbrooke Co., Que.

Dried Peach Pudding.—Boil 2 cups milk, and while hot pour it over 2 cups bread-crumbs. Stir into this 1 teaspoon butter and 2 cups dried peaches stewed soft. When cool, add 2 eggs well beaten, 1

cup sugar, and flavoring to taste. Put in a well-greased pudding-dish, and bake 1 hour. Serve warm, with hard sauce. Stewed apricots or dried apples may be used instead of the peaches.

Hard Sauce.—Into a warm bowl put 1 cup powdered sugar, 1 cup butter, 1 teaspoon vanilla extract, or a grated lemon peel, or a little nutmeg and cinnamon. Beat all until well creamed, and set in a cool place until required.

Cheese Souffle (A Macdonald Institute recipe).—Melt 1/2 cup butter, add 1/2 cup flour and stir over the fire until frothy. Add 1 cup milk, and stir constantly until it thickens. Stir in 1 teaspoon salt, 1/2 teaspoon mustard, and a little pepper, then 1/2 cup grated cheese. Next stir in the beaten yolks of 4 eggs, take from the fire at once, and let cool. Beat the whites of the eggs stiff, add a little to the cheese mixture, and stir it in. Add the remainder of the whites, "folding" it in lightly. Turn the whole into a buttered baking-dish, and bake in a moderate oven. If the oven seems too hot, place the baking-dish in a pan of boiling water while baking.

News of the Week.**CANADIAN.**

Hydro-electric power has been installed in Collingwood, Ont.

Stefansson, the Arctic explorer who discovered the race of "blonde Esquimaux," will set sail with a Canadian expedition in May, to make further explorations in the Arctic regions.

A definite movement has been set afoot by the Dominion Alliance to establish up-to-date temperance hotels in all the "local-option" towns in Ontario.

The first Rose Society in Canada met in Toronto last week.

The Dominion Government will send an expert physician to New York to confer with Dr. Fred. F. Friedmann, the discoverer of a cure for consumption by inoculation, and to take steps for introducing the cure into Canada. Dr. Friedmann has come from Germany to treat the son-in-law of Chas. E. Finlay, a New York banker. He will hand over some of the bacilli to the U. S. Government for further experiment, and a thorough test of his method will be made during his stay in America.

BRITISH AND FOREIGN.

Desperate fighting took place in Mexico on Feb. 27th, within 150 miles of the boundary line of Texas.

Sylvia Pankhurst is seriously ill in Holloway jail. Her mother has been released on bail.

Ten thousand United States soldiers have been assembled at Galveston, Texas, and a number of warships despatched to Southern waters, to be ready in case of need for the protection of Americans in Mexico.

Hon. John Burns has declared war on the militant suffragette movement, which he denounces as "organized blackguardism."

The Chinese Government is vigorously destroying poppy plants in China. The British Government, meanwhile, is "between the devil and the deep sea." Public opinion in Britain is strongly against carrying out the Chinese treaty, which provided that opium shall be imported into China from India, though in continually decreasing quantities. On the other hand, if the traffic is stopped, the Indian opium-growers and bankers will lose \$50,000,000, and will, in all probability, call on the Government to refund that amount.

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 advertisement inserted for less than 50 cents.

BARRED Plymouth Rocks, offering stock from my Toronto winners reasonable. Eggs on sale for hatching. Leslie Kerns, Freeman, Ont.

BRONZE turkeys from prize stock. R. G. Rose, Glasgow, Ont.

BUFF ORPINGTONS—Pure bred cockerels \$3 pullets \$2; large stout healthy birds. Satisfaction guaranteed. Hugh A. Scott, Caledonia, Ont.

CANADIAN Ringlet Barred Plymouth Rocks—Winners International Laying Contest. Pedigreed cockerels, pullets, strong baby chicks. Large hatching eggs. Custom hatching. Alf. B. Wilson, St. Catharines, Ont.

CHOICE RHODE ISLAND REDS, WHITE Wyandottes, S. C. Brown and White Leghorns. Wm. Bunn, Birr, Ont.

CHICKS, eggs, stock. Heaviest laying known thoroughbreds. Free booklet "Using coal-heated Mammoth, and offer good incubators at half price. Brant Poultry Yards, Brantford, Ont.

EGGS—\$1 setting, \$5 hundred, "Snowflake" S. C. W. Leghorns. Record layers. E. W. Burt, Paris, Ont.

FOR SALE—Choice S. C. W. Leghorn Cockerels and eggs in season. Wm. Charlton, Iderton, Ontario.

POULTRY FOR SALE—Buff Orpington and White Wyandotte Cockerels. Best of breeding; strong farm-raised birds, \$2 and \$3. Also eggs for hatching. Inglis Farm, Rural 1 Ancaster, Ontario.

TWENTY large vigorous white Wyandotte cockerels of heavy laying strain, at \$2.75 each.—Our best birds. Also Barred Rock Cockerels—Canada's champions. Satisfaction guaranteed or money refunded. First comers get the choice ones. Jno. Pringle, London, Ont.

WHITE Rocks, Guelph winners. Booklet free. John Pettit, Fruitland, Ont.

WHITE WYANDOTTES, big vigorous, Stay White Cockerels from heavy laying strain, \$2, \$3 and \$5 each. Have won 36 out of 42 First Prizes at New York State Fair, in seven years. Eggs \$3 per 30, \$9 per 100. Free illustrated catalogue. John S. Martin, Drawer R., Port Dover, Ont.

WHITE Wyandotte cockerels, \$2 and \$3, pullets, \$1. Eggs, \$1 per 15. Mrs. Clapp, Tecumseh, Ontario.

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IS A

Central Custom HATCHERY

WHERE one man hatches eggs for everybody, cheaper and better.

Start the Hatchery this spring and your customers will raise

More Poultry and Eggs to supply the Market, instead of Importing them.

Write for our free Custom Hatching Book.

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152 BAY ST., Dept. 5, TORONTO, ONT.

DOMINION POULTRY SUPPLY HOUSE.

Cycle Hatchers, Brooder Hatchers, Fireless Brooders, Model Hot Air Incubators, Model Out-door Brooders, Grain Sprouters, Bone Mills, Nursery Chick Food, Grit Shell and all Poultry Supplies.

MODEL INCUBATOR CO., River St., Toronto

Seed Corn—Every ear carefully selected by hand. Always a prize winner at O. C. G. A. Edgar's Mills S. E. OAKLEY, Essex County, Ont.

SEED CORN—First-class Essex-grown seed corn. Apply for varieties and prices: WALTER C. ANDERSON, Malden Centre P.O., Essex, Ont.

Seed Corn, Barley, Oats for Sale—High-ing Corn, Newmarket Oats of pedigreed stock, and O. A. C. 21 Barley. For samples and prices write: W. A. BARNET, Mgr. Gov. Exp. Farm Harrow, Essex Co.

SHOEMAKER'S BOOK ON POULTRY

and Almanac for 1913 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15¢. C. C. SHOEMAKER, Box 950 Freeport, Ill.

Drills You Can Depend On

WHEN the time comes for seeding, it's a great source of satisfaction to have a Drill which you know will sow your grain as it should be sown.

Massey-Harris Drills

are famous for uniformity of sowing in any desired quantity and at any depth required—the seed is not bruised or crushed and is well covered. The Massey-Harris Line of Drills is complete—many styles and sizes, but, Reliability is the Keynote in all.

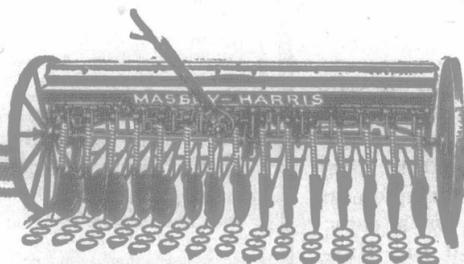
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—Agencies Everywhere—



Important Dispersion Sale of Clydesdales and Shorthorns

The property of the estate of the late JOHN DAVIDSON, to be held at Ashburn, Ont., on

Wednesday, March 19, 1913
At 12.30 o'clock sharp

Lavenders, Nonpareils, Mysies, Villages, Broadhooks, Clarets, Matchless and Miss Ramsdens are among the families represented in the Shorthorns, and they consist of six yearling bulls of choicest breeding, cows, yearlings and two-year-olds, those of breeding age having calves at foot, or well along in calf.

The Clydes comprise a choice bunch of stallions and mares of different ages, among them some good imported and home-bred reg stered mares, all descended from imported stock. Among the stallions may be mentioned Revelanta Chief, by Revelanta, dam by Prince Robert, the sire of Hiawatha; two very fine imported mares, rising 4 years, one in foal to Revelanta Chief, a show mare, by Silver Cup; a good colt rising 2 years, out of imported Meg; a first-prize mare at Toronto, sired by Elator; a show mare rising 3 years. A number of choice geldings, among them a 3-year-old weighing 1,700 or better. It is not necessary to say anything more concerning the e, than that they are the kind the Davidsons have been noted for breeding. At the same time the farm will be offered at private treaty. This farm is a choice stock or dairy farm, with fine improvements. A fine orchard, one of the finest spruce groves and lawns and well located. Close to church, school, post office, with prospect of Hydro-Electric and rural mail delivery in the near future. One and a quarter miles from station on C.P.R. and 2 3/4 from G. T. R.

Come to Myrtle C. P. R. and G. T. R. where trains will be met. 8.20 a.m. train leaving Union Station C. P. R. stops at Myrtle. Particulars in next issue gossip. For catalogues and particulars address

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JAS. B. DAVIDSON, Executor for Estate, Ashburn, Ont.

Rebecca of Sunnybrook Farm.

By Kate Douglas Wiggin.

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CHAPTER XX.

A CHANGE OF HEART.

"That niece of yours is the most remarkable girl I have seen in years," said Mr. Burch when the door closed.

"She seems to be turnin' out smart enough lately, but she's consid'able heedless," answered Miranda, "an' most too lively."

"We must remember that it is deficient, not excessive vitality, that makes the greatest trouble in this world," returned Mr. Burch.

"Sh'd make a wonderful missionary," said Mrs. Burch; "with her voice, and her magnetism, and her gift of language."

"If I was to say which of the two she was best adapted for, I'd say, he'd make a better heathen," remarked Miranda curtly.

"My sister don't believe in flattering children," hastily interposed Jane, glancing toward Mrs. Burch, who seemed somewhat shocked, and was about to open her lips to ask if Rebecca was not a "professor."

Mrs. Cobb had been looking for this question all the evening, and dreading some allusion to her favorite as gifted in prayer. She had taken an instantaneous and illogical dislike to the Rev. Mr. Burch in the afternoon because he called upon Rebecca to "lead." She had seen the pallor creep into the girl's face, the hunted look in her eyes, and the trembling of the lashes on her cheeks, and realized the ordeal through which she was passing. Her prejudice against the minister had relaxed under his genial talk and presence, but feeling that Mrs. Burch was about to tread on dangerous ground, she hastily asked her if one had to change cars many times going from Riverboro to Syria. She felt that it was not a particularly appropriate question, but it served her turn.

Deacon Milliken, meantime, said to Miss Sawyer, "Mirandy, do you know who Rebecky reminds me of?"

"I can guess pretty well," she replied. "Then you've noticed it too! I thought at first, seein' she favored her father so on the outside, that she was the same all through; but she ain't, she's like your father, Israel Sawyer."

"I don't see how you make that out," said Miranda, thoroughly astonished.

"It struck me this afternoon when she got up to give your invitation in meetin'." It was kind o' curious, but she set in the same seat he used to when he was leader o' the Sabbath-school. You know his old way of holdin' his chin up and throwin' his head back a little when he got up to say anything? Well, she done the very same thing; there was more'n one spoke of it."

The callers left before nine, and at that hour (an impossibly dissipated one for the brick house) the family retired for the night. As Rebecca carried Mrs. Burch's candle upstairs and found herself thus alone with her for a minute, she said shyly, "Will you please tell Mr. Burch that I'm not a member of the church? I didn't know what to do when he asked me to pray this afternoon. I hadn't the courage to say I had never done it out loud and didn't know how. I couldn't think; and I was so frightened I wanted to sink into the floor. It seemed bold and wicked for me to pray before all those old church members and make believe I was better than I really was; but then again, wouldn't God think I was wicked not to be willing to pray when a minister asked me to?"

The candle light fell on Rebecca's flushed, sensitive face. Mrs. Burch bent and kissed her good-night. "Don't be troubled," she said. "I'll tell Mr. Burch, and I guess God will understand."

Rebecca waked before six the next morning, so full of household cares that sleep was impossible. She went to the window and looked out; it was still dark, and a blustering, boisterous day.

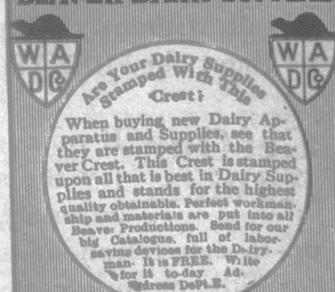
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"Aunt Jane told me she should get up at half past six and have breakfast at half past seven," she thought; "but I daresay they are both sick with their colds, and aunt Miranda will be fidgety with so many in the house. I believe I'll creep down and start things for a surprise."

She put on a wadded wrapper and slippers and stole quietly down the tabooed front stairs, carefully closed the kitchen door behind her so that no noise should waken the rest of the household, busied herself for a half hour with the early morning routine she knew so well, and then went back to her room to dress before calling the children.

Contrary to expectation, Miss Jane, who the evening before felt better than Miranda, grew worse in the night, and was wholly unable to leave her bed in the morning. Miranda grumbled without ceasing during the progress of her hasty toilet, blaming everybody in the universe for the afflictions she had borne and was to bear during the day; she often castigated the Missionary Board that had sent the Burches to Syria, and gave it as her unbiased opinion that those who went to foreign lands for the purpose of saving heathen should stay there and save 'em, and not go gallivantin' all over the earth with a passel o' children, visitin' folks that didn't want 'em and never asked 'em.

Jane lay anxiously and restlessly in bed with a feverish headache, wondering how her sister could manage without her.

Miranda walked stiffly through the dining-room, tying a shawl over her head to keep the draughts away, intending to start the breakfast fire and then call Rebecca down, set her to work, and tell her, meanwhile, a few plain facts concerning the proper way of representing the family at a missionary meeting.

She opened the kitchen door and stared vaguely about her, wondering whether she strayed into the wrong house by mistake.

The shades were up, and there was a roaring fire in the stove; the tea-kettle was singing and bubbling as it sent out a cloud of steam, and pushed over its capacious nose was a half sheet of note paper with "Compliments of Rebecca" scrawled on it. The coffee pot was scalding, the coffee was measured out in a bowl, and broken eggshells for the settling process were standing near. The cold potatoes and corned beef were in the wooden tray, and "Regards of Rebecca" stuck on the chopping knife. The brown loaf was out, the white loaf was out, the toast rack was out, the doughnuts were out, the milk was skimmed, the butter had been brought from the dairy.

Miranda removed the shawl from her head and sank into the kitchen rocker, ejaculating under her breath, "She is the beatin'est child! I declare she's all Sawyer!"

The day and the evening passed off with credit and honor to everybody concerned, even to Jane, who had the discretion to recover instead of growing worse and acting as a damper to the general enjoyment. The Burches left with lively regrets, and the little missionaries, bathed in tears, swore eternal friendship with Rebecca, who pressed into their hands at parting a poem composed before breakfast.

TO MARY AND MARTHA BURCH.

Born under Syrian skies,
'Neath hotter suns than ours;
The children grew and bloomed,
Like little tropic flowers.

When they first saw the light,
'Twas in a heathen land,
Not Greenland's icy mountains,
Nor India's coral strand,

But some mysterious country
Where men are nearly black
And where of true religion,
There is a painful lack.

Then let us haste in helping
The Missionary Board,
Seek dark-skinned unbelievers,
And teach them of their Lord.

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of the returned missionaries to Riverboro was not without somewhat far-reaching results. Mr. and Mrs. Burch themselves looked back upon it as one of the rarest pleasures of their half-year at home. The neighbors extracted considerable eager conversation from it; argument, rebuttal, suspicion, certainty, retrospect, and prophecy. Deacon Milliken gave ten dollars towards the conversion of Syria to Congregationalism, and Mrs. Milliken had a spell of sickness over her husband's rash generosity.

It would be pleasant to state that Miranda Sawyer was an entirely changed woman afterwards, but that is not the fact. The tree that has been getting a twist for twenty years cannot be straightened in the twinkling of an eye. It is certain, however, that although the difference to the outward eye was very small, it nevertheless existed, and she was less censorious in her treatment of Rebecca, less harsh in her judgments, more hopeful of final salvation of her. This had come about largely from her sudden vision that Rebecca, after all, inherited something from the Sawyer side of the house instead of belonging, mind, body and soul, to the despised Randall stock. Everything that was interesting in Rebecca, and every evidence of power, capability, or talent afterwards displayed by her, Miranda ascribed to the brick house training, and this gave her a feeling of honest pride, the pride of a master workman who has built success out of the most unpromising material; but never, to the very end, even when the waning of her bodily strength relaxed her iron grip and weakened her power of repression, never once did she show the pride or make a single demonstration of affection.

Poor misplaced, belittled Lorenzo de Medici Randall, thought ridiculous and good-for-naught by his associates, because he resembled them in nothing! If Riverboro could have been suddenly emptied into a larger community, with different and more flexible opinions, he was, perhaps, the only personage in the entire population who would have attracted the smallest attention. It was fortunate for his daughter that she had been dowered with a little practical ability from her mother's family, but if Lorenzo had never done anything else in the world, he might have glorified himself that he had prevented Rebecca from being all Sawyer. Failure as he was, complete and entire, he had generously handed down to her all that was best in himself, and prudently retained all that was unworthy. Few fathers are capable of such delicate discrimination.

The brick house did not speedily become a sort of wayside inn, a place of innocent revelry and joyous welcome; but the missionary company was an entering wedge, and Miranda allowed one spare bed to be made up "in case anything should happen," while the crystal glasses were kept on the second from the top, instead of the top shelf, in the china closet. Rebecca had to stand on a chair to reach them; now she could do it by stretching; and this is symbolic of the way in which she unconsciously scaled the walls of Miss Miranda's dogmatism and prejudice.

Miranda went so far as to say that she wouldn't mind if the Burches came every once in a while, but she was afraid he'd spread abroad the fact of his visit, and missionaries' families would be underfoot the whole continual time. As a case in point she gracefully cited the fact that if a tramp got a good meal at anybody's back door, 'twas said that he'd leave some kind of a sign so that all other tramps would know where they were likely to receive the same treatment.

It is to be feared that there is some truth in this homely illustration, and Miss Miranda's dread as to her future responsibilities had some foundation, though not of the precise sort she had in mind. The soul grows into lovely habits as easily as into ugly ones, and the moment a life begins to blossom into beautiful words and deeds, that moment a new standard of conduct is established, and your eager neighbors look to you for a continuous manifestation of the good cheer, the sympathy, the ready wit, the comradeship, or the inspiration you once showed yourself capable of. Bear figs for a season or two, and the world outside the orchard

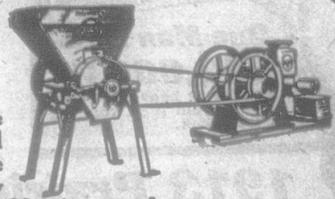
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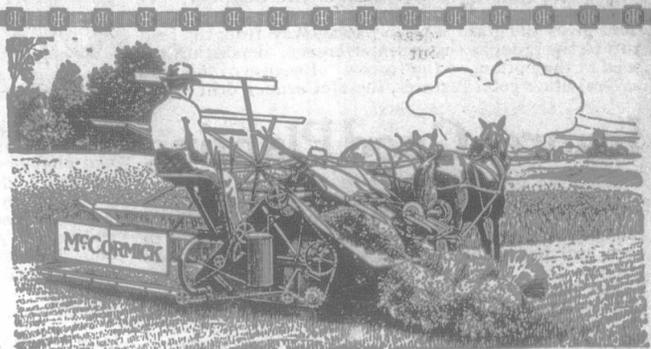
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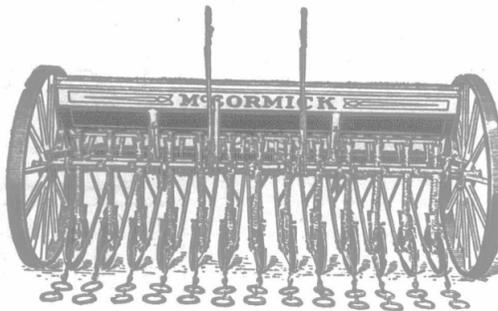


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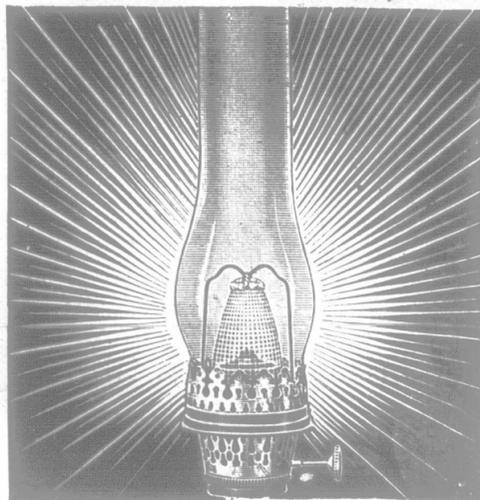


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is very unwilling you should bear thistles.

The effect of the Burches' visit on Rebecca is not easily described. Nevertheless, as she looked back upon it from the vantage ground of after years, she felt that the moment when Mr. Burch asked her to "lead in prayer" marked an epoch in her life.

If you have ever observed how courteous and gracious and mannerly you feel when you don a beautiful new frock; if you have ever noticed the feeling of reverence stealing over you when you close your eyes, clasp your hands, and bow your head; if you have ever watched your sense of repulsion toward a fellow creature melt a little under the exercise of daily politeness, you may understand how the adoption of the outward and visible sign has some strange influence in developing the inward and spiritual state of which it is the expression.

The young soul is ever winged; a breath stirs it to an upward flight. Rebecca was asked to bear witness to a state of mind or feeling of whose existence she had only the vaguest consciousness. She obeyed, and as she uttered words they became true in the uttering; as she voiced aspirations they settled into realities.

As "dove that to its window flies," her spirit soared towards a great light, dimly discovered at first, but brighter as she came closer to it. To become sensible of oneness with the Divine heart before any sense of separation has been felt, this is surely the most beautiful way for the child to find God.

(To be continued.)

Gossip.

One hundred and nine Shire stallions and mares were sold by auction on January 29th and 30th, at Peterborough, England. The highest price obtained was \$1,310, for the brown stallion, Moor's Masterman II., by Moor's Chief, contributed by E. Green. Fourteen others sold for prices ranging from \$525 to \$1,155. The highest price for a mare was \$892.

John Miller, Ashburn, Ont., writes: "The ewes I am offering for sale, consist of fifty Shropshires and the same number of Cotswolds. They are in lamb to good rams. My Cotswolds won both championship and the flock prizes at the last Toronto Exhibition. The Shropshires are equally as good. These ewes are young, and will be sold well worth the money. They are big, strong ewes, in nice condition. Now is the time to start a flock, as sheep are going to be in great demand."

Dairymen and farmers in general may find it to their advantage to attend the dispersion auction sale of 48 head of high-class Holstein cattle, on Tuesday, March 11th, in the big sale pavilion in the city of Woodstock, Ont. These are the property of A. H. Teeple, of Currie's, Ont., who has sold his farm, and the cattle are of the best of breeding, type, and productiveness, the result of many years' breeding, the sires used in the herd being sons of high-producing cows. Two grandly-bred stock bulls are included in the sale, namely, King Fayne Segis Clothilde, and King Fayne Segis.

The farmers of the county of Sherbrooke, Quebec, are certainly coming to the front in horse-breeding, which, if followed up on the proper lines, will make a vast difference in horses in the country within the next five years. They have decided to follow line breeding, and in heavy horses will breed Clydesdales only, as they now see the folly of the past methods in changing breeds from year to year. They have formed a "Horse Syndicate," and a great many farmers have taken stock in this syndicate, and are backed by the best business men of Lennoxville and Sherbrooke, who have also subscribed for stock in the syndicate, and, unlike most horse syndicates, they are not satisfied with inferior-bred horses, but sent a delegation to Ottawa Fair and bought two of the best Clydesdales that were on exhibition, Loyal Cup and Baron Shapely.

Questions and Answers.

Miscellaneous.

Colt Lame.

Will you kindly give your opinion as to what is wrong with my colt, one year old last June, and a Percheron. When I let her out of the box stall she will drag toe of hind foot for a step or two, then the leg will spring up something like stringhalt, but when let out for exercise, after a short time you do not notice it at all? A. M.

Ans.—This is likely luxation of the patella. Watch carefully, and see if a small lump is not noticeable on what is known as the "stifle." Sometimes this joint slips partially out and in. If you become sure that this is the trouble, blister with the biniodide of mercury and cantharides as so often advised in these columns.

Timothy Seed—Pinworms.

1. I see in your paper the market prices of timothy seed No. 1, per bushel, \$1.90 to \$2.25, and No. 2, per bushel, \$1.25 to \$1.60. Would you please send me an address where I could send for timothy seed?

2. I have a five-year-old colt troubled with pinworms. He has quite a quantity of them. Will injection drive the pinworms out? If it will, please advise me what to use. D. D.

Ans.—1. Try some of the seed firms advertising in this journal.

2. First give an injection of warm soapuds to clean out the bowel, and follow it with one of salt and water (1 ounce of salt to ½ gallon of water), or a decoction of quassia chips may be used. Quassia chips, ½ lb.; rain water, 1 gallon. Mix, and boil down to ½ gallon. Then strain off chips and inject with syringe and keep in for half an hour by holding down tail. Clean the rectum out, and give an injection once a week.

Annual Hay—Feed For Cows.

1. What would you recommend to sow next spring on land plowed last fall, to cure for hay for dairy cows?

2. How would you feed the following for best results: clover hay, oat hay (in barn), bran, and shorts, about \$30 per ton; dried brewers' grains, \$26 per ton; rye shorts, \$26 per ton? Would it be necessary to add anything else? McL. BROS.

Ans.—1. Oats and peas, cut in the dough stage, would make as good hay as anything.

2. Feed all the good clover and oat hay the cows will clean up. The brewers' grains, if of good quality, should prove a satisfactory feed. They are just a little better for milk production than wheat bran. They are a little low in carbohydrates and high in fiber. Oat hay would be necessary with the clover hay to bring up the carbohydrates of the ration, and it would be better to add some silage or roots to the ration.

Mares Switch—Tanning—Bad Leg.

1. Do you know why two of my mares switch their tails whenever a cow or calf bawls. Is it just a habit, or is there something wrong, and can it be stopped?

2. Is there any way to tan ground-hog skins at home?

3. What can I put on a mare's legs to stop them from leaking? W. W. Y.

Ans.—1. Likely habit, or nervousness. We can see no connection between a calf's bawl and a mare's tail.

2. Soak for two or three days in soft water. Scrape off all flesh, and when thoroughly cleaned, place in a tan composed of equal parts alum and salt dissolved in water, 7 lbs. each to 12 lbs. of water. Leave skin in brine 2 days, then hang up and scrape off to soften. After softening, place back in the brine for a day or two and hang up again. After this, apply a coat of oil and roll up in damp sawdust and lay away till dry.

3. What is meant by "leaking" we scarcely know. It may be grease. If so, feed moderately to lightly on grain, and purge with 8 drams aloes and 2 drams ginger, given as a ball. Feed bran mashes until purged. Follow up with ½ ounces Fowler's Solution of Arsenic twice daily for a week. Apply linseed poultices locally.

Finish This Story

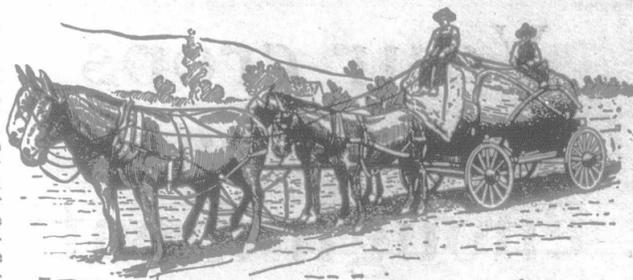
A WORKMAN in an IHC wagon factory was explaining

the various stages of wagon construction to an interested visitor. He picked up two pieces of long leaf yellow pine, which to all appearances were sawed from the same board, and asked the visitor to notice the difference in the weight of the two pieces. The lighter piece, he explained, was kiln-dried. The heavier piece was air-dried and more thoroughly seasoned. It had retained the resinous sap which adds strength and toughness, while in the kiln-dried piece of lumber this sap had been drawn out by the too rapid application of heat.

Every Stick of Lumber Used in IHC Wagons is Carefully Selected, Air-Dried Stock

Here was something to think about. The visitor asked for a test as to the relative strength of the two pieces of wood. The air-dried piece held up under nearly double the weight under which the kiln-dried piece of lumber broke. The workman explained how the comparative life of air-dried and kiln-dried lumber has about as great a difference.

To the eye there was no difference between these two pieces of lumber, but when put to



the test there was a vast difference. So it is throughout the construction of IHC wagons—Petrolia, and Chatham. They are built for real strength, light draft, and satisfactory service.

After seeing the care used in the construction of every part of an IHC wagon, the visitor asked: "Why don't you let people know of the great care used in selecting material and in constructing IHC wagons?"

This is what we have been trying to do, but we cannot tell it all in one short advertisement. IHC local agents handle the wagons best suited to your work. See them for literature and full information, or write the nearest branch house.

International Harvester Company of Canada, Ltd
EASTERN BRANCH HOUSES

At Hamilton, Ont.; London, Ont.; Montreal, P. Q.;
Ottawa, Ont.; St. John, N. B.; Quebec, P. Q.
Built at Chatham and Petrolia, Ont.



CAMP COFFEE

'Camp' steaming hot gives the maximum of pleasure, vigour and satisfaction at the minimum of cost, time and trouble

Try 'CAMP' to-day!

Simply 'Camp'—boiling water—sugar and milk to taste—you can't go wrong!

Of all Stores.

R. PATERSON & SONS,
COFFEE SPECIALISTS, GLASGOW

Chick Success

The raising of chicks is not difficult when conditions are right. Try our way, and make this your most successful season. Feed

Pratts Baby Chick Food

for the first three weeks. No feed on earth will give the youngsters such a vigorous start, and the cost is but 1c per chick. In boxes and bags, 25c up

Pratts White Diarrhea Remedy

25c 50c prevents and cures the bowel troubles which are so common and cause such heavy loss. Just drop the tablets in the drinking water for all broods up to one week of age.

Pratts Poultry Regulator

should be mixed with the daily ration after the third week. It induces rapid growth and early maturity by keeping the digestive system in perfect condition. 25c, 50c, \$1; 25-lb. Pail, \$2.50

"Your money back if it fails"

Our products are sold by dealers everywhere, or

PRATT FOOD COMPANY OF CANADA, Ltd., Toronto.



Pratts 160-page poultry book 10c. by mail

IDEAL GREEN FEED SILOS

You could buy a new IDEAL GREEN FEED SILO every year and still be money ahead.

Get our new Silo book and learn how to make more money from your COWS.

Free upon request.

De Laval Dairy Supply Co., Ltd.
173 William Street, Montreal
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For Sale Cement, Sewer Pipe & Drains TILE, all sizes. Counties and Townships send in your orders to JOY & SON, Napanee, Ontario Agents for Acme Tile Machines and Silo Block Machines.

"Saskatchewan"

For sale 160 acres; good land; two miles from railway station. For particulars address:

G. W. MARSHALL,
Canada Paper Company,
TORONTO, ONTARIO

TWO HOURS OF YOUR SPARE TIME and 25c. will get you the best \$4.00 pair of shoes for man or woman ever made. Write for particulars to the Brantford Shoe Company - Brantford, Ontario

Your crops don't eat enough meat

Perhaps you think this is rather a strange saying. Not at all. Your crops eat, just as you do. Just as in your case you grow healthy and strong with good and proper food, and thin and weak with poor food, so they—your crops—with proper food will grow healthy, abundant and strong, and bring you big returns.

The food your crops feed on consists of Nitrogen, Phosphoric Acid and Potash, and that food which they depend upon for size and quality of their fruit is POTASH, which we have aptly termed the "meat" that your crops eat.

POTASH PAYS

And we can prove that POTASH pays. Hundreds of farmers in Canada have doubled their crops with the proper use of POTASH, and this is the way they have done it.

They have taken the ordinary fertilizer which they buy from their dealers and which contains less than 10% POTASH and they have added enough POTASH, under very easily followed instructions, to make that fertilizer a 10% fertilizer.

The results have brought many a penny to their pockets. YOU can do the same. Your crop, no matter whether it is oats, wheat, apples, potatoes, tobacco, corn or anything else, removes from your soil three times as much POTASH as it does Phosphoric Acid. But the ordinary low-grade fertilizer contains only 2% Potash as against 8% Phosphoric Acid.

So, Mr. Farmer, this does not give back to your soil the proper amount of POTASH. Naturally you must increase this amount of POTASH in order to make a proper fertilizer. You don't have to take our word for this. Ask any Agricultural Expert in any part of the world and he will tell you that it is true.

So, then, if you want to raise a bumper crop—if you want to get the maximum amount of produce from your soil, use a 10% POTASH fertilizer. Insist upon it. If your dealer does not sell POTASH we will gladly ship you the POTASH which we have stored ready for immediate delivery in warehouses at Montreal, St. John, N. B., and Toronto. You can mix your own fertilizer at home if you want to, and our experts will tell you how to do this free.

Send for free booklet which will tell you how to properly fertilize the kind of crop YOU raise. We will gladly send you this important and interesting booklet free.

Send your order for POTASH through your dealer or if your dealer has not got it, send us the dealer's name and we will quote you prices and send full particulars.

"POTASH PAYS." Make this year's crop a bumper crop. Ask us to help you—write for free expert advice TO-DAY.

German Kali Works, Inc.

Temple Building,

Toronto, Ontario

HEALTH WARNING PROCLAMATION

What Will You Take For Your Health?

THINK MEN of your health, comfort and from \$5 to \$20 a year cash saved in your pocket, that wearing my steels will get you. It's doing all I claim for over 150,000 men of Canada right now—over 600,000 men all over as you can prove.



N.M. Ruthstein, The Steel Shoe Man

This steel soled, waterproof shoe is an absolute protection to your health, aside from being a comfort to your feet; for you can work all day in mud and water with your feet powder dry. You escape colds, rheumatism, neuralgia, the dreaded pneumonia, and the long list of ills that result from damp or wet, cold feet.

Make Order Direct From This Ad at My Risk—On Free Home Examination. Perfect Fit Guaranteed!

Men's Steel Shoes

Sizes 5 to 12
6 inches high, extra grade of leather, black or tan color, \$3.50 per pair.
9 inches high, extra grade of leather, black or tan color, \$5.00 per pair.
12 inches high, extra grade of leather, black or tan color, \$6.00 per pair.
16 inches high, extra grade of leather, black or tan color, \$7.00 per pair.

Boys' Steel Shoes

Sizes 1 to 4
6 inches high, \$2.50 per pair
9 inches high, extra grade of leather, black or tan color, \$3.50 per pair.

Each pair of steels is worth \$2.50 more than the best all leather work shoes. For all classes of use requiring high-cut shoes our 12 or 16 inch high Steel Shoes are absolutely indispensable.

Save \$20 Per Year Shoe Money

Save more than \$20 Per Year Doctor's Bills

You

can prove this at my risk on 10 days FREE Try-On Examination. Absolute satisfaction or money back. Order direct from this ad and save time. If you won't order now be sure to write me a postal for my FREE Book "The Sole of Steel" which tells the whole story, with wearers' testimony on how my steel shoes give every day, longest time.

FOOT COMFORT

outlast from 3 to 6 pairs of regular leather shoes and are of absolute foot form. The Sole of Steel cannot warp, twist or draw out of shape. Consequently, corns, bunions, calluses, etc., cannot be irritated, and no portion of the foot can be rubbed so as to start new miseries of this kind. No all leather shoe can fit after it has a twisted, broken sole that allows the uppers to crease up into galling wrinkles. No repairs necessary. My "Steels" are made with adjustable steel rivets that sell 50 for 3 c and keeps my steels in good repairs for 2 years or more. I promise you your money back if not satisfied. This guarantee is legally binding on myself and my company. Prove the satisfaction. Send your order today to—

N. M. RUTHSTEIN, "The Steel Shoe Man" Dept. 140, Toronto, Can.

U. S. Factory at Racine, Wisconsin Great Britain Factory at Northampton, England (15)
Editorial Note: You are absolutely safe to save time by sending your order direct from this advertisement. Guaranteed money back if not satisfied on this liberal offer. BOOK FREE telling the whole story if you want to wait. Postal gets it.

The Anthony Fence

Made in Canada



The Anthony Knot

A fence that is tied with a perfect lock.

A lock that is strong, neat and compact.

A lock that will not loosen by expansion and contraction from heat and cold.

A lock that won't come off.

The Anthony Fence is made of all No. 9 wire, which is thoroughly galvanized.

The Anthony Fence will not bend down at the top or roll up at the bottom, but will stand up straight when erected.

The Anthony Fence will stop anything from a pig to a bull.

If you are interested in a fence like this, write for full descriptive catalogue. Live agents wanted in all unoccupied territory.

THE ANTHONY WIRE FENCE CO. OF CANADA, LIMITED

WALKERVILLE, ONTARIO

Questions and Answers.

Miscellaneous.

Miscellaneous Queries.

1. How long does it take a spavin to appear on a mare's leg, after a slip or strain, and can anything be done to prevent it coming?
2. Heifer has a bad cough, is thin and poor, and has a scaly matter around her eyes and nose. Is it anything serious, or contagious?
3. We have a lot of small oak on our land. Would they make good fence-

posts; are they any better than cedar, and how long would they last?

4. How much would a wagon-box, full of mixed horse and cow manure, weigh, the manure being fairly free of straw, and has stood outside in the pile all winter, and piled up to a ridge in an ordinary wagon-box?

5. Please give a simple way to make a trap nest. R. D. R.

Ans.—1. It may appear very soon, or it may be some time. As soon as signs appear, blister.

2. This may be tuberculosis. Have her tested.

3. They would not be nearly as durable as cedar.

4. Possibly two tons.

5. Write Prof. W. R. Graham, O. A. C., Guelph, for bulletin on farm poultry.

Spray on Grass.

In spraying the apple trees with lime-sulphur and lead arsenate, a good lot of the mixture falls on the grass. Will sheep be injured in any way if they eat this grass anytime after the spraying has been done? J. P.

Ans.—Of course, arsenate of lead is

poisonous. The injury, if any, would depend upon the amount of drip. We have known of cattle being poisoned by feeding where spraying material had been prepared, but there was considerable sediment emptied out in one place, and likely the cattle licked it. With an ordinarily small amount of drip from the trees, there should be little danger of the sheep getting enough to hurt them, but it might be well to keep them out of the orchard until a good rain had washed the grass free of the spray material, especially where the trees have been heavily soaked and the amount of drip is large.

Questions and Answers.

Miscellaneous.

Engineer's Papers.

1. Can anybody of seventeen or eighteen years of age get an engineer's license?

Ans.—1. To whom must he apply? H. S. Ans.—1 and 2. Address "The Secretary," Department of Agriculture, Toronto.

Salt for Bindweed—Turkey Mating.

1. How much salt would I need to put on a patch of bindweed 30 x 40 feet, to kill it, and how apply it?

2. Would it matter much to keep a gobble and hen out of the same hatching of turkeys to breed from?

Ans.—1. Cover the patch. 2. It would be advisable to get a male bird from another flock.

Combs Injured.

The combs of my cockerels appear as if they had been frozen. They turn white, dry up, and the points drop off. It is not frost, as it happened before any severe weather came. What is the cause? Good housing (open-front type), healthy in every other respect.

Ans.—The only explanation we can give is frost injury. Perhaps it was colder in the hen-house some night than you think.

Well Curbing.

Can you inform me whether spruce or tamarack lumber would taint the water in a well if used for cribbing? I purpose using two-inch plank. Is it better to put it straight up and down, or would a series of frames be the better?

Ans.—These materials might cause a slight flavor when first put in, but it would not be harmful. It matters little which system is used, as long as it is tight, especially the top ten feet.

Abortion.

Is there any remedy for a cow dropping her calf at seven months. One recently aborted, and I had one abort two years ago. Is it contagious? I feed silage, turnips, straw, and a little hay at noon.

Ans.—There are two kinds of abortion, one as a result of injury or circumstances, the other contagious. Careful feeding and good care is all that can be done for the former. The latter is one of the worst diseases known in cows. Isolate all affected, and thoroughly disinfect stables, and all the outer generative organs of the cow. This question is frequently answered through these columns. See some of the former answers. From the question, we should judge that your cows are not suffering from contagious abortion, although it would be wise to take precautionary measures.

Farming on Shares—"Stified".

1. I have 160 acres of land, and have taken a young married man to work it on shares. I supply everything. What proportion of the profit is right for him to get? Should I board him and his wife?

2. Have a colt rising two years old that is wrong in the stifle. There is an enlargement, and it has a bit of a hitch when it trots. She got hurt when we were weaning her. She will make a good worker if she never gets any better. What would you advise me to do for it?

Ans.—1. Various allotments are made in farming on shares, according to different conditions and localities. No rule can be laid down. The tenant usually gets from 33 to 40 per cent. of the proceeds, and boards himself.

2. The colt has luxation of the patella, commonly called stified. Take 2 drams each of biniodide of mercury and cantharides, and mix with 2 ounces of vaseline. Tie so that she cannot bite the parts. Clip the hair off around them, and rub well with the blister once daily for two days. On the third day wash off and apply sweet oil and let the colt loose in a box stall. Oil every day until the scale comes off. If necessary, repeat the blister in a month, and again if required.

Oliver Plows Have Stood the Test of Time

FIFTY-SEVEN years ago, when James Oliver made his first plow, he made up his mind to make as good a plow as he could make, and to make a plow a little better than anybody else was making. Through all the years that Oliver plows have been built, through times of prosperity and adversity, these two ideas of James Oliver's have guided the whole organization in the building of Oliver plows. To show how thoroughly the plow situation is studied by these efficient manufacturers, and to convince you that plows made by them will do your work, it is only necessary to point out the well-known rule of the Oliver Plow Works: "Make and sell only those plows which you know from experience will do good work when they are sold."



Oliver Plows for Eastern Canada

consist of a group made specially for this country. It includes walking plows, three-wheel sulks, walking gangs, high and low lift gangs, hillside plows, and riding cultivators. Perhaps the most popular plows in this line are the Oliver 1-C sulky and 1-C gang. They are so built that the two furrow wheels which carry most of the weight of the plow are traveling on a smooth surface at all times. This, in connection with a spring on the land wheel, and the two bails, insures the evenest possible depth of plowing. These two plows

can be used in almost every part of Eastern Canada.

The shape and construction of the share and the kind of material to be used; the construction of the frog; the amount of beam landing; the strength and design of the frame; these are but a few of the points which are brought out by thorough experimenting before an Oliver plow is sold.

You can see any plow in the Oliver line at the place of business of the I H C local agent. See him for catalogues and full information, or, write the nearest branch house.

International Harvester Company of Canada, Ltd.

EASTERN BRANCH HOUSES

At Hamilton, Ont.; London, Ont.; Montreal, P. Q.; Ottawa, Ont.; St. John, N. B.; Quebec, P. Q.

These plows are built at Hamilton, Ont.



HURST SPRAYERS ON FREE TRIAL

NO-MONEY-IN-ADVANCE PAY AFTER IT HAS PAID FOR ITSELF

LET US SEND YOU ANY OF THESE SPRAYERS—to try for 10 days, then if you buy, you can pay us cash or we'll wait till you sell your crop, then you can pay us out of the "extra profit." We pay freight. Wholesale dealers' prices.



Man-Power Potato and Orchard Sprayer.

Sprays "anything"—potatoes or truck, 4 rows at a time. Also first-class tree sprayer. Vapor spray prevents blight, bugs, scab and rot from cutting your crop in half. High pressure from big wheel. Pushes easy. Spray arms adjust to any width or height of row. Cheap in price, light, strong and durable. GUARANTEED FOR FIVE FULL YEARS. Needs't-sund-e-cent to get it "on trial." You can get one free if you are first in your locality. Write today.

Horse-Power Potato and Orchard Sprayer.

For big growers. Most powerful machine made. 60 to 100 gallon tank for one or two horses. Steel axle. One-piece-heavy-angle-iron frame, cypress wood tank with adjustable round iron hoops. Metal wheels. "Adjustable" spray arms and nozzles. Brass ball-valves, plunger, strainer, etc. Big pump gives vapor spray. Warranted for five years. Try this machine at our expense with "your money in your pocket." See free offer below. Write today.

Fits-All Barrel Sprayer.

Fits any barrel or tank. High pressure, perfect agitation, easy to operate. Brass ball-valves, plunger, strainer, etc. Automatic strainer. No "cup leathers" or rubber about any of our sprayers. Furnished plain, mounted on barrel, or on wheels as shown. Five year guarantee. It don't cost you "a cent" to try it in your orchard. Get one free. See below. Write today.

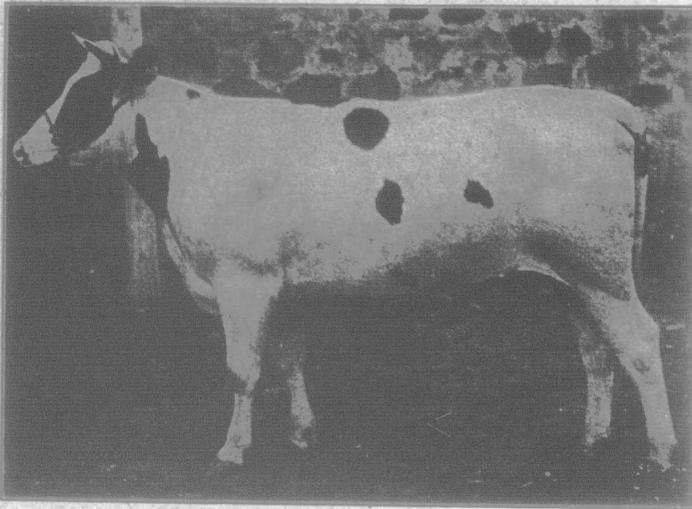
FREE—Get a sprayer FREE.—After you have tried the sprayer and are satisfied that it is just as we recommend it, send us a list of the names of your neighbors and we will write them and quote them price and have them call and see your machine work, and for every Fits-All Sprayer we sell from your list we will credit you with \$1.00 or send you check if you have paid cash. For every Man-Power Potato and Orchard Sprayer we sell we will credit you with \$5.00 or send check. For every Horse-Power Potato and Orchard Sprayer we sell we will credit you \$25.00 or send check. We do all corresponding and selling. All you need do is to show the sprayer. Many have paid for their sprayer in this way. This offer is good for only the first order in each locality. Don't delay. Send the coupon or post card NOW. THE ONTARIO SEED COMPANY, Successors, 138 KING STREET, WATERLOO, ONTARIO

COUPON — Fill Out and send to-day. THE ONTARIO SEED CO., Successors, 138 King Street, Waterloo, Ontario. Send me your Catalogue, Spraying Guide, and "special offer" on the sprayer marked with an X below. Man-Power Potato and Orchard Sprayer. Horse-Power Potato and Orchard Sprayer. Fits-All Barrel Sprayer. NAME..... ADDRESS.....

Also ask for catalogue of our superior home grown and imported Seeds. Order our famous collections: Farm Garden Collection, 26 selected varieties, \$1.00, postpaid; Trial Collection, 18 selected varieties, 50c, postpaid; Childrens' Collection, 15 selected varieties, 25c., postpaid. "Our Ideal" Mangel has proven the largest yielder in last year's co-operative experiments.

EWING'S RELIABLE SEEDS. The Germs of Life are Vigorous. in Ewing's Reliable Seeds—and so are the Vegetables, Field Crops and Flowers grown from them. This is not merely a claim—it is a proven fact, which has been demonstrated annually, for over forty years, by thousands of Canadians. Don't stake your time, trouble, expense, and the season's use of your land, on an uncertainty. Get Ewing's Reliable Seeds and be sure of good crops. WM. EWING & CO., Seedsmen MCGILL ST., MONTREAL. 27

HOLSTEINS BY AUCTION



Silver Creek Belle No. 9947. She is included in the sale.

COL. WELBY ALMAS, Brantford
COL. A. SIPLE, Woodstock
WM. PULLIN, Woodstock } Auctioneers

Catalogues on
application to:

Owing to having sold his farm, Mr. A. H. Teeple, of Currie's, Ont., at the big, Sale Pavilion, in the city of WOODSTOCK, ONT., on

Tuesday, March 11th, 1913

Will sell by auction, without any reserve, his entire herd of
48 HEAD of richly-bred and producing **HOLSTEINS**

This is one of the noted herds of Oxford County, the result of many years' breeding, the produce of high, official backing on both sides for generations; including a big number of very choice heifers, and the two grandly-bred stock bulls, King Fayne Segis Clothilde and Prince Abbekerk Mercena. The entire offering is an exceptionally high-class one and in splendid condition.

TERMS: Cash, or nine months' credit on approved note with 6 per cent.

A. H. TEEPLE, Currie's, Ontario

Questions and Answers. Miscellaneous.

The Good Templars.

Would you please inform me whether the order of Good Templars still exists? If so, who is at their head? Where is their head office? To whom should I write for information?

SUBSCRIBER.

Ans.—We could not say, but would suggest that "Subscriber" write Ben. H. Spence, 150 Confederation Life Building, Toronto, Ont.

Burning Charcoal.

Let me know how to burn charcoal?
A. S.

Ans.—Charcoal is a black, odorless, tasteless substance, obtained by burning vegetable matter or wood in a kiln from which all air is excluded. It is a product of imperfect combustion, consisting of carbon mixed with inorganic ash. It burns readily in a stove or furnace, and is often used in starting fires in place of light wood.

Spot on Eye.

Have three-year-old colt that got white spot on his eye last spring. A veterinarian treated, and it got smaller, but did not all disappear, and he said it would wear away in time. It has come back. Is there any use in going to any more expense with it? T. B.

Ans.—This is possibly cataract. If so, a cure is not likely, but it would be advisable to give the veterinary another chance, as he may yet be able to effect a cure.

Egg Crates.

In your issue of November 21st, 1912, No. 1052, in J. C. Stuart's article on "A Year's Balance with Poultry," he speaks of crates used in shipping his eggs. Now, those crates would be just what I wanted, and I would like to know where I could get them.

R. W. M.

Ans.—Any dealer in poultry supplies could furnish you with these cartons. Write some of those advertising in this paper.

Warts on Teats.

I have a young cow with teats covered with small warts. Would like to get rid of them before she freshens. What treatment would you advise?
A. A. Y.

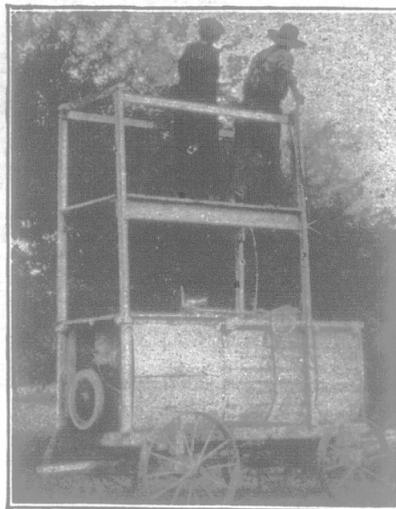
Ans.—Some say that warts may be removed by repeated applications of castor oil. Many use caustic. Apply to the surface of each wart a little butter of antimony, being careful not to get the caustic on any surface but that of the wart. Warts with narrow, constricted necks, may be cut off, and a little healing lotion applied to the raw surface.

"Shall I Buy a SPRAMOTOR or an ordinary spraying outfit?"

That's the question. Your decision should be determined by what you expect the machine to do and how long you expect it to do it.

If you want a durable gasoline machine to do all these things in a bigger way, but mainly for orchard work and whitewashing, you want the

MODEL "C" SPRAMOTOR



If you want a durable H.-P. machine to do all these things, besides spraying grain and doing the whitewashing, you want a

H.-P. SPRAMOTOR

If you want a durable hand machine for the purpose of destroying weeds, spraying orchards, potatoes and row crops, one that you can also paint with, you want a

HAND SPRAMOTOR

The SPRAMOTOR, in every class, has demonstrated its superiority to all other spraying outfits, and there's one built specifically for your needs.

Prices range from
\$6.00 to \$350.00.

N.B.—When you buy a SPRAMOTOR you make a permanent investment, because every machine bearing the name is built to endure.

SPRAMOTOR, LIMITED, 1564 King St., LONDON, CAN.

Goats.

I would like to get a little information about goats, through "The Farmer's Advocate." Are they profitable to keep? If so, where can they be bought, what would be the cost, and which would be the best kind to get?
J. K. S.

Ans.—Goats are not considered valuable in this country, kept on a large scale. Some sheep-breeders keep one to run with the sheep. Angora goats are most in demand as pets. Breeders of these should advertise in "The Farmer's Advocate." An excellent book on the Angora goat may be had through this office, at \$1. postpaid.

Swelling on Colt's Leg.

I have a two-year-old colt that has a swelling on inside cord of hind leg, a little above where a thoroughpin would be. It does not injure its action in any way, but is larger now than when I noticed it last fall. Have rubbed liniment on it, but it has not taken it down any. What would you advise?
T. J. H.

Ans.—Try a blister composed of 2 drams each of biniodide of mercury and cantharides, mixed with 2 ounces of vaseline. Tie the horse so that he cannot bite the parts. Clip the hair off around the swelling, and rub well with the blister once daily for two days. On the

third day wash off and apply sweet oil. Let the colt loose now, and oil every day until the scale comes off.

Stringhalt.

I have a valuable horse. His age is four years, and he took the stringhalt in both legs about ten months ago. He seems to be getting worse. Could you tell me whether there is a cure for him, and what is the cause of it?
J. E. J.

Ans.—Stringhalt is a nervous disease, usually progressive, and worse in cold than in warm weather. Medical treatment has practically no effect. An operation, which consists in severing the peroneal tendons, and which can be performed only by a veterinarian, often effects a cure, but not in all cases.

Bulletin—Cement vs. Block-wall.

1. Where and how can I get a copy of a Cornell bulletin on splices, knots, and ties?

2. Which would be the least liable to freeze, and the more satisfactory, a root cellar made of solid concrete walls ten inches thick, or one with walls of hollow concrete blocks? With the solid concrete wall, I would bolt on two-by-fours at intervals of two feet, and board up inside, leaving a two-inch space. If you consider the hollow-block wall the more satisfactory, would it pay to bolt studs on inside and board up as I suggested in the solid wall? This root cellar is to be placed in one half of bay in barn.
W. F. C.

Ans.—1. Write the College of Agriculture in connection with Cornell University, Ithaca, New York.

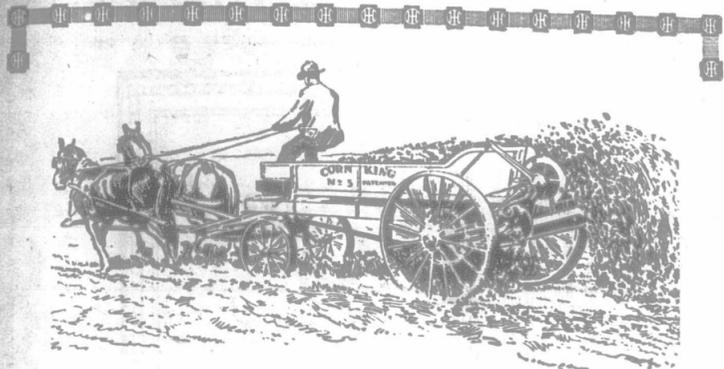
2. The solid concrete, lined as described, should be satisfactory.

Trade Topics.

A 160-acre farm of good land, two miles from railway station, in Saskatchewan, is advertised for sale by G. W. Marshall, Canada Paper Co., Toronto.

Farm power is the subject which fills every farmer's mind in these days of shortage of labor. The gasoline engine has solved the problem for hundreds. Look up the advertisement in another column of "The Perkins Family." The Perkins Windmill & Engine Company, London, Ont., manufacture engines, windmills, grinders, steel tanks, buzz-saws, etc. See the advertisement, and don't forget the address.

In another column, S. G. Sangster, a patron of the West Nissouri, Ont., chess factory, advertises a sale on March 12th, of high-grade Holstein cows. This herd had the honor of winning first prize in the second section (herds over 15 cows) of the Western Ontario Dairy Association herd competition in 1912.



Your Soil Is Alive

To all intents and purposes, soil is alive. It breathes, works, rests; it drinks, and, most important of all, it feeds. It responds to good or bad treatment. It pays its debts, and pays with interest many times compounded. Being alive, to work it must be fed. During the non-growing seasons certain chemical changes take place which make the fertility in the soil available for the next season's crop. But this process adds no plant food to the soil. Unless plant food is added to soil on which crops are grown, unless the soil is fed, in time it starves. There is one best way to feed your soil. Stable manure, which contains all the essentials of plant life, should be spread evenly and in the proper quantity with an

I H C Manure Spreader

I H C manure spreaders—Corn King or Cloverleaf—are made in all styles and sizes. Sizes run from small, narrow machines for orchard and vineyard spreading, to machines of capacity for large farms. The rear axle is placed well under the box, where it carries over 70 per cent of the load, insuring plenty of tractive power at all times. Beaters are of large diameter to prevent winding. The teeth that cut and pulverize the manure are square and chisel pointed. The apron drive controls the load, insuring even spreading whether the machine is working up or down hill, or on the level. I H C spreaders have a rear axle differential, enabling them to spread evenly when turning corners.

The I H C local agent will show you all their good points, and will help you decide on the one that will do your work best. Get literature and full information from him, or, write the nearest branch house.



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BRANCH HOUSES

At Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton



Get a fifteen-year roof

When you lay a new roof on your residence, barn, chicken or hog house, you want every assurance that it will last a reasonable length of time

You get an artistic and durable roof—one that needs no repairing, one that is weatherproof, that is practically fireproof, and guaranteed for fifteen years, if you select

Certain-teed Roofing

(Quality Certified — Durability Guaranteed)

in Rolls and Shingles

Use **Certain-teed** Roofing on the sides as well as roof, and have a poultry house that is free from dampness and frost—two of the most common causes for failure in raising chickens. You do not have to wade through a maze of complicated directions to lay **Certain-teed** Roofing—hammer and nails only are necessary.



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largest manufacturer
of Roofings
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Get our new book, "Modern Building Ideas and Plans." A book of this kind would ordinarily sell for \$1—but as it illustrates the use of our **Certain-teed** Roofing on all kinds of model city, factory and farm buildings, we offer it to you at 25c.



Get this valuable book FREE at your dealer's

We prefer that you go to your lumber, hardware or building material dealer, who will gladly get you a copy free. If you write us, enclose 25c to cover cost, postage and mailing.

General Roofing Manufacturing Co.

York, Pa. E. St. Louis, Ill. Marselles, Ill. Minneapolis, Minn. San Francisco, Cal.
Winnipeg, Can. London, England Hamburg, Germany

Questions and Answers.

Veterinary.

Cats With Vermin.

I have two Persian cats that have lice. R. R. McL.

Ans.—Get some insect powder, part the hair in several places, and dust the powder in, or wash well every third day as long as necessary with a warm five-per-cent. solution of Creolin or Zenoleum. V

Aphtha—Abortion.

1. Mare has little sores on tongue and lips.

2. After a heavy pull and bad jerk, my mare aborted. Would it be wise to breed her early, or wait until the time she should have foaled? G. S. S.

Ans.—1. Gargle her mouth three times daily with acetic acid 1 part, water 30 parts. If some of the sores do not heal, touch them once daily for a few days with a pencil of lunar caustic.

2. Breed her any time after six weeks after aborting. V.

Unthrifty Animals.

1. Nine-months-old colt, fed well on hay and oats, has a heavy coat of hair, and is not gaining in flesh.

2. Mare is getting five quarts of oats daily, and plenty of good hay, has a rough coat and remains thin. S. C. H.

Ans.—1. The rough coat is natural to animals that are not blanketed and well groomed, and it will remain rough until the colt sheds its hair in the spring. Feed rolled oats and bran dampened with warm water night and morning, and feed whole oats and a carrot or two at noon. If you allow regular exercise, you may increase the amount of grain until it is getting equal to a quart of whole oats three times daily.

2. This mare is not getting sufficient grain to cause increase of flesh. See

BRUCE'S

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ALSIKE, LUCERNE
TIMOTHY,
RED CLOVER

JOHN A. BRUCE & CO.
HAMILTON, CANADA

Regal Red Clover - \$16.00 Bushel
Choice " " - 14.75 "

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Regal Lucerne " - 11.50 "
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Cotton Bags 25c. each.

Our Regal Brand is No. 1 and our Choice Brand is No. 2 Govt. Standard.
Prices for Lower Grades on Application.

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John A. Bruce & Co.
Limited
HAMILTON, CANADA
Established 1850 183

that she gets a little exercise daily, and feed one gallon of oats, or its equal of rolled oats, three times daily. She will do better on rolled oats, and also give a little bran and raw roots daily. V.

Diarrhea in Foals.

Last winter I had three mares in foal. I fed well on oats, hay, and straw, and towards spring increased the grain ration. I exercised them every day, and when spring work commenced I worked them daily until they foaled. One mare

produced a strong foal that did well. The second one produced a strong foal that when about 24 hours old took diarrhea, which continued for two days, then it gradually ceased, and the foal died when a week old. The third mare also produced a strong, smart foal, but in 24 hours it also took diarrhea and died when 48 hours old. S. B.

Ans.—Your care during pregnancy was good, which was evidenced by the production of strong, smart foals. The

diarrhea was, no doubt, caused by the mares' milk containing too great a percentage of fat, which cannot be accounted for, nor suspected, without a testing of the milk. The administration of about a dram (80 drops) of laudanum in a little lime water every two hours for a few doses might have saved them. When this condition of the milk is suspected, it is good practice to milk the mare frequently in order to prevent the colt from getting all it will take. V.

Miscellaneous.

Apples—Pig-pen—Heating.

1. I have several young trees of fall apples, some Yellow Transparent, and some I don't know name of. Would it do to graft winter varieties on them, say, Baldwins?

2. Would Northern Spies bear earlier if grafted on Yellow Transparent? Does San Jose scale affect currant bushes?

3. Would you please publish a plan of small hogpen, as I have to rebuild mine?

4. Could house be heated by steam radiators. We have no cellar under the house, as it is built on edge of marsh. Heating with coal-stoves is expensive this winter, to keep house comfortably warm. Would it be expensive to install a proper heating system? L. F. W.

Ans.—1. Yes; they could be grafted with fair success, provided the young trees are healthy.

2. Northern Spies bear earlier on grafts than on the Spy trunk.

3. Anyone having a good plan of a hogpen should submit it to "The Farmer's Advocate" for publication.

4. Certainly, a house may be heated by radiators. Enquire as to cost of installation from some reliable hardware and plumbing firm, giving them particulars.

ANNOUNCEMENT *of* a NEW BOND COMPANY

Of interest to financial men and to the public generally is the formation of the Bankers Bond Company, Limited, with a capital of One Million Dollars, headquarters at Toronto.

The President of the Company is Mr. F. W. Baillie, the Vice-President, Mr. F. P. Wood, and, in addition, a group of prominent Canadian banking men are interested both as investors and advisors.

The Bankers Bond Company will conduct the customary bond and preferred stock business, and aims to be of special service to the public in other ways.

It will assist worthy industries, business men and others who have not access to the customary channels for capital, to expand by financing the needed money. Canada has many industries only needing capital to become large and prosperous concerns.

Directed by men experienced in both investments and banking, the Bankers Bond Company should render valuable service to investors and business men. This should especially apply in a country such as Canada, so replete on one hand with opportunities for investment wherein judgment and foresight are needed, and, on the other, with opportunities for business expansion, provided financial assistance is forthcoming in either small or large amounts at crucial periods.

The Bankers Bond Company is the outcome of steady and important growth of the investment business done by the firm of Baillie, Wood and Croft, Bankers and Brokers, Toronto, during a period of ten years. The latter firm will hereafter confine themselves to Stock Exchange business.

The Bankers Bond Company, Limited, have engaged as premises the ground floor of the Imperial Life Building, Victoria St., Toronto.

BANKERS BOND COMPANY
LIMITED
TORONTO, CANADA.

NO TROUBLE TO KEEP INFANTS BOTTLES

SWEET, CLEAN and SANITARY With

Old Dutch Cleanser

MANY USES AND FULL DIRECTIONS ON LARGE SIFTER-CAN 10¢



Seeds and Seed Grain

O. A. C. 21 BARLEY—Fine sample, \$1.00 per bush.; 10 bush. lots, at 90c; bags extra.

OATS—Swedish Giant, New, at 85c per bush.; bags extra. 20th Century, at 65c per bush.; bags extra. Sensation, at 65c per bush.; bags extra. American Beauty, at 80c per bush.; bags extra. American Banner at 65c per bush.; bags extra. Regenerated Abundance at 90c per bush.; bags extra.

PEAS—Early Centennial, at \$2.00 per bush.; bags included.

TIMOTHY—Pine Tree Brand, Grades No. 1 for purity, but No. 2 for general appearance, at \$3.00 per bush.; bags included.

RED CLOVER—Fancy No. 1, at \$16.00 per bush., bags included. No. 2, at \$15.00 per bush., bags included.

ALFALFA OR LUCERNE CLOVER—No. 1, at \$12.00 per bush.; bags included.

ALSYKE—No. 1, at \$18.00 per bush.; bags included. No. 2, at \$17.00 per bush.; bags included.

Cotton Bags, at 25c; 3 bush. Bags, at 35c; samples sent on request. All goods guaranteed to open to satisfaction or can be returned, and money refunded. Terms CASH with order.

HEWER SEED CO.
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Established 45 years ago.

A Warning to Canadian Farmers

Do not starve your crops. Wherever there is a lack of plant food in the soil, plants cannot attain normal development; in other words, they starve. It is therefore necessary to provide the plants with the nourishment required, by judicious fertilizing. But in fertilizing, be sure to use sufficient POTASH, since of all plant-food substances, POTASH is most heavily drawn on from the soil. POTASH improves the quality, promotes the maturity and increases the yield of all crops.

This is a recognized fact in both science and practice. Further particulars and free copies of illustrated bulletins may be obtained from

The German Potash Syndicate
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STUMP EXTRACTOR

If you are troubled with stumps, give our "Patent Samson Stump Extractor" a trial. It has now been in use in Europe for the past three years with the greatest success. By its assistance, two men will do the work of three men and a horse. It can also be used for felling trees.

WRITE US FOR DETAILS.

The Canadian Boving Co., Ltd.
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Cream—Sweet or sour, bought at highest Toronto prices, at any point in Ontario. We furnish cans, pay promptly—haven't sold less than 32 cents for weeks. Write: TORONTO CREAMERY CO., Ltd., Toronto

Questions and Answers. Miscellaneous.

Mating Poultry.

Can you tell me how long a male bird has to be in the breeding-pen before the eggs are good for hatching? J. P.

Ans.—The male bird should be with the hens a week or ten days. Of course, fertile eggs may be had with a shorter mating period, but it is safer to allow this time.

Horse Injuring Foot.

I have a horse that treads in the stall, or stands with one hind foot over the other. I had her shod sharp last winter, and she calked herself so badly I had to take the shoes off. Had her shod again this winter with dull heel-calks, and she has again badly bruised and torn the foot. Can anyone tell me how to prevent the treading (right hind foot only affected)? R. V. K.

Ans.—Are you quite sure this is not due to the horse's efforts to rub an itchy leg with the other foot? Such is a common cause of this trouble. Examine the leg and see if it does not show signs of itchiness. If it does, treat as so often prescribed in these columns. If the injury is the result of habit or accident, all we can recommend is to treat the injury as an ordinary wound, keeping it clean, and if swelling occurs, bathing with hot water.

Fertile Eggs.

1. In the case of hens, how many eggs may be fertilized at one mating?
2. Is a small, round, white spot, about three-sixteenths diameter, on the yolk, an indication that an egg is fertile? I. N. B.

Ans.—1. Eggs may be fertile from the second day after the male bird is introduced into the flock, and for over two weeks after he has been removed from the flock. Fertility is generally as good for from seven to ten days after the male bird is removed as when he is present with the flock. It is usually wise to have him with the hens for a week or two before keeping the eggs for incubation.

2. The germ of an egg may be seen when the egg is broken, as a little white speck on the upper side of the yolk. This germ is on all eggs, but it requires a certain amount of incubation to tell whether or not the egg is fertile.

Diarrhea in Turkeys.

Turkeys, in a clean, well-ventilated place, take disease. The first symptoms noticeable are that they stop eating, and stand with head drawn back into feathers the greater part of time. In some cases there is food in crop, and in others the crop is empty when sickness appears. In cases where there is food in crop, the food does not move out of crop while the turkey lives. After two or three days, a diarrhea appears, of bright yellow or orange color, and grows worse. The turkeys linger from four to six days. Disease does not seem to spread among the flock from any one diseased bird, as only one or two in two or three months will be affected and die with it. In only one case have I known more than one bird to be diseased at one time. Disease first appeared while full-grown turkeys were feeding on the ground outside in the fall. During winter, one bird, a large male, weighing 24 lbs., feeding in clean, dry shed, and drinking clean, pure water, died of it. Turkeys were fed on whole wheat or peas. What is disease, and cause? Is there a cure for it? A. H. H.

Ans.—There are so many diseases of poultry with symptoms so similar that it is difficult to diagnose. As this is not apparently contagious, it must be the result of something in the feeding, the housing, or management of the fowl. It would be a wise precaution to isolate affected birds, and to disinfect and clean the pen in which the flock is kept. Check the diarrhea by giving boiled milk to drink. Feed on dry feed until checked. Give the healthy birds a mixed ration—mixed grains and green food, and allow them to exercise in an open yard. Send one of the diseased or dead birds to the Bacteriological Department of the Ontario Agricultural College, Guelph, Ont., for examination.

GUNNS



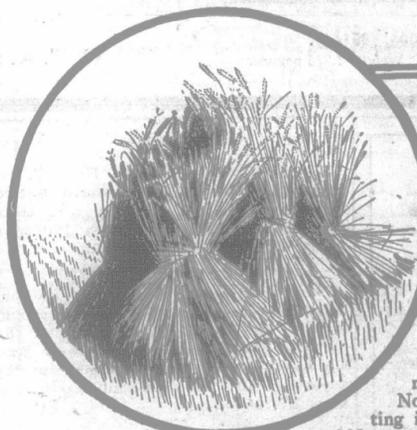
1	Tobacco Producer	3	10	8
2	Sugar Beet Special	8	8	8
3	Bowling Green and Lawn Special	5	6	8
4	Corn Manure	2	5	11
5	Potato and Celery Special	2	5	10
6	Bean Grower	2	5	10
7	Forcing Growth	2	5	11
8	Wheat Special	2	5	11
9	General Garden	2	5	11
10	Early Vegetable	2	5	11
11	Young Orchards	2	5	11
12	Berry Special	2	5	11
13	Fine Steam Bone	2	5	11
14	Pulverized Steam Bone	2	5	11
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Gunns full line of POULTRY FOODS.

40 YEARS' REPUTATION BEHIND THEM. WRITE FOR PRICE LIST AND BOOKLET.
GUNNS LTD., West Toronto



I KNOW of farm lands in Ontario, and in the West, too, that are now yielding only 10 to 15 bushels of wheat to the acre. They used to yield 30 to 40. What a loss to their owners!

I wonder if you have any wheat land that is not doing its duty by you. If so, I strongly advise you to make an application of Harab No. 6 (cereal) Fertilizer, putting it on at the rate of about 300 pounds to the acre.

Progressive Jones Says:
"Get More Bushels Per Acre"

Harab FERTILIZERS

will put back into your soil the plant food that continual cropping has taken out. Your worn-out land will become the rich, profit-making soil of former years. And all at a small cost.

Harab Fertilizers are natural Fertilizers. They are manufactured from blood, bones, etc., from the big Harris Slaughter Houses, with the addition of Potash and just enough quick-acting Nitrates and Superphosphates to produce well-balanced Fertilizers, which feed the plant as required and develop it to early maturity in a natural way.

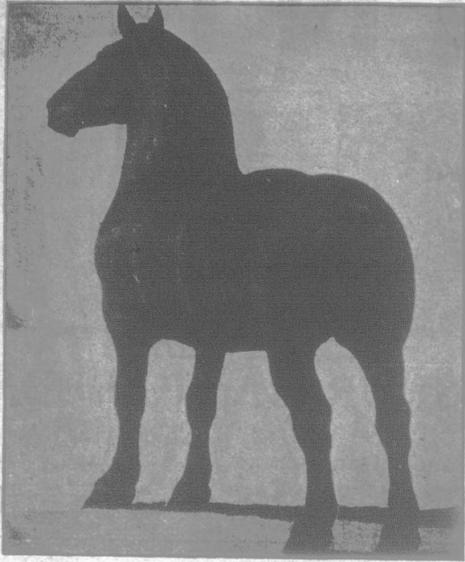
But what you want first is the Fertilizer Booklet issued by the Harris Abattoir Co. It gives complete information about choosing the correct Fertilizers for barley, oats, rye and other crops, and the quantities to use. It's a mighty interesting booklet. I know, for I've read it myself. The Harris people assure me they'll gladly mail you a copy free. It's up to you to show you're "A Progressive."

Years for bigger grain crops
Progressive Jones



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Kothorne (imp.) [3004] (95166).
Two-year-old Percheron stallion. Weight 1,875 pounds.

Imported Percheron Stallions

FROM 2 TO 4 YEARS OF AGE. BOTH BLACKS AND GREYS.
WEIGHTS FROM 1,800 TO 2,100 POUNDS.

Every stallion we offer for sale is Government inspected and approved, and a guaranteed foal getter. Imported Percheron mares from two to five years of age, some of them safe in foal to the leading sires of France. Also a few choice imported Clydesdale fillies. Our terms and prices are the best obtainable.

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BUY A WAGON YOU CAN DEPEND ON!

For convenience, strength and durability—get a T-A Handy Farm Wagon. Designed especially for farm work, will give everlasting service under the roughest usage to which a wagon can be put. And besides—it is easy on horses.

T-A Wide-Tire Steel Wheels & Handy Farm Wagons



Carefully and strongly built of the highest grade material, these T-A Wide Tire Steel Wheels will carry 25 to 50 per cent. heavier loads without the least danger of breaking down or getting stuck.

We will be pleased to send you descriptive catalogue. Write for it.

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Do YOU Feed DAIRY CATTLE?

If so, you will be interested in our prices on

LINSEED OIL CAKE MEAL, "OWL BRAND"
COTTON SEED MEAL, GLUTEN FEED,
"GOOD LUCK" DAIRY TESTING FEED,
"GOOD LUCK" CALF MEAL, OATS, GORN,
BRAN, SHORTS, ETC.

We also manufacture

"GOOD LUCK" BABY CHICK FEED,
SCRATCH FEED, POULTRY MASH, and
handle a complete line of Poultry Supplies.

We make a specialty of SEED GRAINS, and
handle all kinds of Commercial Fertilizers.

If it's anything for STOCK or POULTRY
we have it. Write to-day for prices.

CRAMPSEY & KELLY
Dovercourt Road, Toronto, Ontario

Don't Blame the Engine
Buy your Batteries right. See they have the
Black Cat Trade, Mark and its "NINE LIVES."
**X-CELL
DRY BATTERIES**

PAPER POTS for starting Early
Plants; best and
cheapest. Send for sample. **H. B. Elliott & Sons,**
Harbor Springs, Mich.

Gossip.

R. W. Hobbs, Lechlade, England, reports that from 718 registered Oxford Down ewes, up to February 5th, there were 810 lambs, of which 170 were twins, 3 triplets, and 137 singles.

This is the season to buy the stallion, and the best is what every buyer should have. Two choice stallions, sired by Baron's Pride, are advertised by Wm. Meharey, Russell, Ont. Look up the advertisement, and get full particulars from Mr. Meharey.

A Clydesdale stallion, bred in the purple, is advertised in this issue by Jos. W. Holman, Columbus, Ont. This colt, Prince Charles, is by Fiscal Member, and traces, in the third generation, to the noted Prince of Wales (673). See the advertisement, and correspond with Mr. Holman.

Pacific [13173] (18117), illustrated in this issue, is a massive horse, weighing over a ton, with the best quality of legs and pasterns, and bred in the purple, sired by Lothian Again (11804), dam Jess of Willey, by Scottish Crown. Pacific is an extra sure foal-getter, and the sire of Sailor King 14829. Sailor King won in the three-year-old class at New York Horse Show, 1910; first and champion at Guelph Winter Fair, and at Ottawa Live-stock Show, 1911. At Midcalder, Scotland, last year, the first-prize yearling filly and first-prize yearling stallion, were sired by Pacific. The breeders in the vicinity of Cannington should be pleased to have the privilege of breeding to such a valuable sire.

The Athelstane Shorthorns, the property of Wm. Waldie, Stratford, Ont., and advertised elsewhere in this issue, are a herd selected with great care as to breeding and individuality, with special attention to milking qualities. Among them are representative Rosewoods, Rosemarys, Roan Ladys, Rosalinds, and Countesses, upon which have been used the best bulls. Of five young bulls for sale, Count Averne 5th =85289=, a two-year-old roan, smooth and level, and right in every way, is the oldest. Next is a Roan Lady sixteen-months-old calf, whose grandam, Rose Girl (imp.), was bred at Uppermill. He is sired by the Cruickshank Butterfly bull, Roan Chief (imp.), and is the making of a show bull. Two others are Rosalinds, one red, twelve months old, and a roan, ten months of age, and the last is a Countess, eleven months old, sired by Roan Chief. They are all of the low-down, thick-fleshed kind. The heifers are a strong, even lot, with some good show-yard propositions included. Parties wishing to see the herd will be met at St. Paul's or Stratford G. T. R. stations.

MAPLE SYRUP MAKERS!



ENTER THIS CONTEST

CUT OUT THIS COUPON

THE demand for genuine and high-grade goods so enhances the market price of Maple Sugar and Syrup that we have decided to open a competition to educate the consumer who is more familiar with the second- or third-grade article. To attain this result, we offer \$500 in gold for the best-made syrup and sugar.

Syrup and Sugar on Exhibition in Montreal

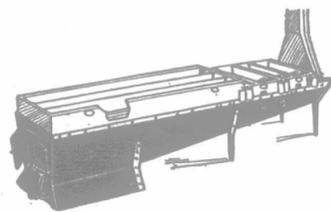
The object of making a display of this kind is to show the public the products of the very best Maple Syrup and Sugar Makers in Canada, and must undoubtedly result in unlimited benefit to you should you be one of the exhibitors. All syrup must be made on a Grimm "Champion"—will be judged impartially—must be of a light color to stand a chance of winning a prize—will be paid for if you enter the contest, or returned after contest is over if you so desire.

The entries will be exhibited in the magnificent show window of the "Montreal Star." Why not properly equip yourself to be a winner in this contest? State number of trees you tap, and we will give you price on a suitably sized outfit.

For all conditions and particulars, address:

PRIZE CONTEST
GRIMM MFG. CO. Limited
58 Wellington Street
MONTREAL

(Don't forget coupon.)



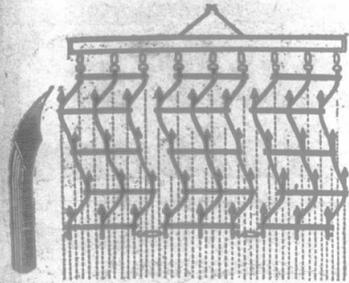
\$15⁹⁵ AND UPWARD SENT ON TRIAL AMERICAN SEPARATOR

Thousands In Use giving splendid satisfaction justifies your investigating our wonderful offer to furnish a brand new, well made, easy running, easily cleaned, perfect skimming separator for only \$15.95. Skims one quart of milk a minute, warm or cold. Makes large capacity machines. Different from this picture, which illustrates our low priced latest improvements. The bowl is a sanitary marvel and embodies all our

Our Twenty-Year Guarantee Protects You
Our wonderfully low prices and high quality on all sizes and generous terms of trial will astonish you. Whether your dairy is large or small, do not fail to get our great offer. Our richly illustrated catalog, sent free of charge on request, is the most complete, elaborate and expensive Shipments made promptly from Winnipeg, Man., St. John, N. B., and Toronto, Ont. Write today for our catalog and see for yourself what a big money saving proposition we will make you. A Blessing.

AMERICAN SEPARATOR CO., Box 1200 Bainbridge, N. Y.





Erie Lance Tooth Harrow

Is the finest and most useful article that can be placed on a farm. The teeth are so shaped that they tear rough ground, and cultivate and make the finest seed bed possible. Once used on a farm, it will be the last implement parted with. Made strong and adapted to the roughest usage. Section set, \$10.00; 3-section set, \$15.00; 4-section set, \$20.00. Each section covers 3 feet of ground in width.

Erie Iron Works, Limited
MAKERS
St. Thomas, Ont.

CANADIAN PACIFIC SPECIAL CRUISE AROUND THE WORLD

Empresses of "Russia" and "Asia"
(New C. P. R. Pacific Steamships)

The Empress of Russia will leave Liverpool 1 April 1st, calling at Gibraltar, Villefranche and Port Said, proceeding via Suez, Colombo, Singapore, Hong Kong, Shanghai, Nagasaki, Kobe and Yokohama, arriving Vancouver June 7th, 1913.

Vessel remains 10 days at Hong Kong. Empress of Asia will sail from Liverpool June 13th, particulars of trip will be announced later.

Most direct connection for April 1st sailing is via "Empress of Britain" from St. John, N. B., March 21st.

Rate for Entire Cruise, \$639.10
Exclusive of maintenance between arrival time in England and departure of "Empress of Russia," and stop over at Hong Kong. Particulars from Canadian Pacific agents, or write M. G. MURPHY, D.P.A., C.P.R., Toronto.

The Call of the North

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

H. A. MACDONELL
Director of Colonization
Parliament Bldgs. TORONTO, ONT.

MORE POTATOES PER ACRE

Think of finding one to eleven \$5 bills in the furrow, on every acre you plant. It's been done many times. Plant the spaces you skip, sell the potatoes, and you've got the money. No extra land, no extra work. It costs no more to prepare ground, fertilize, cultivate, spray and dig a perfect stand.



FOR SALE CLYDESDALE STALLION

Prince Charles [12573]; rising 3 years, dark bay with stripe in face. This horse is bred in the purple, being rich in blood of Prince of Wales (673) and Darnley (222). Inspected and enrolled; write: **JOS. W. HOLMAN, Columbus, Ontario**

Write for our new Instructive Illustrated Catalogue on Spraying and Apple Evaporating
It's free. Fruit Machinery Co., Ingersoll, Ont.

Questions and Answers. Miscellaneous.

Dislocation of Stifle.

I saw in "The Farmer's Advocate", January 23rd, about dislocation of stifle, and enquiry from J. P. I have cured three cases for myself, and know of others who have used the following:—

"Take white oak-bark and steep in water to be strong, and pulverise alum and stir in liquid all that it will dissolve. Can be applied either hot or cold. Back colt around so that it will step on leg heavy. Bathe often.

Norfolk Co., Ont. ALBERT COWAN.

[Note.—It is quite possible that the treatment by virtue of its astringent action (the mixture would make a strong astringent) might have a beneficial action in mild cases, but active stimulation, as produced by a blister, is much more reliable. It is peculiar that your correspondent should have had three cases, and it is quite possible that he has been mistaken in diagnosis. This is the way that many remedies gain a reputation as curative agents.

It is somewhat hard to see why he recommends to "Back colt around so that it will step on leg heavy." If the patella be completely dislocated, it will be impossible to back the patient as he cannot raise the foot from the floor, while if dislocation is only partial backing, if possible, should be avoided. "WHIP"

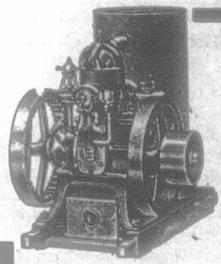
Poultry Housing.

What kind of a hen house would you advise me to build, and what size would it need to be for 200 hens? Please tell me what one would cost, that is, of the kind you prefer? C. S.

Ans.—Two hundred hens are too many to keep in one flock. Better divide them up into two or more. We like the 8 by 12 foot portable colony house, built with either a gable or shanty roof, with window on south side and doors in one end, preferably the east end. The gable above plates is filled in the winter with loose straw. Perches are at the end opposite the door. This end and a couple of feet along the sides are double-boarded. The rest are of one-ply V-matched spruce. Gable roof is shingled. These houses will accommodate 30 birds nicely, and cost us \$50 apiece including labor and hardware. They could be built cheaper with cheaper labor, rougher stuff, and shanty roof. Portability is a strong point. For a non-portable house Prof. Graham's 100-hen-house is hard to beat. It is made as follows:—It is built 20 feet by 20 feet, with an open front facing the south. The south side is 3 feet high, with a board along the bottom, and 2 feet of wire netting. The back is 4 feet 6 inches high, and the gable 7 feet high. The door is in the east end, and a large window is placed in the west end, 4 feet by 5 feet. Hinged low roosts run along the north side. For a smaller number of hens, a slightly shorter house of the style could be used. Place the building on dry ground, and, if necessary, underdrain around it. This is a cheap house per hen, and has proven to be a good one.

Gossip.

John T. Gibson, Denfield, Ont., writes: My herd of Shorthorns is wintering nicely, nothing in high flesh, but most of them in thrifty condition, the condition that usually is best for the purchaser. I was told by a good judge from the West, who has been looking at a number of the Ontario herds, that I have one of the best lots of young things he had seen. I have some heifers got by, and cows in calf to, one of the good bulls of the breed. Would price them right. Have a number of young calves to show what these cows are producing. I am often asked about milking Shorthorns. I have not been milking my cows. I think that the calves will show that some of the cows are good milkers. I have no use for a cow that will not raise her calf fairly well. Have not had a nurse cow on the place for twenty years, yet have won prizes for calves, in hot competition, at large fairs.



This Engine Runs on Coal Oil

Every farmer can afford an Ellis Coal Oil Engine. They give far more power from coal oil than other engines do from gasoline. They are safe, as well as cheap; no danger of explosion or fire.

The strongest and simplest farm engine made; only three moving parts; nothing to get out of repair. Anyone can run it without experience. Thousands of satisfied customers use these engines to grind feed, fill silos, saw wood, pump, thresh, run cream separators, and do dozens of other jobs. Cheaper than horses or hired men. Fill up the tanks and start it running, and no further attention is necessary; it will run till you stop it.

FREE TRIAL FOR 30 DAYS. You don't have to take our word for it. We'll send an engine anywhere in Canada on Thirty Days' Free Trial. We furnish full instructions for testing on your work. If it does not suit you send it back at our expense. We pay freight and duty to get it to you and we'll pay to get it back if you don't want it.

Absolutely guaranteed for 10 years. Write for free catalog and opinions of satisfied users. Special offer in new territory.

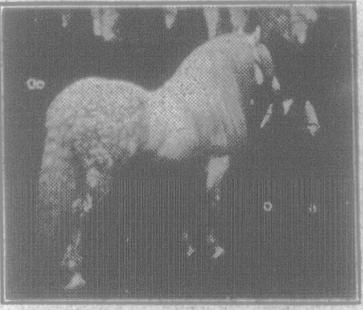
3 to 15 horse-power We Pay Duty and Freight **Ellis Engine Co.,** 94 Mullett Street, DETROIT, MICH.

MAPLE EVAPORATORS

To the live farmer, our Perfect Maple Evaporator and a sugar bush can be made to produce a revenue when it is most needed.

With our Maple Evaporator sap is easily and economically converted into the finest quality maple syrup. The body of the Perfect Evaporator is made of heavy sheet steel, thoroughly riveted and braced with steel angles and fitted with cast-iron door and frame. The working of the Evaporator is very simple—put the sap in at one end, and it comes out syrup at the other. Send for illustrated catalogue.

STEEL TROUGH & MACHINE CO., Limited, 5 James St., TWEED, Ont.



To Buyers Looking for a Good Stallion I am the oldest importer of Percheron Stallions in Canada. I have on hand CHOICE

Percheron Stallions

Four to six years old, weighing 1,800 to 2,100 lbs.; no better in Canada. All good, sound horses, clean, hard, flinty bone, sure breeders; horses that will make you money; and a few extra good Clydes, 4 to 7 years old, weighing 1,750 to 1,900 lbs.

Come and see them; it won't take long or cost much. I can save you \$200 to \$500 on a stallion. JOHN HAWTHORN, SIMCOE, ONTARIO

DISPERSION SALE OF REGISTERED SHORTHORNS

Also Horses, Pigs and Barred Rocks. Property of Ira B. Vannatter, Ballinacra, Ont. Erin, C. P. R. and Georgetown, G. T. R., shipping stations.

ON **Wednesday, March 26th, '13**

COMMENCING AT 1 O'CLOCK

14 Shorthorns—10 bulls and 4 females, all of choice breeding. Foundation of herd was Actress 6th, imported, and Pearllet Butterfly, by the great imported bull, Baron Camperdown; followed by War Eagle, a Toronto silver medal bull. Royal Kitchener, imported; Village Earl, imported; and present stock bull, Roan Chief, also included in sale. Conveyances will meet morning trains at Erin, C. P. R., and Georgetown, G. T. R. If stormy, sale will be held under cover. TERMS: eight months' credit on approved joint notes, or 5 per cent. per annum off for cash. Fowl and fat hogs, cash.

Catalogues on application **BENJ. PETCH, Auctioneer, Glen Williams, Ont.** **IRA. B. VANNATTER, Proprietor, Ballinacra, Ont.**



Percherons Stallions and Mares

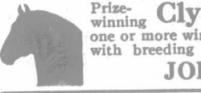
We still have on hand a very select bunch to pick from, ranging from 3 to 5 years old, and weighing from 1,850 to 2,100 pounds, blacks and greys in color. Our horses are all for sale at prices that will save you money. Our insurance policy will protect you from loss and make your investment safe. We give a GUARANTEE that is different from any offered in Canada and stand behind our horses. If you are interested in securing the BEST at a reasonable price, it will be to your advantage to see our stock. Our motto is "A Square Deal to All". We invite correspondence from all interested parties that wish to SAVE MONEY on a stallion or mare.

R. Hamilton & Son, "The Home of the Champions", Simcoe, Ont.

Clydesdales and Percherons

Thirty stallions of the above-mentioned breeds to choose from. All are government-inspected and approved. A large number of them have won high honors at the leading shows of Scotland, France and Canada. All are for sale at reasonable prices and the best of terms.

T. H. HASSARD, Markham, Ont. Stations: Markham G. T. R., Locust Hill C.P.R. Long-distance phone in connection.



Prize-winning Clydesdales, Imported at the late Guelph Show, showed a one or more winners in every class. We have now prize-winning Stallions and Fillies with breeding and quality unsurpassed—All are for sale.

JOHN A. BOAG & SON, QUEENSVILLE, ONT.

BEST RESULTS ARE OBTAINED FROM ADVOCATE ADVERTISEMENTS.

WESTERN LAND FOR SALE

In areas to suit purchasers from 160 acres upwards, situated on or near railways in the

Best Wheat, Oat and Stock Growing Districts of SASKATCHEWAN AND ALBERTA

200,000 acres to choose from. PRICES LOW.

Special Inducements Given Actual Settlers

F. W. HODSON & CO.

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Western Office: North Battleford, Sask.

GRAND TRUNK RAILWAY SYSTEM

HOMESEEKERS' EXCURSIONS

Each TUESDAY, Mar. 4 to Oct. 28 (inclusive)

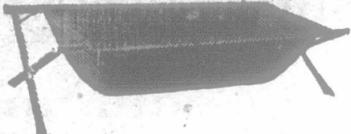
Via Chicago and St. Paul.

Winnipeg and return, \$35.00
Edmonton and return, \$43.00

Tickets good for 60 days. Proportionate low rates to other points in Manitoba, Saskatchewan and Alberta.

The Grand Trunk Pacific Railway is the shortest and quickest route between Winnipeg, Saskatoon, Edmonton.

Time Tables, Land Pamphlets and other descriptive literature relative to the Grand Trunk Pacific Ry. may be obtained from nearest Grand Trunk Agent.



"CLEANLINESS IS NEXT TO GODLINESS"

Install a bath in your home for \$7.50, which will give you all the comforts enjoyed by your city friends. Our Folding Bath Tub is 5 ft. long, 2 ft. wide, 18 inches deep, and weighs 15 lbs. This tub is the same size as the standard bath tub, but has the advantage over same that it may be carried from one room to the other. It requires but two pails of water to give one a proper bath, being so constructed that it rests on the floor, permitting the water to come to the body. One minute empties the tub, when it may be rolled up and set away in the corner. Every Bath Tub carries a guarantee for five years. Address:

FOLDING BATH TUB CO., LIMITED
Gananoque, Ontario.

Ontario price of Tub, \$7.50 f.o.b. Gananoque.

AUCTION SALE OF

19 HEAD, HIGH-GRADE Holstein Cows and Heifers

Also Horses, Pigs, and all farm implements required on a farm, equipped up-to-date, will be held

Wednesday, Mar. 12th, '13
on Lot 6, Con. 4, WEST MISSOURI
being the property of S. G. Sangster,
R. R. No. 3, London, Ont.

AUCTIONEER, Alex. Rose, Ingersoll, Ont.

Terms: 7 months' credit on approved paper, 3 per cent. off for cash

FOR SALE—TWO VERY CHOICE

Imp. Clydesdale Stallions

Sire Baron's Pride; right in every way and sure getters of A1 stock.

WM. MEHAREY, Russell, Ont.

Questions and Answers.

Miscellaneous.

Material for Silo.

I am planning building a silo, and would like to know, through your columns, how much material it will take to do the job. The silo is to be 10 feet by 20 feet, 1 foot at bottom and 8 inches at top using stone filler, and how much gravel without stone? J. A. M.

Ans.—About 16 or 17 barrels of cement, and about 4½ cords of gravel and stone.

An Appetizer for Hogs.

What is the proper proportion of charcoal, ashes, sulphur, salt, etc., for hogs? How much and how often should they get it? FARMER.

Ans.—We are not prepared to prescribe as to exact proportions, but would judge that the sulphur and salt should not be more than one-eighth the amount of the charcoal and ashes. The mixture should be kept dry in a low flat box, where the pigs can reach and take it at will.

Veterinary.

Indigestion.

Steer has been ill for ten days. He eats very little, and has been bloated the last few days. I have not noticed him urinate, but he does not now appear to suffer pain. He evidently suffered some the first two days. H. E. D.

Ans.—The bloating, of course, denotes the formation of gas in the rumen. Give him 2 ounces oil of turpentine in a pint of raw linseed oil, and follow up with 2 drams nux vomica 8 times daily. Repeat the dose of oil twice daily until purgation commences, and if the bloating continue also give him the turpentine. If there be any reason why he cannot urinate, the services of a veterinarian are urgently required as medicines will do no good, and it is possible a veterinarian might relieve him by an operation. V.

Unthrifty Horse.

An eleven-year-old gelding last September became swollen from sheath to four legs on both sides. The swelling was doughy in consistence, and felt as full of water. My veterinarian said it was due to impaired action of the heart. He treated him and the symptoms disappeared, and his appetite also improved. He is well fed, but is still in poor condition. He purges when driven. He is well fed on good hay, oats, bran and molasses with oil cake. MRS. S. McM.

Ans.—Your veterinarian diagnosed and treated correctly. The trouble now is he does not masticate properly, hence digestion and assimilation are defective. Have his teeth dressed by a competent veterinarian. Feed as you are feeding, and give him a table spoonful of equal parts powdered sulphate of iron, gentian, ginger, and nux vomica 3 times daily. If he will not eat this mixed with damp food, mix it with a pint of water, and administer as a drench. Give him regular exercise or light work. V.

Stocking—Mud Fever.

1.—Mares left hind leg swells when she stands, but when driven the swelling disappears.

2.—Another horse has mud fever. S. A. B.

Ans.—1.—Give her a purgation of 8 drams aloes and 2 drams ginger. After bowels become normal again give her regular exercise. When brought to stable after exercise hand-rub the leg well and apply a bandage moderately tight, and leave on until you want to take her out again. The bandage must be slightly elastic. It will be wise to purchase a set of bandages from your harnessmaker.

2.—Purge as No. 1. Follow up with 1½ ounce Fowler's Solution of Arsenic on damp food twice daily for a week. Get a lotion of 1 ounce each of acetate of lead and sulphate of zinc mixed with a pint of water, and dress the legs twice daily with this. Give regular exercise, and do not wash. It will be well to keep warm and rub legs until dry if you want to take her out shortly after applying the lotion. If the parts become too dry, apply oxide of zinc ointment occasionally. V.

Gombault's Caustic Balsam

The World's Greatest and Surest

Veterinary Remedy

HAS IMITATORS BUT NO COMPETITORS!

SAFE, SPEEDY AND POSITIVE.

Supersedes All Caustery or Firing. Invaluable as a CURE for

FOUNDER, WIND PUFFS, THRUSH, DIPHTHERIA, SKIN DISEASES, RINGBONE, PINK EYE, SWEENY, BONY TUMORS, LAMENESS FROM SPAVIN, QUARTER CRACKS, SCRATCHES, POLL EVIL, PARASITES.

REMOVES

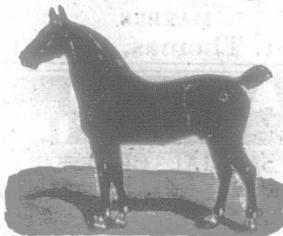
BUNCHES or BLEMISHES, SPLINTS, CAPPED HOCK, STRAINED TENDONS.

SAFE FOR ANYONE TO USE.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or ointment mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

The Accepted Standard VETERINARY REMEDY

Always Reliable. Sure in Results.



See genuine without the signature of The Lawrence-Williams Co. Sole Agents for the U.S.A. & CANADA. CLEVELAND, O.

THE BEST FOR BLISTERING.

I have used GOMBAULT'S CAUSTIC BALSAM quite a good deal, and for a blister it's the best I ever used. I wish your remedy every success. CHAS. MOTT, Manager, Mayfield Stud Farm, Leesburg, Va.

CURED CURB WITH TWO APPLICATIONS.

Have used your GOMBAULT'S CAUSTIC BALSAM to cure curb. I blistered it twice, and there is no sign of it any more. The horse is as good as ever.—DAN SCHWER, Everson, Ill.

Sole Agents for the United States and Canada.
The Lawrence-Williams Co.
TORONTO, ONT. CLEVELAND, OHIO.

Bickmore's Gall Cure



The old-time remedy for keeping horses free from sores. Don't lose the services of your high-priced horses. Bickmore's Gall Cure cures Galls and Sore Shoulders while the horse works. Approved remedy for Cuts, Wounds, Scratches, etc. Money back if it fails. Be sure to ask at the store for Bickmore's Gall Cure. Gray Horse trade mark on every box. Sample and 84-page horse book sent on receipt of a stamp for postage. WINGATE CHEMICAL CO., Canadian Distr's., 8890 Notre Dame St. W., Montreal, Can.

PERCHERONS, STANDARD-BRED and FRENCH COACHERS

I am offering prizewinners and champions in Percheron stallions, Standard-bred stallions, French Coach stallions and Percheron mares, filly and horse colts. Prices very low. C. P. R., Ottawa to Montreal line. J. E. ARNOLD, Grenville, Quebec.



CLYDESDALES OF CANADA'S STANDARD

They have arrived—my third importation for 1912, stallions and fillies. I have now the biggest selection in Canada, and a few toppers in stallions. High-class breeding and high-class quality and low prices. G. A. BRODIE, Newmarket P.O.

Percheron, Belgian and Shire Stallions—Imported and home-bred. Three to 2,400 lbs. No finer lot in America. Prices and terms reasonable. Bams in city. LEW W. COCHRAN, Office, 205 Ben Hur Bldg., Crawfordsville, Ind.

IMPORTED CLYDESDALES.

A few choice young stallions always on hand and for sale. Frequent importations maintain a high standard. Prices and terms to suit. BARBER BROS., Gatineau Pt., Que., near Ottawa.



CLYDESDALES OF SHOW CALIBRE

We have stallions and fillies of our 1912 importation that have won many first prizes and championships. This type, quality and breeding is unexcelled. Prices as low as any, and terms the best. ROBT. NESS & SON, Howick, Que.

Rosedale Stock Farm—Breeder and importer of Clydesdale and Shire horses Shetland and Welsh ponies, Shorthorn cattle, Leicester sheep. Established over 40 years. Always on hand, a big selection of highest quality. Write your wants. G.T.R. and C.P.R., Electric cars. J. M. GARHOUSE, Weston, Ont.



Mount Victoria Clydes & Hackneys

When in want of a high-class Clydesdale stallion or filly, or something that has won and can win again in Hackney stallions or fillies, visit our barns at Hudson Heights, Que. T. B. MACAULAY, Proprietor. E. WATSON, Manager, Hudson Heights, Que.

Clydesdales and Percherons

Stallions and fillies of either breed. Over forty head to select from. Draft horses in reality as well as in name. Highest types of the breeds. Come and see them. Terms and prices to suit. T. D. ELLIOTT & SON, BOLTON, ONTARIO.



IMP. CLYDESDALE STALLIONS AND FILLIES

just landed. Size and quality and breeding unsurpassed. Come and see them. Prices away down. Terms to suit buyer. W. B. ANNETT, ALVINSTON, ONT. Farm situated five miles from Watford, Ont., G. T. R. station, and four miles from Alvinston. G. T. R. and M. C. R.

OUR Stallion Policies, covering against loss by **Death through Accident or Disease**, are more liberal and afford more protection to owners than any issued by Competing Company. They contain no vexatious clauses, having been drafted to cover the special conditions met with in this country. They cover the horse no matter where he might be and not merely in his own stable, as certain Companies do. This is very important during

STALLION INSURANCE

the Breeding Season as the horse might die while being on the road. Do not take any chances by insuring with others, insure with us; The insurance premium represents only a small proportion of the service fees earned. Better risk the loss of the premium than the purchase price of your beast if it dies without insurance. **Better have and not need than need and not have.**

All kinds of live stock insurance transacted.
THE GENERAL ANIMALS INSURANCE CO. OF CANADA, Head Office: 71a ST. JAMES STREET, MONTREAL, Que.

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Best wash ever used for horses. All winter no scratches, no snow poisoning. All summer no sores, no flies on sores. Not a patent medicine—an all-round skin healer. Boils, sores, abrasions, galls, cracks, corns—all amenable to

LIPTOIL

Wonderful curative and healing powers. The veterinarian's friend first, last and all the time—and the foe of any sore on any living animal. Our words are the expression of veterinarians the world over. It is a healer—it is a salve—it is a poultice—it is a cleaner—and it does the work.

Put up in 50c. size sample tins—by mail any part of the Dominion. Sole agent for Canada:

DR. T. E. WATSON, V. S.
 Niagara Falls Ontario

ABSORBINE STOPS LAMENESS

from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone or similar trouble and gets horse going sound. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. \$2.00 a bottle delivered. Horse Book 9 25 Free.

ABSORBINE, J.E. Liniment for mankind. Removes Painful Swellings, Enlarged Glands, Gout, Wens, Bruises, Varicose Veins, Yaws, Carbuncles, Old Sores, Ailurs, Fains.

Will tell you more if you write. \$1 and \$3 a bottle at dealers or delivered. Manufactured only by **W.F. YOUNG, F.D.F., 251 Lyman St., Montreal, Can.**

Notice to Importers
G. CHABOUDEZ & SON
 205 rue La Fayette, PARIS, FRANCE.

If you want to buy Percheron Horses and Mares, I will save you time and money and all trouble with papers and shipment. Will meet importers at any landing port. I am acquainted with all breeders and farmers. Thirty years' experience. Best reference. Correspondence solicited.



DUNHAMS' PERCHERONS are today as for the past forty-seven years the **-B-E-S-T-** Fresh importation. Catalogue FREE.

DUNHAMS, Wayne, Du Page County, Ill.

NOTICE TO HORSE IMPORTERS
GERALD POWELL,

Commission Agent and Interpreter, **NOGENT LE RETROU, FRANCE** 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.

CLYDEDALES FOR SALE.
 Present offering. King of Fountain Park (10220) a choice three-year-old stallion. Mertoun's Duchess (23701), a beautiful two-year-old filly. D. Hill, Staffa, Seaforth. G. T. R.

DR. BELL'S Veterinary Medical Wonder. 10,000 \$1.00 bottles FREE to horsemen who will give The Wonder a fair trial. Guaranteed to cure Inflammation, Colic, Coughs, Colds, Distemper, Fevers, etc. Agents wanted. **DR. BELL, V.S., Kingston, Ont.**

Clydesdales, Standard-breds, and Short-horns. Our herd numbers about 40 head. Headed by the great stock bull, Trout Creek Wonder. Ten bulls for sale, from 6 to 14 months old; all good colors and good individuals. **DUNCAN BROWN & SONS, Walnut Grove Stock Farm, Iona, Ont.**

Imp. Clydesdale Mares
 For sale. Two good imported mares, rising 8 years old, in foal to Pacific. (See his photo-graving in this issue. **A. CREIGHTON, Rannoch, Ont.**

Mules for Sale
 Height 15½ hands, weight 2,300 lbs. For particulars, write: **P. O. BOX 73, BADEN, ONT.**

Gossip.

LAST CALL FOR J. MCKENZIE'S HOLSTEIN SALE.

In previous issues, a short mention was made of the high-class quality, breeding, and producing ability of the Holsteins to be sold at John McKenzie's sale, on Wednesday, March 12th. Ten of them are rising two years of age, and seven are rising one year. Opportunities are very few in this country for Canadian breeders to purchase by auction Holsteins carrying the blood of that wonderful sire, King Segis, but on this occasion there will be a number of his grandsons and granddaughters, a fact that should be remembered, as it will be likely to be a long time before such an opportunity again presents itself. Remember, stop 34, on the Metropolitan Electric line, running up Yonge street, Toronto, is at the farm gate.

SPRINGHURST SHORTHORNS.

The noted and popular Springhurst herd of Shorthorns, owned by Harry Smith, of Hay, Ont., when visited by the writer a few days ago, was found in the prime kind of condition, and up to a high standard of excellence, immensely thick of flesh, and covered with a great coat of hair. The herd, as a whole, is one of the very best in the Dominion, an assertion that is proved by their annual series of top winnings at the leading shows. It has been the writer's privilege to visit this herd annually for many years, and every year the thick, soggy, level-lined type, seems to be improved, and goes to prove that the old stock bull for so many years at the head of the herd, Gold Drop, was the peer, as a sire, of any bull this country has known, and more, that his wonderful prepotent powers as a sire is transmitted to his sons, for it was four sons of his that sired the four first-prize winners in the Shorthorn classes at the late Guelph show, besides scores of other winnings. There are now in the stables five grandsons of the old bull, from 12 to 24 months of age, and every one is a show bull of a high order. They are: Masterpiece, a roan two-year-old, sired by the thick, mellow, and remarkably-balanced stock bull, Ben Wyvis, a Cruickshank Butterfly-bred son of the great Gold Drop. This young bull is a full brother to the Toronto, Calgary and Edmonton junior champion, Mutineer, and is every whit as good a bull. Another roan of high-class show calibre, is the 18-months-old, Blarney Stone, sired by Mutineer, and out of Imp. Butterfly 36th. There are few bulls alive in his class his equal for superior type and quality. Bachelor is a red yearling, by Mutineer, dam a Cruickshank Buckingham. He, too, is one of the very thick, level kind, a high-class herd-header and show bull. Valuator is another red yearling, sired by Ben Wyvis, dam Van-ity 7th, by Imp. Royal Prince, an exceptionally choice young bull. Another red yearling is sired by Mutineer, and his dam is of the great old Diamond tribe. Any of these bulls can be bought by correspondence, and not be disappointed. In heifers, there are about a dozen from one to two years of age, a remarkably choice lot, among them being several London and Guelph winners. Mr. Smith is also offering for sale two Clydesdale fillies, one a yearling, the Clydesdale fillies, one a yearling, the other a two-year-old, both out of Imp. Black Pride, the yearling sired by Imp. King Thomas, and the 2-year-old by Imp. Prince Romeo. They are a big, drafty pair, on the best of underpinning, and a right kind to make profitable brood mares.

LIVINGSTON'S OIL CAKE AND MEAL are guaranteed absolutely pure. They are made by the Old Patent Process—and will keep as long as you like. Careful tests have proved them to be the most easy-to-digest of all cattle feeds—95% goes to build muscle, tissue and health.

LIVINGSTON'S CAKE AND MEAL Make More Milk

and BETTER milk—FATTER and STURDIER CATTLE—HIGHER PRICES for the higher quality—and less EXPENSE in obtaining that quality. The manufacturers of Livingston's Cake and Meal worked forty years on the problem of stock food before they produced these perfect foods—which are not so soft as to waste, yet soft enough to be thoroughly digestible. Your dealer will tell you Livingston's are better than any others on the market. Ask him—or write us direct—for full particulars.

Supplied in three grindings—Fine Ground, Pea Size and Nutted.
THE DOMINION LINSEED OIL CO., Ltd., Baden, Ontario



My barns at Weston, Ontario, and Brandon, Manitoba, are now full of

PERCHERON Mares and Stallions

Ages from one year old to five years old. Blacks and grays. Weights from 1,600 to 2,100 pounds; of the very best style and quality and breeding France produces. They are of the big thick kind. See them before you buy. I do my own buying in France, ship large numbers, have no partners to divide profits with. Will take small profits so feel sure it will save you money to get prices before you buy. No reasonable offer will be refused. Terms to suit. Many of the mares are safe in foal. For further particulars, write

J. B. HOGATE
 West Toronto, Ontario

COLUMBUS CLYDEDALES AT HOME

To our past customers and intending purchasers, we wish to say that we can show you something really worth while in Canadian-bred and imported Clydesdale stallions and mares. Our aim is to please you.
SMITH & RICHARDSON, Columbus, Ontario
 Phone connections. Stations: Oshawa G.T.R. and C.N.R., Brookville G.T.R., Myrtle C.P.R.

Clydesdales in Quantity and Quality

ORMSBY GRANGE STOCK FARM, Ormstown, P. Que.
 As I am feeding no steers this winter I have filled my stables with imported fillies, selected personally in Scotland; many in foal to such sires as Hiawatha, Sir Hugo, King's Champion, Sir Rudolph, etc. Fourteen have been sold, eighteen of the best are still on hand—the selections being made more on account of price than superiority. There are no culls in the lot. Send for pedigrees and particulars **D. McEACHRAN,** before buying elsewhere. Inspection invited.

CLYDEDALES—A NEW IMPORTATION
 We have lately landed a shipment of Clyde stallion and fillies, several Scotch winners among them. Their breeding is unsurpassed. Comparison with any others in the country will make you a buyer from us. Our prices are as low as the lowest. L. D. Phone. **GOODFELLOW BROS.,** Mackville P. O., Ont.; Bolton Station, C. P. R.

Stallions — CLYDEDALES — Fillies
 I have a big importation of Clyde stallions and fillies just landed; a lot that cannot be duplicated to-day in Scotland and never was in Canada. Let me know your wants.
BOBT. BEITH, Bowmanville, Ont.

BEST RESULTS ARE OBTAINED FROM ADVOCATE ADVERTISEMENTS.



WINDSOR DAIRY SALT

Is The Cheapest You Can Use

not alone, because it is the purest and best salt for salting butter. But because it will salt more butter, pound for pound, than any other salt you can use.

The big creameries will tell you this—and show you tests to prove it. The Agricultural Colleges demonstrate this every day.

Every farmer and dairyman who is getting good prices for butter—is using Windsor Dairy Salt.

It is pure—it makes beautiful butter—it works in quickly—and it is the cheapest in the end. Just try it yourself.

70D

Bone Spavin

No matter how old the blam-b, how lame the horse, or how many doctors have tried and failed, use Fleming's Spavin and Ringbone Paste. Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of Fleming's Vest-Pocket Veterinary Adviser. Fifty-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses. FLEMING BROS., Chemists, 75 Church Street, Toronto, Ont.

AGENTS \$3 a Day

NEW PATENTED AUTOMATIC CURRY COMB. Made of best cold rolled steel. Horsemen delighted. Takes just half the time to clean a horse. Keeps the teeth always clean; no clogging with hair and dirt. A. E. Pett says: "It's a dandy. Sold it last night to my neighbors." Easy seller. Big profits. Going fast. Write quick. Free sample to workers. THOMAS MFG. CO., 8744 Wayne St., Dayton, Ohio

HEREFORD BULL

Twelve months, sired by Bonnie Brae 21st; also a few well-bred two-year-old heifers.

H. D. SMITH, "Ingleside Farm" Rural No. 1, ANCASTER, ONT.

Aberdeen-Angus Cattle Mature early. Several young bulls for sale. Apply to **MANAGER "GRAPE GRANGE" FARM** Clarksburg Ont

For Sale—Angus Cattle. Some nice yearling bulls and good females, all ages. Use an Angus bull to cross and get the kind the butcher likes. J. W. BURT & SONS, Hillsburg P.O., R.R. No. 1, Ont.

FOR SALE A good Ayrshire Bull, 17 months old, of the noted Primrose family. GEO. McCORMACK, ROCKTON, ONTARIO

PLEASE MENTION THIS PAPER.

Gossip.

LAST CALL FOR A. H. TEEPLE'S HOLSTEIN SALE.

The extent and rapidly-increasing value and importance of the dairying industry of this country is an absolute guarantee that no possible mistake can be made in the purchase of profitable dairy cows, and as the cost of raising and maturing a grade is equal to the cost of raising and maturing a pure-bred, and the difference in the purchase price of a good grade dairy cow and a pure-bred one is so small, it surely does not require a mathematician, with a big array of figures, to show the benefit in purchasing the pure-bred, and, as is well known, the most satisfactory place to get the pure-breds is at an absolute dispersion sale. Just such an opportunity will be presented at the big sale in Woodstock, Ont., when the well-balanced and high-class herd of A. H. Teeple will be sold. There are no culls in the lot, nor any with defects, and as they are all young, and bred from officially-backed sires and dams, the opportunity becomes the more attractive. The date is Tuesday, March 11th, in the city of Woodstock.

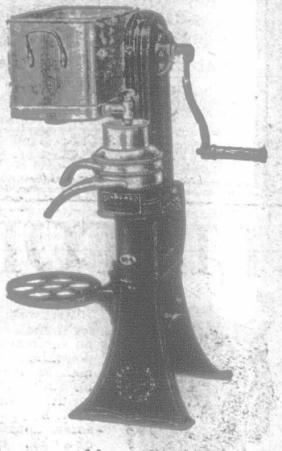
HILLCREST AYRSHIRE.

A flying visit to the well-arranged stock farm, Hillcrest, the property of F. H. Harris, of Mount Elgin, Ont., a few miles from the town of Ingersoll, by a representative of "The Farmer's Advocate," brought a surprise on inspection of the large and well-balanced herd of Ayrshire cattle. It has seldom been the privilege of the writer to see so much evidence of uniformity of type and constitutional vigor manifest throughout a whole herd, and coupled with this was unmistakable evidence of big production in their large, well-formed udders, and deep, heavy, hind quarters, conforming strictly to the ideal wedge shape, and withal the breeding was representative of several of the most noted and richly-bred bulls of the breed in this country, notably Hillhouse Bonnie Scotland, Gold Mine, White Prince of Menie, Lochnagar, Queen's Messenger of Springhill, Royal Scot, and Scottie, the latter with eleven R. O. P. daughters, the younger ones being daughters of Bobby Burns, Silver King, whose dam, Bonnie Bell, gave 75 lbs. of milk a day, and Advance, a son of the late world's champion, Jean Armour, whose R. O. P. is 20,174 lbs. milk, those under a year being got by the present stock bull, Ivanhoe of Tanglywyld, a son of the ex-world's champion, with a R. O. P. of 16,195 lbs. milk. This is surely intense breeding, on lines of milk production, and that this kind of breeding is bearing fruit is evidenced by the production of the herd, which, for mature cows, varies from 40 to 80 lbs. a day, and up to 49½ lbs. for two-year-olds. Special mention might be made of four remarkably fine heifers, rising three years of age, cousins of the world's champion two-year-old, Briery of Springbank 2nd. One of them, now in milk for the second time, is giving 47 lbs. a day, on an average; 6,000 lbs. per year for two-year-olds; 7,000 lbs. for three-year-olds, and 8,000 lbs. for mature cows, is the standard set by Mr. Harris, and any cow or heifer not reaching those marks gets a short shift. Needless to say, there are none in the herd but will go away over those figures. In young bulls, there is only one left, and he is only three months old, but he is a proper good one, sired by the stock bull, and out of a two-year-old heifer that now, three months after calving, is giving 30 lbs. a day. Anything in the herd is for sale. There are something over 40 heifers that are an exceptionally choice lot, and their rich breeding make them most attractive. Mr. Harris reports a big demand, and sales to Alberta, Saskatchewan, Quebec, United States and all over Ontario. He is also paying considerable attention to Clydesdales, and has in breeding four very choice registered mares, one of them imported, the others from imported sire and dam.

The Results At The Kerwood Cheese Factory

EVERY week or so we receive letters from creameries and cheese and butter factories, reporting tests made with the STANDARD Cream Separator. For example, the Kerwood Cheese and Butter Factory reports as follows on tests made October 29, 1912:

Test No.	Percentage of butter-fat in cream.	In skim milk.
1	36	.02
2	43.5	.02
3	45	.03



In each of the above tests the milk was fed to the machine at the rate of 684 lbs. per hour (machine listed at 600 lbs.) and the bowl was flushed, and when taken apart was free from cream and in good condition. The milk skimmed was not new milk, but had been kept over, some of it two days old. You will note by the above figures that the milk was fed to the machine nearly 100 lbs. per hour faster than its rated capacity, and that the cream skimmed contained a high per cent. of butter-fat, so that I consider the work done in this test exceptionally good.

(Signed) W. WADDELL, Proprietor Kerwood Cheese and Butter Factory.

The above test again emphasizes the superiority of the STANDARD in close skimming. Even old milk, fast-skimming and heavy rich cream did not prevent the STANDARD from skimming closer than other separators do under most favorable conditions. Figure it out. It will pay you to discard your old machine and get a "STANDARD," and do it now. There is no other that can give you equal results, and it's results that count. Send for descriptive catalogue.

The Renfrew Machinery Co., Limited
Head Office and Works: RENFREW, CANADA
Agencies Everywhere in Canada

MAKE THE HORSE GLAD AND EAGER FOR WORK

The way to do it is to clip him before you put him at the spring work. Take off his winter coat that holds the wet sweat and dirt. He'll get more good from his feed, look better, rest better and give you better service. The best and most generally used clipper is the

Stewart Ball Bearing Clipping Machine

It turns easy, clips fast and stays sharp. Gears are all file hard and cut from solid steel bar. They are enclosed, protected and run in oil; little friction, little wear. Has six feet of new style easy running flexible shaft and the celebrated Stewart single tension clipping head, highest grade. Get one from your dealer or send \$2.00 and we will ship C. O. D. for balance. Money back if not satisfied.



CLIP ALL THE WOOL

YOU LOSE \$1200 ON 6 SHEEP BY THE OLD METHOD

You know the size of your flock—figure how much more money you'll get if you use a Stewart No. 9 Ball Bearing Shearing Machine

It's the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Price complete, including a comb and 4 cutters of the celebrated Stewart quality is only \$15.75. Get one from your dealer, or send \$2.00 and we will ship C. O. D. for balance. Money and transport charges back if not satisfied.

COUNT THE DOLLARS IN YOUR TREES



Go over to the wood lot and size up your trees. Every 15-foot log averaging 14 inches thick will make 100 feet of good lumber. Ten such logs make 1000 feet of lumber worth from \$18 to \$20 (our book tells.) An "American" Saw Mill will saw them at a cost of \$4 to \$6 per 1000 feet. You have the teams, the time and the engine. It will pay to get the dollars out of those trees. You can do it for your neighbors, too—more profit for you. All you need is an "American" Mill—so simple anyone can run it, so strong it lasts for years. An 8 H. P. engine will cut up to 2500 feet per day. Farm lumbering is explained in our new book No. 32 Sent free. Ask our nearest office.

AMERICAN SAW MILL MACHINERY CO.
Makers of Standard Saw Mills of any size or capacity.
113 Hope St., Hackettstown, N. J. Chicago
1544 Terminal Building, New York Savannah—New Orleans

I Have SHORTHORN Bulls and Heifers, SHROPSHIRE and COTSWOLD Rams and Ewes, CLYDESDALE Fillies and Colts

that are as good as I have ever had, and that I will sell for prices within the reach of all. We have been in the business 75 years, always in the front rank, and propose to keep that position. You cannot afford to buy without writing us for prices. **ROBERT MILLER, STOUFFVILLE, ONTARIO**

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 leaders of this champion-producing breeding. **HARRY SMITH, HAY P. O., ONT.**

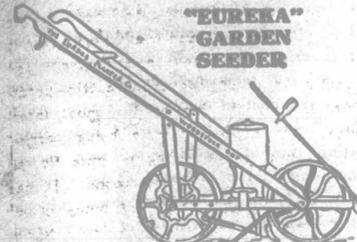
Shorthorns

Records show that cattle bought from the Salem herd won numerous ribbons the past season. We have others. Several young bulls are priced reasonably.

Elora G. F. R. and G. P. R. **J. A. WATT, Salem, Ont.**

The Latest Improved Specialties FOR FARMERS AND GARDENERS

These tools are Labor and Money savers and should be on every farm and garden. Our method of making these specialties assures adaptability, strength and service at the minimum price for the best goods of their kind on the market.



"EUREKA" GARDEN SEEDER
The only rear-wheel driven Seed Drill on the market. The Eureka will handle the most delicate seed without bruising or breaking and will sow evenly to the last seed. Can be instantly converted from a regular seed sower into a Hill-Dropper. No waste of seed when turning rows. For sowing Sugar Beets and all garden seeds this machine is unequalled. Sold with or without the Cultivator Attachments.

"EUREKA" WAGON BOX AND RACK
Without wings and ladders it is an excellent wagon box. With them it is a perfect Hay, Stock, Wood, Corn or Fruit Rack. Can be instantly adjusted to any position without wrench, hook or rope.

"EUREKA" SANITARY CHURN
The only Sanitary Churn made. Barrel of finest stoneware, top of clear pressed glass, very easy to operate. Three sizes 8, 10 and 12 Gallons.

"EUREKA" COMBINATION ANVIL
The Combination includes Anvil with vice, Pipe Vice, Drill Attachment, Saw Clamps and Hardie. An excellent article for repairing tools and machinery. Weighs 60 lbs.

WRITE FOR CATALOGUE
Our latest catalogue describes our entire line. It shows our Cultivators, Seeders and Tools as they are and gives a full description of their construction in detail. Write for free copy.

THE EUREKA PLANTER COMPANY, LIMITED
WOODSTOCK, Ontario. 22

Messrs. Nickman & Scruby

Court Lodge, Egerton, Kent, Eng.
Exporters of Pedigree Live Stock of All Descriptions. Draft Horses a Specialty.
Draft horses are high, and feed low; imported horses brought well are easily the best value for money that can be bought in horse flesh. Write us for full particulars. We can give highest references, many being to entire strangers who have dealt with us by correspondence only.

GLENGOW Shorthorns and Cotswolds

Our present offering in Shorthorn heifers and young bulls are modern in type and of richest Scotch breeding, and the prices are low; Cotswold Ewe and Ram lambs of high quality.

WM. SMITH & SON - COLUMBUS, ONT.
L. D. Phone

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 2 years old, of this level type, and richest breeding. G. M. FORSYTH, North Claremont, Ont.

SPRING VALLEY SHORTHORNS

Herd headed by the two imported bulls, Newton Ringleader, -73783-, and Scottish Pride, -36106-. The females are of the best Scottish families. Young stock of both sexes for sale at reasonable prices. Telephone connection.

KYLE BROS. - Ayer, Ontario.

Shorthorn Bulls and Heifers—I have a choice lot of young bulls and heifers in calf now to offer. Former sires, Joy of Morning (imp.) -32070- and Benachie (imp.) -89954-. Present stock bull, Royal Bruce (imp.) -55038- (89909) 273853.
GEO. D. FLETCHER, R. R. No. 2, Erin, Ont.

Oakland—50 Shorthorns.

Offering for winter and spring trade, is six excellent bulls from ten months to two years old. Out of fine dual purpose dams and sired by our noted Scotch Grey Bull 72692. He is a beautiful roan and all quality, he is also for sale or exchange.
John Elder & Sons, Hensall, Ont.
Station and P. O.

ATHELSTANE SHORTHORNS

For sale: Five choice young bulls, sired by Roan Chief (imp.) -80685-. They are a choicely-bred lot, and will be priced right; also a few heifers. They are of good milking dams. WM. WALDIE, R. R. No. 2, Stratford. L.-D. phone.

The Manor Shorthorns

Bulls sold, up to May bull calves. Have two good ones of that age for sale. Also heifers got by, and cows in calf to, one of the good bulls of the breed. Inspection solicited.
J. T. GIBSON, Denfield, Ont

Gossip.

STRIKES DURING 1912.

The loss in working days from strikes in 1912, according to the Department of Labor's record, was only about half the similar loss in 1911, though amounting to over one million days. This covers the whole of the Dominion. There was a larger number of strikes, but the great majority were short, and involved only a small number of men. Altogether, 40,500 employees went out on strike in 1912. The Industrial Disputes Investigation Act applies only to disputes in industries involving public utilities, and practically all the above-mentioned disturbances were outside its jurisdiction. Altogether, about nineteen threatened strikes were referred under the Act in 1912, settlements being thereby effected in all but three cases.

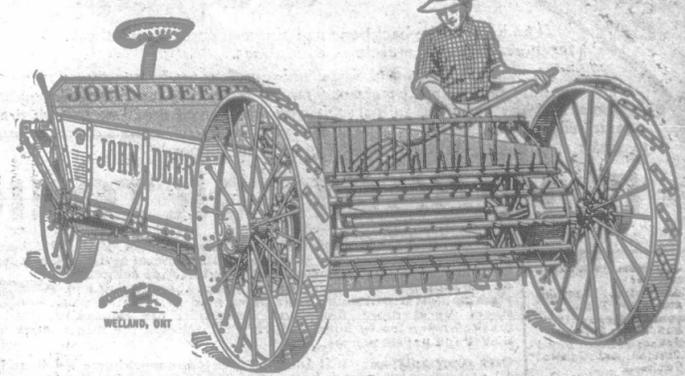
Robert Hamilton & Son, Simcoe, Ont., importers of Percherons, write: "We have recently sold the grand, big pair of imported Percheron mares, Jacobine [8147], and Ithaque [8139], to Alex. R. McKay, of Charlottetown, P. E. I. Both of these mares are heavy in foal, and we expect to hear from their colts. Mr. McKay deserves great credit for making a trip of 1,350 miles to look at a pair of mares, but we are satisfied that he will be amply repaid by the return from his purchase. We also sold to Archibald Campbell, of Strathroy, the grand, big two-year-old black mare Karabosse [8131]. This mare is also heavy in foal, and Mr. Campbell made a very wise selection in picking this mare as a brood mare. Haas Bros., of St. George, Ont., recently purchased that great-acting four-year-old gray stallion, Islam [3031]. He weighed the day he left our stables, 2,065 pounds. Islam is one of the very few premium horses to leave France for this country, and we expect great results from him as a producer, and he already has his reputation as a show horse. We still have at our stables a grand lot of imported and Canadian-bred stallions and mares, and we are satisfied that we can suit the most particular in quality, price, and terms.

Following is a list of the sweepstakes winners in open classes at the Ontario Corn Exhibition, Windsor, 1913:

- Best 10 Ears Dent Corn—1, Alvin Newman, Cottam; 2, T. J. Shepley, Amherstburg.
- Best 10 Ears Flint Corn in Show—L. D. Hankinson, Aymer.
- Best Single Ear of Dent Corn—F. G. Hutchins, North Malden.
- Best Single Ear of Flint Corn—Jas. Brisley, Thamesville.
- Best 10 Ears of Dent Corn from Essex County—Alvin Newman, Cottam.
- Best 10 Ears Reid's Yellow Dent—1, G. W. Coatsworth, Kingsville; 2, F. G. Hutchins, Amherstburg.
- Best 10 Ears of the Later Varieties of Dent Corn—G. W. Coatsworth & Son, Kingsville.
- Best 10 Ears Wisconsin No. 7—T. J. Shepley.
- Best 10 Ears of Bailey Corn—T. J. Quellet, Walkerville.
- Best 10 Ears of Sweet Corn for Canning Purposes—L. D. Hankinson.
- Best Team of Corn Judges, under 16 Years of Age, for McGoig Shield—1, Jack Duke and Carl Bruner, Olinda, S. S. No. 5, Gos. South; 2, Archie Gardiner and Willie Sales, Tilbury East; 3, Jas. Bowlers and Bruce McNeillage, Chatham Township; 4, Willie Graham and Earnest Stokes, S. S. No. 11, Dover.
- Best 10 Ears Large White Cap Yellow Dent—1, A. W. Cohoe, Woodslee; 2, John J. Costigan, Maidstone.
- Best 10 Ears Wisconsin No. 7, White Cap Yellow Dent, Bailey or Coatsworth Hybrid—Alvin Newman, Cottam.
- Best Essay, "How to Grow Corn"—1, Stanley Plant, S. S. No. 4, Maidstone; 2, Donald Mills, Tilbury East; 3, Tommy Totten, S. S. No. 4, Maidstone.
- Best Decorative Display of Corn—1, Tilbury East Farmers' Club; 2, Fletcher Farmers' Club; 3, Essex Farm, Walkerville; 4, Essex Farmers' Club.
- De Laval Trophy—Best Display Corn suitable for producing ensilage—Essex Farm, Walkerville.

John Deere Spreader

The Spreader with the Beater on the Axle



Revolutionizing the Spreader Business Simplest and Strongest Spreader

On the John Deere Spreader, the Spreader with the Beater on the Axle, two hundred working parts that continually give trouble, are done away with. This spreader is so simple and strong that it does not get out of order. It has no clutches, no chains, no adjustments.

The John Deere Spreader is the greatest improvement in spreaders since their invention. It is as much in advance of ordinary spreaders as the self-binder was over the old reaper.

The Beater on the Axle

Mounting the beater on the axle makes the John Deere Spreader possible. This feature is fully patented. You cannot get it on any other spreader. The beater on the axle does away with all chains and clutches. It puts the strain and stress of spreading on the main axle—where it belongs—not on the sides of the box or the frame of the spreader. Mounting the beater on the axle makes the John Deere Spreader easy to load—low down.

Only "Hip-High"

Sides of the John Deere Spreaders are only "hip-high." The first three feet you lift a fork of manure are easiest of all. From there on to the top of the ordinary spreader is hard work. You lift manure only three feet with the John Deere Spreader. You always see into the spreader, just

Valuable Spreader Data Free—Get this at once. It contains reasons for using manure—how to apply it to the land, how to store it, and a description of the John Deere Spreader, the Spreader with the Beater on the Axle. Ask for this Data as Package No. Y119

John Deere Plow Company, Limited, Toronto, Ontario

where each forkful is needed. Wheels do not interfere with loading.

Few Parts

There are no clutches to get out of order, no chains to give trouble, and no adjustments to be made on the John Deere Spreader. On old style spreaders, ten to twenty adjustments are necessary before they will work at all. Any one of these, wrongly made, might put the spreader out of business.

To start spreading with a John Deere Spreader, move the lever at the driver's right back until the finger or dog meets the large stop at the rear of the machine—there is no clutch. The John Deere Spreader does not get out of order. It is always ready for use.

Roller Bearings

Roller bearings, few working parts, the center of the load comparatively near the team and the weight distributed over four wheels, make the Roller Bearing John Deere Spreader light draft. There are four sets of roller bearings, two between the main axle and the beater, and two in the front wheels.

Bridge-Like Construction

The substantial steel frame of John Deere Spreaders has high-carbon structural steel side sills. Like modern railway bridges it is built on the best known principles of steel construction. It is securely bolted, insuring rigidity and perfect alignment, even after years of use.

15 SHORTHORN BULLS 15

We have been breeding Shorthorns on this farm for over 60 years, and I never saw a better lot of young bulls for sale than I have at the present time. Nearly all of the best Scotch breeding; reds and roans, from 10 to 20 months old. Also a few females and several registered Clyde fillies. Prices within the reach of all. Will quote prices, freight paid to your nearest station.

Claremont Sta., C.P.R., 3 miles. Pickering Sta., G.T.R., 7 miles. **JOHN MILLER, Brougham, Ont.**

SHORTHORNS!

Have now a choice lot of young bulls to offer; also with something nice in heifers. Catalogue of herd and list of young animals on application. **H. Cargill & Son, Props., Cargill, Ont., Bruce Co.**

5 Shorthorn Bulls 5—We have for sale at moderate prices five 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



The Backbone of the Farm



The horse is the backbone and sinew of every farm—the call for horseflesh and muscle is continuous.

This everyday utilization of tissue and muscle must be constantly repaired and can only be repaired by *digested food*. But as the horse has the smallest stomach of any barnyard animal of its size and its feed much more highly concentrated, it is necessary to invigorate and tone up the horse's digestive organs to make sure of his getting the good out of his dinner.

DR. HESS STOCK TONIC

Dr. Hess Stock Tonic contains:
 Six Venues, Digestive and Nerve Tonic,
 Cassia, Digestive Tonic and Worm Expeller,
 Sulphate of Iron, Blood Builder and General Tonic,
 Sulphate of Soda, Laxative and Liver Tonic,
 Common Salt, Appetizer, Cleanser,
 Epsom Salts, Laxative,
 Extract of Peppermint, Stimulates Kidneys,
 Charcoal, Prevents Noxious Gases,
 Peppermint, Tonic and Aromatic.

is a scientific preparation formulated by Dr. Hess (M.D., D.V.S.) and composed of bitter tonics that give tone to the general system, gentle laxatives that regulate the bowels and diuretics that act gently on the kidneys. It not only gives the workhorse spirit and stamina, but it will make your cows give more milk, your steers digest more food, and its results are especially marked when fed to hogs and pigs. It relieves the minor stock ailments and expels worms.

Our proposition: If it does not give your workhorse spirit and stamina, make all of your stock thrive better, free from disease and free from worms, take the empty packages back to our dealer and get your money back. Every pound sold on this guarantee. 2 1/2 lbs. pail \$2.25; 100 lbs. \$7.00 (duty paid).

FREE: Dr. Hess (M.D., D.V.S.) will at any time prescribe for your ailing animals free of charge if you will send him full details. Mention this paper and send 2-cent stamp. 96-page Veterinary Book also free.

DR. HESS & CLARK, Ashland, Ohio.

The above is carefully compounded by Dr. Hess (M.D., D.V.S.), with just enough cereal meal to make a perfect mixture.

DR. HESS POULTRY PAN-A-CE-A. Your hens that are now laying eggs for hatching should be in the pink of condition, so that the offspring may have an even chance to reach maturity. Just a penny's worth of Dr. Hess Poultry Pan-a-ce-a will feed thirty hens, which will insure red combs and plenty of hen music. It will make your hens lay, it will insure health in your poultry flock, excellent for little chicks, prevents those little bowel troubles and complications, also prevents and cures gapes, cholera, indigestion and the like. 1 1/2 lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.75; 25-lb. pail \$3.50 (duty paid). If your dealer cannot supply you, we will. Send 2c for Dr. Hess 48-page Poultry Book, Free.

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The first remedy to cure Lump Jaw

Fleming's Lump Jaw Cure

and it remains today the standard treatment with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write for a free copy.

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Write for literature and quotations on **DAVIES FAMOUS MIXED BRANDS (24)**

Muriate of Potash	Acid Phosphate
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 Commercial Fertilizer Department,
 R. INNES, B.S.A., MANAGER.

SHORTHORNS and SWINE—Have some choice young bulls for sale, also cows and heifers of show material, some with calves at foot. Also choice Yorkshire and Berkshire sows. **ISRAEL GROFF, Elmira, Ontario.**

Balaphorene Farm Jerseys Present offerings: Choice bull calves from three to sixteen months, at very reasonable prices for quick sale. **JOSEPH SEABROOK, Havelock, Ontario.**

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.**

AYRSHIRES FOR SALE! Seven bulls and a few heifers of different ages, bred by Woodroffe Comrade, whose first heifer in milk gave 11,392 lbs. milk, 480 lbs. butterfat in one year. Prices right. **H. C. HAMILL, BOX GROVE P. O., ONT., Markham, G. T. R.; Locust Hill, C. P. R. Bell phone connection from Markham.**

MALASOFAT DAIRY MEAL

A BALANCED FOOD
 Wholesome, nutritious, palatable, digestible. Feed your milk cows "Malasofat" and increase your profits. "Malasofat" produces maximum results at a minimum cost. Ask your dealer, or send direct for information.

PARK FEED MILLING COMPANY, LIMITED
 17 River Street Toronto, Ontario, Canada

10 SHORTHORN BULLS 10

If in need of a bull those that we are offering should interest you. They range from 8 to 14 months old, and are nearly all bred direct from imported stock. We also have females of all ages. Bell phone. Burlington Junction, G. T. R. **W. G. PETTIT & SONS, Freeman, Ontario.**

SCOTCH SHORTHORNS

One High-class Imported yearling bull. 10 bull calves, from 7 to 16 months old. 40 heifers and young cows, all by imported sires. Also some Imp. yearling heifers.

MITCHELL BROS., BURLINGTON, ONT. Farm 1/4-mile from Burlington Junction.

Elmhurst Shorthorns

We will sell Chancellor's Model = 58524 =, Bapton Chancellor, together with 4 young bulls of his get; thick, low-down, mossy-coated fellows, from dams from 1,400 up. Write for particulars, or better come and see. **H. M. VANDERLIP, Langford Stn. Brantford & Hamilton Radial, Cainsville P.O., 6 miles from Brantford, Main Line, G. T. R.**

Brampton Jerseys

Bulls fit for service are getting scarce. Just a few left. Yearling heifers in calf are in great demand, 6 for sale; 6 now being bred. Brampton Stockwell the sire. A few good cows and some calves for sale. Production and quality.

B. H. BULL & SON, Brampton, Ont.

80 Imported and Canadian-bred Ayrshires

I am now offering by private sale my entire herd of 80 Ayrshires, imported, imp. in dam and Canadian-bred; big producers, show stock, high-class in quality, with best breeding. L.-D. PHONE. **DAVID HUNTER, MAXVILLE, ONTARIO**

Ayrshires and Yorkshires

We now offer at bargain bull calves dropped in July, 1912. All bred from (imp.) sire and from either dams with good records, or their daughters either imported or home-bred. Some choice February pigs; also young pigs.

Alex Hume & Co., Menie, Ont.

Stonehouse Ayrshires

Of choicest imported stock and with imp. sires and dams. I am offering young cows, 3, 4 and 5 years of age; a grand bunch of imp. yearling heifers, and a particularly good pair of young bulls.

L.-D. Phone. **HECTOR GORDON, Howick, Que.**

City View Ayrshires

Three young bulls fit for service; females from 3 months to 9 years; all young stock 3 years and under from R. O. P. ancestors. Always something for sale. Bell phone connections; 1 1/2 miles from 5 railroad stations.

JAMES BEGG & SON, R. R. 1, St. Thomas, Ont.

GIENHURST AYRSHIRES

ESTABLISHED OVER 50 YEARS ago, and ever since kept up to a high standard. We can supply females of all ages and young bulls, the result of a lifetime's intelligent breeding; 45 head to select from. Let me know your wants. **JAMES BENNING, WILLIAMSTOWN P. O. Summerstown Sta., Glengarry**

STOCKWOOD AYRSHIRES

The herd is now headed by White Hill Free Trader (imp.) No. 33273, championship bull at Sherbrooke; also headed the 1st-prize aged herd. All ages for sale. Satisfaction guaranteed. **D. M. WATT, St. Louis Sta., Que. Telephone in house.**

Gossip.

A SUCCESSFUL LINE OF SHORT-HORN BREEDING.

A few days ago it was the pleasure of a representative of this paper to spend an afternoon with S. Dymont, of Barrie, Ont., in looking over his high-class herd of Scotch and Booth-bred Shorthorns. It was an afternoon of pleasure and profit—pleasure, because the herd is one of superior merit, and well worth a visit by anyone interested in the great and popular breed of Shorthorn cattle—profitable, because in this herd a most interesting line of breeding is being carried on, namely, the crossing of pure Scotch bulls on pure Booth-bred cows. It has long been the contention of many breeders that an English cross on Scotch females, or vice versa, would be productive of much good, and as the proof of the pudding is in the eating of it, Mr. Dymont has proved the truth of that contention. On his massive, thick, Booth cows, many of them weighing 1,800 lbs. and over, he has used the grandly-bred and good breeding Lavender-bull, Count Lavender, a son of the great Missie Champion, and his dam by the famous Silverplate. The progeny of this cross shows a remarkably high standard of thickness of flesh, mellowness of handling, nearly all covered with a wealth of hair, which, in all cases, denotes good-doing qualities. We were shown some exceptionally choice young bulls and heifers of this line of breeding, as well as others, pure Scotch. We congratulate Mr. Dymont on the excellence of his herd, which is one of the best in Canada.

SHORTHORNS AND YORKSHIRES.

For many years one of the leading Canadian importers of Shorthorn cattle and Yorkshire swine, H. J. Davis, of Woodstock, Ont., is justly entitled to lay claim to the honor of being one of the founders of the great Shorthorn breed of cattle in Canada did his modesty permit him to do so. Certain it is that very many of the representatives of his importations and breeding were used as the foundation from which has developed many of the best herds in this country, and at his own farm, near the city of Woodstock, the splendid herd, individually, and from the standpoint of rich, popular breeding, are up to a high standard, and represent on tribal lines such notable families as the Jilts, Marr Roan Ladys, Rosewoods, Minas, Beautys, Cruickshank Butterfys, etc., at the head of which is the massive, good breeding Missie-bred bull, Imp. Westward Ho. This noted bull has done a power of good on the herd; he has bred remarkably well, and his sons and daughters, owing to their excellence of type, level lines, and good-doing qualities, have found ready sale. The female breeding end of the herd are all either imported, or bred from imported stock, and to-day, when so much is being said and written about the splendid milking qualities of many Shorthorn cows, it will not be amiss to say that in this herd are several that have, year after year, given 45 and 46 lbs. of milk a day for months after freshening, for it must be known that in this herd many of the cows are hand-milked, and out of one of the best of them is a young bull of serviceable age, sired by Imp. Diabola. At all times for sale in the herd are heifers and young bulls, all of them by the stock bull, Imp. Westward Ho. The Yorkshire sows in breeding are all got by imported sires and dams. The principal stock boar in use is Imp. Warsley Duke 21st, bred by the Earl of Ellesmere, and sired by his champion boar, Warsley Duke 10th. For immediate sale are some 12 young sows bred, and the same number of young boars of breeding age, besides about 50 of both sexes about four months of age. Mr. Davis reports the last few months as unprecedented in his experience for the demand and sale of both Shorthorns and Yorkshires. His farm is connected with long-distance Bell phone from Woodstock.

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With Health Brand Clogs on, the man or woman who works in the wettest, coldest places always has warm, dry and comfortable feet. Try a pair yourself this winter.



Felt-lined CLOGS (As illustrated) Fine leather tops, hardwood sole and heel, oosily lined with warm felt. All sizes for men and women. \$1.75

Higher 3-buckles \$2.25 High-legged Wellingtons \$2.25 and \$2.50 Children's last, 7 1/2 to 8 1/2 \$1.25 Or if you wish to learn more about these wonderful Clogs before ordering, write to us for catalogue booklet, telling how Health Brand Clogs are made, etc. Dealers, write for proposition.

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BLATCHFORD'S CALF MEAL

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The result of over 100 years' experience with calf-feeding. The only Calf Meal made in an exclusive Calf Meal Factory. As rich as new milkst, less than half the cost. Makes rapid growth. Stops scouring. Three calves can be raised on it at the cost of one. Get Bulletin, "How to Raise Calves Cheaply and Successfully Without Milk," by sending a post card to STEELE, BRIGGS SEED COMPANY



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Lump Rock Salt, \$10.00 for ton lots. L.O.B. Toronto Toronto Salt Works, 128 Adelaide Street E. G. J. CLIFF, MANAGER. Toronto 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, 7, L. Houghton, Sec., Box 127, Battleboro, Vt.

Registered Holsteins

6 cows in splendid condition, all large, straight animals and due to freshen before 1st April. Also some young stock of excellent breeding, both sexes.

Colliver V. Robbins, Riverbend. Bell Phone.

Lawthorne Glen Holstein Herd

Offers young bulls ready for service, one from Calamity Houwtje, winner of 1st prize in cow class at Guelph, 1912; also a half-brother to Pontiac Jessie, sweepstakes heifer under 36 months; also a few females. Prices reasonable.

Write for particulars, or come and make your choice. MARTIN McDOWELL, Eastwood Sta., G. T. R. Oxford Centre, Ont.

Holsteins and Tamworths

I am over-stocked and will sell a lot of young cows and heifers, winners and bred from winners; officially backed and right good ones. Also Tamworths of all ages.

R. O. Morrow & Son, Hilton P.O., Ont. Brighton Station. Phone.

For Sale Choice Reg. HOLSTEIN HEIFER CALVES, sired by Homestead Colantha Sir Abbekerk 2nd, whose dam and sire's dam average 26.81 butter 7 days and from tested dams; and two yearling heifers, sired by Corinne Calamity Ormsby. W. A. Bryant, Cairngorm, Ont.

HOLSTEINS and YORKSHIRES Minister Farm offers a grandson of Snowflake. She gave 2,054 1/2 lbs. milk in 30 days, and of Count Hengerveld Fayne De Kol; his dam and sire's dam average 24.075. A sister made 35.55 lbs. butter in 7 days. For extended pedigree and price, write: R. Honey & Sons, Brickley, Ont.

Questions and Answers.

Miscellaneous.

Turkey Queries.

1.—Hens' combs have lost their rosy appearance. Have they been frozen or is it a disease, some of the hens are losing feathers around head, looking like turkeys; can a cure be given?

2.—What is best to feed young turkeys? Will they do well on whole grain?

3.—How long or when should turkeys be with male to have fertile eggs?

Ans.—1.—It is more than likely the hens' combs have been frosted. The hens may be feather-pulling.

2.—Coarsely ground corn mixed with milk is said to be good for young turkeys. After eight weeks of age cracked corn is good. Whole grain is all right for them in fall and winter. Green food is also necessary.

3.—Turkeys should be mated at least ten days before eggs are used for hatching purposes.

Silo Questions.

1.—Will silage keep as well in a cement silo properly built (slop wall) as in a wooden silo?

2.—Will silage freeze as much in a wood silo as in a cement one?

3.—Leaving the cost of building out of the question, which would you prefer to build, wood or cement?

4.—Are there any advantages that a wood silo has over a cement one, as far as the silage is concerned?

5.—Is there any process of treating lumber (say 2-inch plank) so as to be frost proof, the silo standing outside?

6.—Is there any process of treating lumber so as it will neither shrink or swell standing out in all kinds of weather?

Ans.—1.—Practically, yes; better than in any but a first-class wooden silo.

2.—Possibly, not quite.

3.—Cement, assuming, of course, that one has his buildings permanently arranged.

4.—See answer to question 2.

5.—This question may be safely answered in the negative.

6.—Not to our knowledge.

Size of Silo.

1.—What is the smallest size for a silo to be a success as a silo, and how many cows would it feed from time of starting to feed, in fall till pasture in spring, feeding twice a day, and what amount should be fed, and how much land would it take to produce the corn necessary to fill the silo?

I am thinking of having five or six cows next winter. Would they be enough to handle a silo without much waste of silage, and if so what size silo would be necessary? I would also be feeding roots, chop, etc.

2.—Could a stave silo be built and placed on the ground without a foundation other than a plank or something like that to keep it from tilting sideways for a year or two, and then placed in another place on a foundation?

Ans.—1.—The size of the silo is governed by the number of cows kept. Nothing smaller than eight feet in diameter would be advisable, and larger is better. A silo for four or five cows would scarcely be practicable. Better build to feed more cattle. A fair diameter and about 30 feet high.

2.—Better put it on the foundation in the first place.

Trade Topic.

The season for horse-clipping and sheep-shearing is near at hand. Many horses would be benefited by having their coat of long hair removed before going into the spring's work, and all sheep must be clipped. Clippers are also valuable in keeping the hind quarters of dairy cows clean. In another column in this issue appears the advertisement of the famous Stewart horse-clipping and sheep-shearing machines. Look it up, and write the Chicago Flexible Shaft Company, Chicago, Ill., for their catalogue, No. 40, handsomely illustrated, containing all the different types manufactured by this firm.

Eastlake Metallic Shingles

Only the best steel will stand the "EASTLAKE" embossing. Its depth and nature make it impossible for inferior steel to stand it without splitting.

This fact in itself is a guarantee of the permanent value of the "EASTLAKE" SHINGLE.

Once placed on the roof, "EASTLAKE" is there to stay, a permanent part of your barn or house—no Leaks—no danger of Fire or Lightning and best of all, no Repairs.

Write for booklet

705

THE METALLIC ROOFING CO. LIMITED MANUFACTURERS TORONTO & WINNIPEG

BIG DISPERSION SALE OF

Holsteins and Tamworths

Mr. John McKenzie, of

Willowdale, Ontario

6 miles north of C.P.R. Crossing, on Yonge St., having sold his farm, will, on WEDNESDAY, MARCH 12th, 1913, AT THE FARM

Sell by auction, his entire herd of 40 registered Holstein cattle, and a number of registered Tamworth Swine, Brood Sows, Young-bred Sows, Stock Boars, Etc. There are cows with A.R. records up to 19.14 lbs. Two year-old heifers with A.R. records up to 16.30 lbs., R.O.P. records up to 14,000 lbs.; B.F. tests up to 4.51%. A strictly high-class lot in high-class condition. Nearly all in calf to a son of the great King Segis; and many of the young ones, sons and daughters of the same bull.

Metropolitan Electric Cars pass the farm every hour, STOP 34. TERMS: Cash, or 8 months with 6%.

JOHN PRENTICE, Toronto, Auctioneer. For catalogues, write. JOHN MCKENZIE WILLOWDALE, ONTARIO

FAIRVIEW FARM'S HERD

OFFERS sons of Pontiac Korndyke 25983, the greatest sire that ever lived, and the only bull that ever sired 13 daughters that have made 7-day records above 30 pounds each. Do you want your next bull to be a brother to such cows as Pontiac Lady Korndyke (38.02), Pontiac Pet (37.67), Pontiac Clothilde De Kol 2nd (37.21), Sadie Vale Korndyke (36.30), and eight others above 30 pounds? If you do, write me for price on a son of Pontiac Korndyke. I also have sons of Rag Apple Korndyke and Sir Johanna Colantha Gladi. E. H. DOLLAR, HEUVELTON, NEW YORK. Near Prescott.

LAKEVIEW HOLSTEINS

We are now testing some of the daughters of Count Hengerveld Fayne De Kol, and they are running from 16 1/2 lbs. with first calf to 20 lbs. with second calf. There are still a few young bulls from these heifers that we are offering at half their value, in order to make room. They are sired by Dutchland Colantha Sir Mona. Come to the farm and see the dams of these bulls and their dams.

E. F. OSLER, BRONTE ONTARIO AVONDALE STOCK FARM

Herd bulls: Prince Hengerveld Pietje 8230 (50582). Sire, Pietje 22nd Woodcrest Lad, out of Pietje 22nd, 31.00 lbs. butter 7 days; greatest imported cow, and one of the greatest young sires of the herd, having already sired a 35-lb. 4-year-old daughter. Dam, Princess Hengerveld De Kol, 33.62 lbs. butter 7 days, highest record daughter of Hengerveld De Kol, with 116 tested daughters. King Pontiac Artis Canada 10042 (72294). Sire, King of the Pontiacs, greatest living sire of the herd, and sired by the greatest sire of the breed Pontiac Korndyke. Dam, Pontiac Artis, daughter of Hengerveld De Kol. Record, 31.8 lbs. butter 7 days, 128 lbs. 30 days, 1,076 lbs. 365 days. Young bulls from these two great sires for sale, from cows with records up to 29 lbs. Write us, or better come and see them. Visitors always welcome. Address all correspondence to: A. C. HARDY, Owner. H. LORNE LOGAN, Mgr., Brockville, Ont.



I can supply a limited number of high-producing and highly-bred females; also young bulls, bred on both sides from high official backing. Let me know your wants. W. E. THOMPSON, R. R. No. 7, Woodstock, Ont.

Summer Hill Holsteins

Would you like your next bull to be from the same sire as the heifer that holds the world's record for yearly work, and the same sire as the Champion Cow of Canada in the seven day work, and the same sire as the Champion four-year-old of Canada in the thirty day work? We have bulls of this breeding to offer whose dams have records of over 27 lbs. We have also some extra choice heifers bred to our junior herd bull whose dam has a record of 24.60 lbs. butter in seven days and 111 lbs. milk a day. Yorkshires of all ages. D. C. FLATT & SON, R. R. No. 2, Hamilton, Ont.

Holsteins: \$250 buys two 2-year-old Reg. Holstein heifers, bred to freshen in September. A. Watson & Sons, R.R. No. 1, St. Thomas, Ont.

Maple Holstein-Friesians Special offering: Bulls from 1 to 15 months old. The growthy kind that will give good service. One from a son of Evergreen March, and all from Record of Merit dams. Write for particulars. G. W. CLEMONS, St. George, Ont. Bell telephone. When writing please mention The Advocate

The Maples Holsteins I am now offering for sale 10 young bulls, official record backing on both sire's and dam's side. They are old enough for service, and my prices should soon sell them. WALBURN RIVERS, Foldens, Ont. Oxford County Phone.

This Will Stop Your Cough in a Hurry.

Save \$2 by Making This Cough Syrup at Home.

This recipe makes 16 ounces of better cough syrup than you could buy ready made for \$2.50. A few doses usually conquer the most obstinate cough—stops even whooping cough quickly. Simple as it is, no better remedy can be had at any price.

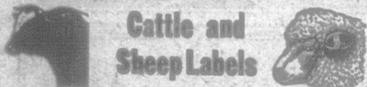
Mix two cups of granulated sugar with one cup of warm water, and stir for 2 minutes. Put 2½ ounces of Pinex (fifty cents' worth) in a 16-ounce bottle; then add the sugar Syrup. It has a pleasant taste and lasts a family a long time. Take a teaspoonful every one, two or three hours.

You can feel this take hold of a cough in a way that means business. Has a good tonic effect, braces up the appetite, and is slightly laxative, too, which is helpful. A handy remedy for hoarseness, croup, bronchitis, asthma, and all throat and lung troubles.

The effect of pine on the membranes is well known. Pinex is the most valuable concentrated compound of Norwegian white pine extract, and is rich in gualacol and all the natural healing pine elements. Other preparations will not work in this formula.

This Pinex and Sugar Syrup recipe has attained great popularity throughout the United States and Canada. It has often been imitated, though never successfully.

A guaranty of absolute satisfaction, or money promptly refunded, goes with this recipe. Your druggist has Pinex, or will get it for you. If not, send to the Pinex Co., Toronto, Ont.



Cattle and Sheep Labels

A cast-iron how may be the means of saving you three calves next fall. Send your name and address for free sample and circular. It is no trouble, and you can judge them for yourself. Write to-day.

F. G. JAMES, Bowmanville, Ont.

Farnham Oxfords and Hampshires. The oldest established flock in America. Present offering: a few two-shear and older ewes of both breeds, bred to our imported champion ram.

Also a few nice ewe lambs by imported sire. Prices reasonable. Henry Arkell & Sons, Arkell, Ont. L.-D. 'phone in house.

ALLOWAY LODGE STOCK FARM SOUTH DOWNS ANGUS COLLIES

The best in their respective breeds. Write for information to:

ROBT. McEWEN, Byron, Ont. Phone. R.R. Stn. and Tel. Office, London.

Newcastle Tamworths and Shorthorns

Present offering. Seven boars from 6 to 10 months old; bears and sow pigs 6 weeks to 4 months; so we bred and others ready to breed, from such noted stock as Colwill's Choice, Canada's champion boar, 1901, '02, '03 and '06, and Imp. Cholderton Golden Secret. Also a few choice Shorthorn heifers in calf; beef and milk combined. Show stock a specialty. Prices right. L. D. 'Phone A. A. COLWILL, Newcastle, Ontario.

Poland-Chinas Poland-Chinas, Shorthorns and Seed Corn. An offering a limited quantity of "Extra Choice" White Cap Seed Corn. Order now. Prices right. Geo. G. Gould, Edgar's Mills, Ontario

She—You once said you would die for me, and now you refuse to get up and light the fire.

He—That's perfectly logical. If I died for you I'd be done with it; but if I get up once and light the fire, you'll want me to do it every morning.



There's Nothing Better Than SNAP

For thoroughly cleansing baths and slits. And it does not hurt the hands like most cleansing powders and soaps. It leaves them smooth and soft. Get a Can To-day. 15c. at Your Dealers. Save the Coupons. Snap Company Limited, Montreal



Questions and Answers.

Miscellaneous.

Moving Bees.

I have bought four colonies of bees, would you kindly advise me as to what time is best to move them and oblige. J. A. J.

Ans.—Authorities say the best time to move full colonies of bees is in the spring. A cool spring day is a good time to move, as the bees are not flying and none can be lost.

Implement Shed.

As we intend building an implement house in the near future, would be pleased if you would tell us what you consider the best place for an implement house for 200 acres. Would like one about 40 feet square, cement foundation. Could the roof be supported without posts in center, as I think they would be in the way? R. H. REID.

Ans.—The shed could be built the width suggested, or narrower and longer. Using plank-frame construction no posts would be necessary in the building, but with a common timber construction posts would be required. There is very little to a plan of an implement shed more than the framework, which your carpenter would give you a better idea of.

Corn for the Silo.

1.—Which would be the most profitable corn to sow to put in a silo. Stowell's Evergreen with half the cobs picked off for canning factory, or, say, improved Leaming or White Cap Yellow Dent?

2.—Can you give me the digestive nutrients of Stowell's Evergreen and White Cap Yellow Dent? H. E. R.

Ans.—1.—Sweet corn is often grown for silage, but if it had lost half its ears or even though it had all of them, either Leaming or White Cap Yellow Dent, one year with another, would be preferable. Of course, where corn is grown for canning factory, the sweet varieties may be used for silage to advantage.

2.—There is very little difference in the analyses of sweet and Dent corns for fodder purposes.

Cement Amounts.

Will you kindly inform me through your valuable paper the number of barrels of cement, and number of yards of good lake gravel it will take for a wall 8 feet above ground, 20 feet by 40 feet by 8 inches, and a 4-inch floor for same, to be mixed 1 to 8, and what mixture should I use under ground with small stones and brick to fill in?

2.—Give number barrels of cement and yards of good lake gravel for foundation of house 24 feet by 28 feet by 4 feet 6 inches by 8 inches, with kitchen 12 feet by 20 feet by 3 feet 6 inches by 6 inches, and a cross wall in basement 28 feet by 7 feet by 8 inches, and what would be the best mixture. The wall for the house is from bottom of cellar to top of ground, then 2 feet 2 inches of cement blocks for sill to rest on. F. H. I.

Ans.—1.—About 20 barrels of cement, and between 6 and 7 cords of gravel. One to ten underground.

2.—About 17 bbls. of cement, and 4½ cords of gravel mixed 1 to 8.

Weight and Value of Silage.

1.—Could you tell me the number of cubic feet in a ton of silage in the bottom seven feet, of a twenty-four foot silo; also value per ton of same?

2.—Kindly give recipe for removing scum from cows eye. H. B. D.

Ans.—1.—We can only guess at the answer to such a question. So much depends upon the maturity and dryness of the corn when ensiled. In 1912 much silage was made from shocked corn, and the weight per cubic foot is less than usual, the value being correspondingly greater per ton, or nearly so. Probably your seven feet of silage would average about forty cubic feet per ton, and should be worth, say, one-third to half as much per ton as hay. If made from comparatively fresh-cut corn, the weight would be greater, and the value less.

2.—If a cataract is forming, nothing can be done. If the spot is a deposit of lymph try nitrate of silver 10 grains and distilled water 20 ounces. Drop a few drops of this lotion into the eye twice daily.

Roofing

Free Samples
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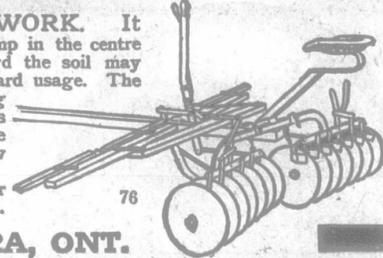
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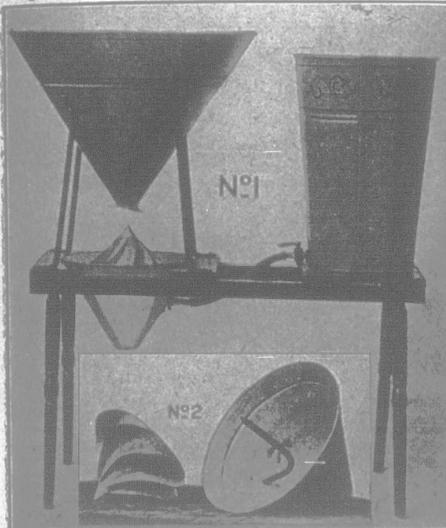
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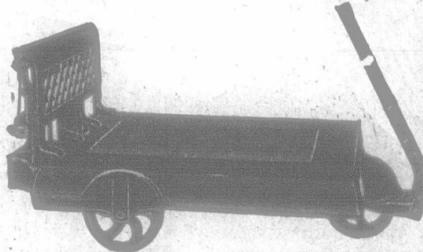
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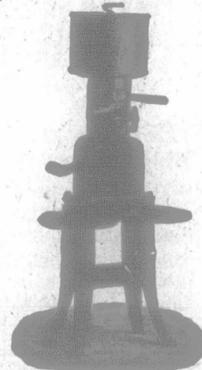
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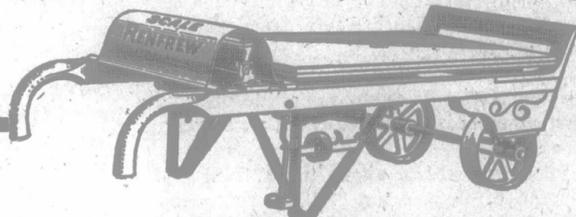


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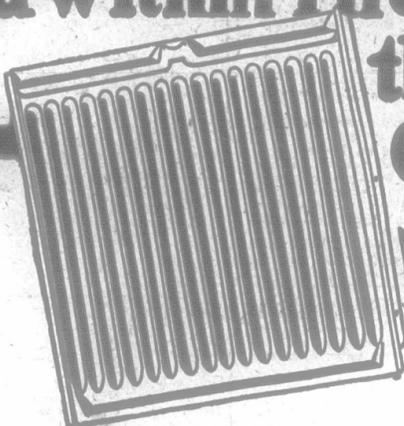
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"But, if your house is already built, and especially if you live in a wooden house, either use my metal lath with cement stucco on the outside walls or use my metal siding in various patterns. This makes your house 'fire-retardant.' It cannot catch fire from sparks."

"In the same way, use my beautiful 'Oshawa' or 'George' Metal Shingle or my metal tile on your roof, instead of cedar shingle. It makes a clean, smooth roof."

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"I AM very proud of this 'George' Shingle. It is, like my 'Oshawa' Shingle, now sold all over the world, but is much bigger. My son, the late Geo. H. Pedlar, Jr., planned it to save labor time in laying roofs, for he foresaw how labor prices were going upward. They did rise, and the price of cedar shingles also. The result is that, to-day, this metal 'George' Shingle makes a less costly but far better barn roof than cedar. See your husband uses it. It fire-proofs his barn roof."

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"My Pedlar Galvanized Corrugated Iron saves the cost of barn walls, compared with wood. It makes a warmer, stronger barn, lightning-proof as well, and needs no paint like wood. It saves so much in high-priced labor during building that it pays to use it, without considering how much better it builds a barn."



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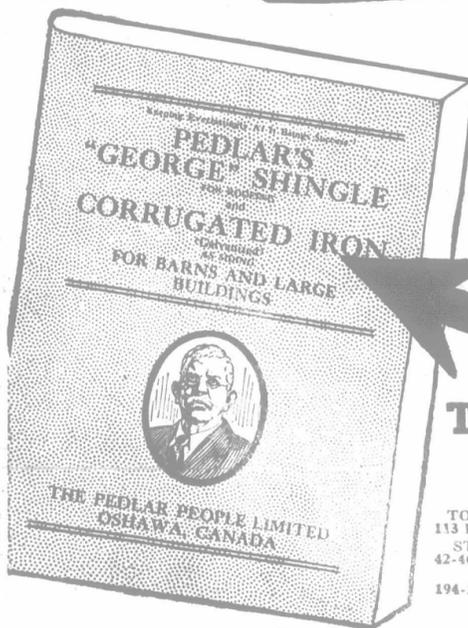
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"This is a book for your husband. It tells how he can build his barn with Pedlar metal walls and roof, instead of burnable wood. Have him write, or write yourself. I will send it free."



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