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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE. *

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VOL. XLIV.

LONDON, ONTARIO, JUNE 10, 1909.

No. 872

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goes a long way all the time on the farm. Saves time and lot of hard labor. NO FUEL. THE SIMPLE, STRONG MILL. One customer writes: "Cost me 100. for repairs in 5 years."

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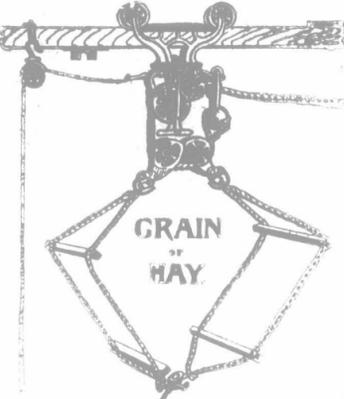
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Dairy Tubulars run so lightly that the medium sizes are easily turned by one who is seated. That is because Tubular bowls are self-balancing, turn on a single, ball bearing and are driven by self oiling gears.

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DAIN Side Delivery RAKE

No pulling or tugging to drag the hay from the back end of the load if this Loader is hitched to your wagon, because the elevating bars push the hay forward on the wagon so one man handles the hay easily. The Dain Loader takes hay from swath or windrow. Two sets of self adjusting rakes having a long sweep over stubble gather hay clean, but do not disturb trash. The reciprocating bars elevate hay without injury to the tender



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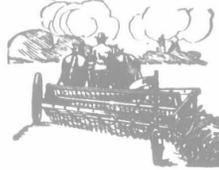
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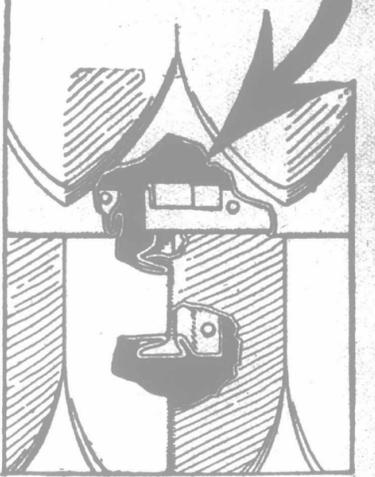
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600 Feet per lb., 8 1-2c. per lb.
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These prices are net cash. Twine is put up in fifty-pound jute sacks, manufactured from SELECT FIBER, and length guaranteed.

Quantity at once what quality and quantity. Cash must accompany orders. Freight and cash must accompany instructions.

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The only practical dry powder sprayer--no water required. With this sprayer, one pound of Paris Green will cover an acre of potato plants. Our patented device regulates the quantity of powder and prevents waste. Machine works up, down and sideways, so every part of the plant is reached and every bug killed. Children can keep vegetables and flowers free of insects, without trouble, when you have the Electric Insect Exterminator.

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The Enemy of Frost and Coal Bills

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Parties interested in Cattle Stanchions will do well to write for prices and information on

Rush's Patented U-Bar Steel Swinging Cattle Stanchions and Iron Frame for Stabling, I Beams for Posts, Etc.

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"You can come pretty near trusting the average farmer to get the most for his money. He doesn't earn it easy; and he has to get full value.

"That's why any roofing buyer gets a strong hint here:

"My shingles cover more square feet of barn roofs all over Canada than any other kind of roofing, two to one—excepting wood shingles.

"And we are overhauling the wood shingles fast, because the farmer is learning just how much wood shingles really cost, and how little mine cost.

"Time you learned, too,—isn't it?"

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You can rest easy nights when you Oshawa-shingle —and save money, as well.

Any roof covered with Oshawa Steel Shingles (Guaranteed) is proof against lightning. Not even the best lightning-rod system insulates a building so safely.

That particularly matters to you, if you own barns, for during 1907, from the most accurate and complete figures it is at present possible to compile, this is what the electric blast cost the farmers of this continent:

Lightning struck 6,700 farm buildings in Canada and the United States.

Fires, caused by lightning, destroyed property valued at \$4,123,000. Lightning killed 4,457 head of live stock.

Lightning killed 623 human beings, and injured 889, nearly all dwellers on farms.

Insurance men declare that more than forty per cent. of all barn fires are caused by lightning. Barns are peculiarly subject to the lightning stroke, because they contain hay and straw that constantly gives off moisture by evaporation. The moist exhalations from horses and cattle also attract the bolt.

OSHAWA GALVANIZED STEEL SHINGLES

A new roof for nothing if they leak by 1934

Yet for a cost of less than five cents a year per 100 square feet you can safeguard your barns—and your house, for that matter—against lightning. That is the real cost of Oshawa Steel Shingles (Guaranteed).

More than that: When you Oshawa-shingle any building you have a roof that is absolutely wet-proof; absolutely wind tight; absolutely fire-proof; and that is GUARANTEED to be a good roof for twenty-five years without painting, patching, repairing, or bother or fuss of any kind.

Anybody who never saw steel shingles before can lay an Oshawa-shingled roof perfectly with no tools but a hammer and tinner's shears, and no guide but the simple, easily-followed directions that come with the shingles.

Anybody who has a building worth roofing right can afford the ONLY roofing that will roof it right—and the only roofing that is guaranteed.

That is the story in brief: Send for the free book that tells it at length, and proves every statement as it goes along. With the book comes a sample shingle, to show you what we mean by saying that the Oshawa Steel Shingles (Guaranteed) are made of 28-gauge heavy sheet steel, heavily galvanized on both sides and all edges, and fitted with the Pedlar four-way lock that makes the whole roof one seamless, unbroken sheet of tough steel—a roof that is not only guaranteed for twenty-five years, but good for a century.

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The PEDLAR PEOPLE of Oshawa ESTABLISHED 1861.

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WE WANT AGENTS IN SOME SECTIONS. WRITE FOR DETAILS. MENTION THIS PAPER.

126c

The Farmer's Advocate

and Home Magazine

"Persevere and Succeed."

Established 1866.

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Vol. XLIV.

LONDON, ONTARIO, JUNE 10, 1909

No. 872

EDITORIAL

Irrigation from Below.

There are two ways of irrigating land—from above, and from below. Irrigating from above, by spreading water over the surface, is feasible only on areas that are favorably situated as to streams, springs or wells, and is usually expensive. Irrigating from below is practicable on any but the most arid soils, and if not so effectual as might be desired on grain and meadows, is very satisfactorily so on intercultivated crops, such as corn and roots, and is cheaper, so that for most farms in Eastern Canada it is decidedly more profitable.

The beauty of it is that subsoil irrigation is accomplished by Nature, Man's part consisting merely in protecting the moisture so far as possible from evaporation. In the case of intercultivated crops, such as corn, roots, vegetables and fruit, this is very easy to do. The means lie ready to hand, being nothing more or less than the earth itself, all that is necessary being so to manipulate the surface two or three inches, as to preserve it, during as much of the time as possible, in the form of a dry-dust mulch. In other words, don't let the crust form.

Few of us comprehend what an immense natural reservoir there is in the soil beneath our feet. Year after year there falls upon the land an amount of rain, snow and dew equal to a depth of water amounting to a little over two feet, at Guelph, running up to something like forty inches at Bay View, Prince Edward Island. The annual precipitation varies somewhat, but these are approximate figures. There are some localities in Canada where the average is much lower than at Guelph, and higher than at Bay View, but these will answer for purposes of calculation. An acre of water twenty-five inches deep would measure up to 567,187½ gallons, or 2,835.9 tons; while an acre forty inches deep would contain 907,500 gallons, or 4,537½ tons of water.

What becomes of all this volume? Much of it, falling in autumn, winter and spring, runs off the frozen or saturated soil into watercourses. Much of it evaporates from ponds, rivers and lakes, and from the surface of moist soil; a good deal of it seeps into streams and lakes from surrounding soil, but Nature has provided that an ample volume shall be held in the immense recesses of the earth, whence it feeds springs and wells, besides rising in liberal volume through the particles of soil, as through a sponge, to supply the roots of plants, and make good the continual summer loss by evaporation. The moisture is contained in the soil chiefly in two forms: (a) capillary moisture, and (b) free water. Capillary moisture cannot be removed by drainage; it surrounds the soil grains or particles as thin, film-like layers of moisture, amounting, in the aggregate, however, to an immense quantity of water. Then, in most localities, after passing a certain distance below the earth's surface, a level is reached, varying with season and other conditions, where the pore-space in the soil, sand and rock is filled with water, or nearly so. In sands and sand-tones lying below drainage outlets, the amount of water may be as much as 15 to 38 per cent. of the total volume of the rock, which means an equivalent of 15 to 38 feet of water for every 100 feet depth of such rock. In such soils, and, for that matter, in most soils, there is abundance of moisture for crop-producing purposes.

And what do we mean by abundance of moisture for crop-producing purposes? We imply, first of all, enough to maintain a plentiful supply of capillary moisture in the root zone, in order to facilitate the elaboration and solution of plant food. Plant roots take up their nourishment in dilute solution, the surplus moisture being transpired through the leaves. It has been determined, by careful and extended observations in America and Europe, that almost any of the cultivated crops withdraws from 300 to 500 tons of water from the soil for each ton of dry matter produced. We see, therefore, that, while almost any soil in Eastern Canada may be supplied from below with plenty of moisture to mature abundant crops, so long as the supply is reasonably well husbanded and protected from evaporation, there is need to guard against waste of moisture, if maximum crops are to be obtained.

For practical agricultural purposes, the physical condition of soil may be improved, and the percentage of moisture available to plants increased by drainage, tillage and manuring. The apparently anomalous effect of drainage in guarding against drouth, would make a chapter in itself. Sufficient to state that this is widely recognized by scientists and good farmers. Humus or decayed vegetable matter, resulting from decomposition of barnyard manures and crop residues, contributes to the sponge-like nature of soil, greatly increasing its capacity for capillary moisture. But apart, altogether, from drainage, manuring and ordinary tillage, we have a wonderful and simple means of conserving moisture in all crops permitting of intertillage. To explain:

As applied to soils, capillarity signifies the attraction of comparatively dry soil particles for the moisture of contiguous wet ones. By capillarity, moisture may be drawn either upwards or laterally through the soil. It works most freely in soils the particles of which lie comparatively close to each other. An enormous quantity of water is annually drawn to the surface of our fields by this agency, thence evaporated by sun and wind. It represents a waste which, in periods of drouth, is most serious, and a considerable percentage of it can be avoided by simply loosening the surface two or three inches of soil, thus interrupting the upward movement of soil moisture, and protecting it from the evaporating influences above. King found, by pot experiments in black marsh soil, that a one-inch mulch of loose, dry soil, saved at the rate of 233 tons of water per acre in 100 days; a two-inch mulch saved 318 tons; a three-inch mulch 331.6 tons, and a four-inch mulch 335.5 tons. In sandy loam, the saving was, for the several depths of mulch above mentioned, 367.8 tons, 402.2 tons, 454 tons, and 426 tons, respectively; and, on virgin clay loam, the quantities thus economized were, 1,154 tons by an inch mulch, 1,434.3 tons by a two-inch mulch, 1,525.8 tons by a three-inch mulch, and 1,630.1 tons of water per acre by a four-inch mulch.

While, in practical field work, the saving would probably not be as great as in the pot experiments, the figures are very striking, and demonstrate to thinking farmers the great possibilities of subsoil irrigation of growing crops by means of a mulch of loose earth. The looser and drier it is, the more effective; and a consideration of the many factors bearing on the case, which space forbids treatment in this article, indicates the wisdom of frequent deep cultivation in the early part of the growing season, gradually shallowing toward the latter part of the season, as the feed-

ing roots multiply near the surface, while the foliage more completely shades the ground. The time to cultivate is as soon after each rain as the ground has reached a nice crumbly condition, so that it may be broken up into a loose, dry surface mulch—the looser and drier, the better. With thorough surface cultivation, a fair crop of fodder corn could be grown on loam soil, without any rain after planting time.

Exploring One's Ignorance.

"Why, I can learn every year," an elderly man was once heard to ejaculate, in a spasm of open-minded humility, as someone showed him a new wrinkle in doing a familiar turn of work. Presumably, he meant that he could learn about one new thing a year. Needless to say, he was not a well-educated or widely-informed man, else he would have said, "I can learn every day."

The men who regard their knowledge of any subject as self-sufficient, are usually the ones who know the least about it. They do not know enough to realize how little they know. They have never explored the depths and recesses of their own ignorance. They grope about with a dim lantern of light in a vast cave of unexplored and all unsuspected treasures of knowledge, thinking, because they see as far as the light sheds, that they have penetrated to the outermost bounds of their particular spheres. It is hard to instruct such a person, since it is so difficult for him to realize that there is anything in his line left to learn. Let him once get interested in his subject or occupation, and begin reaching out for more knowledge, and he will find that each step leads to a wider zone beyond, and, from a state of self-satisfaction, he soon comes to despair of ever exhausting the store of knowledge, and makes up his mind that he will do well, indeed, if he learns a little about a very few things. And so far from being surprised at discovering one or two new points a year, he expects to learn a great many every day. This is the experience of observant, open-minded, studious readers and thinkers. The more they learn, the more they find there is to learn.

Visit the College Again.

The foregoing little homily has been suggested by the remark of an excursionist at the Ontario Agricultural College a year ago. He said he had been coming to Guelph on these annual excursions for eleven years, and every time he learned something new. He was wiser than some of his fellows. There are some who go once or twice, and think they have found out practically all there is to be seen or heard, when the truth is that it requires half a dozen visits to show one what a vast field there is to cover, and how much information remains to be gleaned. The fact of having visited one's nearest agricultural college before, is no adequate excuse for not going again. It were extreme pressure of work, indeed, that should justify a farmer in failing to take repeated advantage of the annual excursions, which not only furnish opportunity to see these institutions in their best attire, but to learn definite data from observation, conversation and talks given by the staff. At the Ontario College, for example, days might be profitably spent on the experimental plots, with reports and bulletins in hand, to say nothing of the live stock, dairy, poultry, horticultural and scientific departments, the library, laboratories, and all the rest. If by so doing, one can assimilate the results of some definite experiments, to substitute for the impressions and guesswork that have previously been

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.

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his guide, and drop a few scales of prejudice and error from his intellectual optics, he may derive a great deal more in knowledge and satisfaction than can be made by spending the day grubbing away within the boundaries of his own line fence. Agriculture, in common with other industries, needs a broader outlook, a deeper understanding, keener observation, more active thinking, and the power which knowledge gives. One day a year at the agricultural college is the least that any farmer owes himself. And if his wife cannot well accompany him, by all means let him take the boys and girls along.

Certified or Clean Milk.

The campaign for pure and wholesome milk reveals the fact that it is not impossible to have a germ-free supply without resorting to pasteurization. Although the methods adopted at Brookside Farms Dairy, referred to on another page, call into requisition some details that cannot be taken up by the average farmer, the essential points are worth considering. Most of them can be followed at least in part to advantage. In speaking of the little precautions that are considered necessary, the manager says: "Never has one of these details been neglected, but what a big increase has immediately shown itself in the bacterial count of the milk." So, also, does this rule apply the other way, when reasonably cleanly conditions prevail; never is one of these details adopted, but what a decrease in the bacterial count is shown. The strict precautions taken resulted in the average bacterial count in weekly tests made in 1908 being only 165 to each cubic centimeter of milk; whereas, in ordinary milk from the average dairy, the number runs up into the millions. Education has stimulated a demand for pure milk, so that in New York consumers pay twenty cents a quart, in preference to eight cents a quart for ordinary grades. In Toronto, the price paid for certified milk is fifteen cents, while common bottled milk sells for eight cents, or even less.

Although everyone cannot enter to a high class

city trade, profits can be increased by more attention to cleanliness in feed and stable, and in milking and care of milk and cream. Elimination of bacteria in the milk and cream means a product of higher quality—one that will keep longer and command a higher price on the market. If the local dealer will not pay a reasonable figure, it is not difficult to find special avenues of disposal.

Apart, too, from all considerations of price, decency demands cleanliness. Milk is the most filthily handled of all human foods, not excepting canned meats. The methods could be improved from one to five hundred per cent., and the bacterial content correspondingly reduced, without any additional expense to speak of, by just taking pains. A wash dish and clean towel in the dairy, a plentiful supply of clean water used to rinse strainers and pails frequently, proper attention to food supply, ventilation and light, with cleanliness all along the line, are what is required. Join the pure-milk producers, and reap the reward of satisfaction that diligence and a clear conscience always bring.

Remedy for Trusts and Combines.

In my last letter I endeavored to point out the widespread existence of trusts and combines among our protected manufacturers, their methods of operation, and the results that follow from their existence. That these results—the oppression of the laboring class, the robbery of the consuming public, the serious handicapping of our great basic industry, agriculture, and the creation of an aristocracy of wealth—are serious menaces to our national life, no thinking person will deny. One of the greatest needs of our nation at the present time is that a remedy shall be found for these conditions. It is my purpose in the present letter to point out the different remedies that may be applied, with something of the merits of each.

So far as I can see there are three ways in which we can deal with combines in restraint of trade among our protected manufacturers. First, we may, by law, declare their formation illegal, and punish those who may form them by fine or imprisonment. Second, we may appoint a commission, similar in powers to the present Railway Commission, which shall take into its consideration all the conditions surrounding each of our manufacturing industries, and fix a scale of prices which shall be binding upon them. Third, we may, where these are shown to exist, throw off the present protective duties, and, by exposing the industry affected to world competition, at once crush the combine. Let us consider briefly the merits and demerits of each of these methods.

The first way mentioned, the prosecution and punishment of offenders, is an already existing fact, so far as the laws of Canada are concerned. It is now illegal to form any combination in restraint of trade, and the offence may be punished heavily by fine or imprisonment. One would think that this would settle the matter, and that by this means the offence would be greatly lessened, or entirely wiped out. The offenders are respectable citizens, not in rebellion against law, as the habitually criminal class is, and a very few prosecutions and convictions should eradicate the practice. But there are practically no prosecutions. So far as results are concerned, the law is a dead letter. The reason is obvious. Private individuals cannot afford to prosecute, and the Government will not.

It is worth while to consider the difficulties that meet the private individual in prosecuting a wealthy combine. In the first place, there is the difficulty in proving its existence. A man may be absolutely certain that a combine exists in some particular case, but he cannot, without incurring great expense, get together the material necessary to prove his contention in a court of law. Then, so long as money plays the part that it now does in law, the man of small means hesitates to provoke a legal battle with a wealthy corporation, in which he will be handicapped from the beginning. In this connection I may mention a statement made by Mr. Pettypiece on the occasion of the visit to Ottawa of the Grange deputation referred to in my last letter, to the effect that it cost the organized publishers of this country \$2,000 to fight the paper combine some few years ago. So large a sum could scarcely, under ordinary conditions, be spent by any private individual. There is also another point to bear in mind, namely, that in many instances the business men, who alone could be acquainted with the operations of the combine, are entirely at its mercy, and could be ruined upon the first show of resistance. Clearly, we cannot count on the private prosecution of combines under the existing law as in any way an adequate remedy for the evil.

And while the private individual cannot prosecute the combines, the Government will not. It is useless to expect any Government to commence

a series of prosecutions against combines, whose ramifications may, and probably do, include many of their strongest and most powerful supporters, who would not only be injured financially, but would be disgraced by the result. Thus we are driven to the conclusion that the existing law will continue, as it now is, a dead letter, and utterly powerless to accomplish the end for which it was made.

The second proposal, the appointment of a commission to regulate prices, has some merits to recommend it, but is, I fear, so hopelessly complex in its working as to be impossible. If we could have an incorruptible, all-wise and tireless commission, that would be unapproachable in its integrity, would be perfectly familiar with every industry, and would be prepared to revise its findings with every change in the wages of labor, cost of raw material, or purchasing power of the country, we should have a perfect means of controlling combines. But such a commission is impossible. No body of men could be sufficiently familiar with the varied industries of our country to set the prices for those industries. They would be constantly the prey of misrepresentation on the part of those appearing before them. Further, their work would be endless. Every fluctuation in the cost of raw material, rate of wages or prosperity of the country would require a fresh revision, a work so endless and complex as to be beyond the power of man. The idea of a price commission, in spite of its seeming merits, we must, so far as I can see, place in the list of ineffectual remedies.

There is but one remedy left, the removal of the protective tariff where a combine is shown to exist. To my mind this is a very effective and simple remedy. As we have pointed out before, combines find their origin in a protective tariff, and operate under its cover. It alone enables them to reap a profit from restricting production and keeping the market understocked. Without the excessive profits reaped in this way it would be impossible for them to cut prices below the actual cost of production in order to stamp out their rivals. The removal of the tariff at once puts the combine out of business, by placing prices on the basis of the cost of production in the world at large. There is then no longer anything to be gained by restricting production or stamping out rivals. World competition is too strong to be met by any combine. Thus, by admitting world competition, the power for evil is at once taken from the combines, while any power for good they may have remains.

This way of dealing with combines, which I think is the only effective one, is already on our statute books. Section 12 of our present Customs Act empowers the Governor-in-Council, wherever any investigation in any court shows the existence of a combine among the manufacturers or dealers in any article of commerce, to remove the duty from that article. Further, it empowers the Governor-in-Council to commission judges to investigate the existence of combines, and, if these are shown to exist, the duty may be immediately removed. Here, it would appear, we have a perfect remedy; but, so far as I am aware, it has never been used, though the existence of combines is generally admitted. The reason is plain. The initiative in the matter must come from the Governor-in-Council; or, in other words, from the leaders of the party in power. The exercise of the power conferred by statute upon the Governor-in-Council could not fail to injure some of the friends of the party in power; therefore, the power is never exercised.

It is plain to me that if any effective remedy is to be found, the matter must be taken out of the hands of the politicians. It is equally plain, since combines are brought into being by the tariff enacted by our national Government, that this Government should undertake their detection and control. To do this effectively a permanent and independent commission should be created, whose duty it should be to investigate the existence of combines, and which should have power, where these are shown to exist, to remove the protective duty on the articles manufactured or dealt in by the combine. Nothing short of a commission, so constituted and so empowered, will be efficient.

There is another and very important service which such a commission might well perform. It is a well-known fact that many industries which are crying out for more protection in order to make them profitable are ill-organized, ill-conducted, or over-capitalized. Why should not such a commission as I have described investigate the conditions, not only of those industries which are found to be combined, but of all industries asking for state aid in any form, and make public the results. It would seem reasonable, since the nation is asked for help, that the nation should know all the circumstances.

It would seem that it is not impossible to find a remedy for the trusts and combines known to exist in our country. The remedy is not provided, and we hear no voice raised among our Parliamentarians to demand that it shall be. Why? This question I shall attempt to answer in my next letter.

F. C. DUNRY.

Free Text-book of Nature.

In an address on agricultural education at Tauranga, New Zealand, shortly before leaving for Canada, V. W. Jackson, Director of Agriculture and Nature Study, delivered himself of these remarks, which we endorse and reproduce:

"Training solely from books has had much to do with the lack of interest in the primary industry of the country and the consequent rush to cities. . . Both from a practical and educational point of view, the growing of plants, experiments with manures, analysis of soils, habits of grasses, weeds and clovers, the structure of farm roots, the lives of insect pests, the drawings of flowers, fruits, leaves, etc., the measurements of plots, yields, the testing of milk, and the practice of dairy arithmetic, is a fit and proper elementary training for country children to receive. An enthusiast has pertinently remarked, that farm roots are more important than Latin roots, and King Corn more real than King Midas. We quarrel over free text-books, and leave the free book of nature unread. We struggle to master the Wars of the Roses, and fail to conquer weeds of our garden. It is safe to say that not half the weeds of the district are known. We debate over the banishment of Napoleon and allow codlin moths to ruin our apples. We define terminal moraines and glaciers and cannot tell whether a tomato is a fruit or a vegetable. More than charity begins at home. Experience begins at home, and we can only learn as experience permits us to interpret the new by what we already know. Therefore, let us add to the common things about and make education sound and helpful." Mr. Jackson said he was there to defend the little things which the teachers would be doing in the schools to help out the interest which the children of the Dominion would have in its primary industry. "Children must necessarily be given little things, but these might have a great influence on their after life. It was the lack of interest in the things on the farm that made it monotonous, for no occupation has greater variety of material and more allied sciences than agriculture. It is the purpose of agricultural education to weave a halo of interest around rural things, and thus make country life more pleasant, education more sound, and the individual more useful. Agricultural education is justified on both practical and educational grounds, but it is the practical side which the farmer will best understand and appreciate."

HORSES.

Horse-breeding Discussed.

Editor "The Farmer's Advocate":

At the regular meeting of the Brant Township Farmers' Club, held at the Prospect Hill schoolhouse, on May 11th, the subject of horse-breeding was discussed in such a way that every one of the members present was benefited. That the subject is to-day an important one, was shown by the large attendance of both members and others. It should interest every farmer. The breeding of high-class, well-bred horses is about as profitable a branch as any belonging to the farm. The demand for really good horses is never filled, and there is always a good price waiting for them. Five hundred dollars for a team of horses is considered a good figure, and it is not uncommon. We hear of cases where even more is paid for one horse. Dr. Standish, who was present at our meeting, mentioned a horse that was bought at a livery stable for \$180, and sold again for \$800.

The address on our subject was delivered by Robt. Richardson, and his long experience in the horse industry made his remarks very interesting and valuable. The following is a synopsis of his address:

"Horse-breeding is attracting attention nowadays on account of the ready sales and high prices that are obtained. Years ago, a horse was a horse, and brought a horse's price, and no particular pains were taken to breed good horses; but now, on account of the high prices ready for good horses, the farmer is devoting his attention to producing a better grade of stock. There is no danger of oversupplying this demand. High-class horses are scarce, and are always watched for. The production of high-class animals should, therefore, be the aim of the horse-breeder. The first thing necessary is, of course, a good brood mare, free from blemish, as curb, spavin, etc. Heavy horses are more desirable for a farmer to raise, since they are easier trained and handled. Crossing of breeds rarely produces an animal true to any type, and, therefore, the offspring seldom brings a good price." Mr. Richardson, with many years of horse-judging to his credit, says he has never seen a cross between a Clydesdale and a Percheron fit to enter the show-ring under any class. Stay with the breed of the mare, and do not sell the good mare colts, but breed them

again and again to stallions of the same breed, thus improving your stock. Keeping the old brood mare, and selling the colts, is doing more to injure the horse trade than anything else.

In selecting the sire, choose one suitable to the mare, and having the deficient points in the mare fully developed. By all means, use a registered horse, and do not let the price influence you.

CARE OF BROOD MARE CARRYING COLT.

The brood mare is better working than idle, as exercise is absolutely necessary. The work, of course, should not be too exhausting. Give her plenty of exercise till foaling time, and then let her rest. Brood mares seem to require a great deal of salt, so always have some ready where she can help herself when required, but never give it in her feed.

When foaling, try to spare her all the labor possible, but be sure that you do not pull on the wrong leg. When colts come wrong end first, help her to foal wrong end first, as a loss of time may mean the death of the colt. Teach the colt to eat grain before weaning time, so that weaning won't check its growth. No apparent difference is noticed in whole or chopped oats. If the mare is worked hard, wean the colt at three months; if idle, at five months.

Many horses are gluttons, and are overfed. Horses should be fed three times a day, at regular intervals, and idle horses should stand before an empty crib two or three hours before each meal. The habit of throwing some hay into the crib whenever it is empty is a poor practice. A few roots in the evening are much relished.

Mr. Richardson says he never does anything for the prevention of joint-ill, and thinks, if mare is in good condition, there is no danger of a colt contracting the disease. See that navel is tied good and tight, so that it does not leak, and put something on to dry it up as soon as possible.

Handicaps of Horse-breeding.

Editor "The Farmer's Advocate":

Market reports continually state that draft geldings are in demand, and that the supply is not equal to that demand. The same obtains in the United States, despite the influx of Percherons, and, to a lesser extent, Shires; so that, it cannot be said that any one breed is, or is not, altogether responsible for existing conditions. It is a rare thing, in Canadian show-rings, to see, speaking on the average, the home-bred drafter give the imported animal much of a run for the money.

Three contributing reasons for the seeming inferiority of Canadian-bred drafters are: (1) The lack of good mares, (2) failure to work mares, regularly, (3) the failure to stick to type in stallions.

The lack of good mares is more apparent than real. There are many in the country, but there has not been shown the care in selecting mates for them that should be shown, if the best results are hoped for. Many mares with some draft blood have been used for breeding purposes, which should not have been stunted, and, as a consequence, the general average has been lowered. High prices for mediocre stuff have resulted in everything fertile being bred, and, as a consequence, the hit-and-miss method of sowing for a live-stock crop has resulted in plenty of weeds. The enrollment regulations of the Prairie Provinces are doing something in the way of disseminating correct information regarding the breeding of horses offered for stud purposes, and the knowledge thus furnished can be used by any horse-breeding community of farmers as a means of getting rid of unsound horses, or horses with fictitious or bogus pedigrees. Unfortunately, there are too many apparently well-bred, but undersized, poorly-built stallions now made use of as sires; and, while this continues, the influence of good mares is largely negated.

Regarding failure to stick to type in stallions, probably the first item under this charge is the use of undersized stallions, which, while up to weight, by means of heavy feeding, and, therefore, carriers of useless fat, are yet not, strictly speaking, heavy-draft horses; in this, of course, we see the fallacy of taking weights as the sole means of classifying heavy-draft horses. Bone and muscle are of far more importance than fat. If there is the right quality and amount of bone, there will be no lack of weight. Speaking generally, a draft stallion should measure at least 10½ inches below the knee, and an inch more just below the hock. A good indication of the muscling can be got from the gaskins (or lower thighs) and the forearm. There



Baron Ian. Two-year-old Clydesdale stallion. First in class and reserve champion, Glasgow Show, May, 1909. Sire Baron's Pride.

Walter Rowand next addressed the meeting on light horses, but, as Mr. Richardson had covered the subject of the breeding of horses, there was not very much left to say, because rules of breeding, care, etc., apply to light as well as to heavy horses. However, what pertains to light horses can be summed up as follows. Farmers must select sires to suit their mares. It will not do to breed light mares to heavy sires. Light horses have several advantages over heavy horses. They are surer at foaling time, and, as a rule, walk a little better, and, if not too light, will outwork a heavy horse, when endurance is considered. The one disadvantage against breeding light horses for high prices is they are harder to train and get into shape for city trade than heavy horses.

Dr. J. Standish, whom the club is fortunate enough to have as a member, was present, and approved of all that had been said for both light and heavy horses, and said, if anything should be criticised, it would be Mr. Rowand's modesty. Select sire for the breed of horse that you want. Breed to the best horse. Feeding well and wisely has as much to do with breeding good horses as breeding itself. Exercise of the sire is as necessary as it is in the mare. Whatever class you desire to breed, keep at it. When you want ponies, get them as small as you can; while, if you want draft horses, breed as large as you can. Dr. Standish thought that, for general farming, the breeding of heavy horses was the most profitable, because of their easier training and handling.

A. E. W.

should be sufficient to cause a bulging or nice rounding of the parts, rather than a flatness.

Another reason for lack of success is the want of virility in stallions. One can go into some show-rings nowadays, and see entire males standing around as unconcerned as a lot of geldings; while training has doubtless considerable influence on the docility of stallions, breeders will do well to avoid a stallion having the complacency of a beef cow, and in commenting thus, I do not wish my readers to confound virility and life with bad temper. In plenty of Thoroughbreds we find the former characteristics; the latter is common in many breeds. Unfortunately, bad temper is easily bred or developed by incompetent grooms.

To my mind, a flood of effeminacy threatens to engulf both human and animal life to-day, largely due to, in the former, the hunger for ease, and in the latter, the life of ease. Effeminacy in the highest type of animal world has transformed life, and the struggle for subsistence, from a fight in the open, with weapons displayed, into a contest in which dissembling, craft, cruelty and the ambush avail most; while, amongst the lower forms, the domesticated animals, the results are loss of individuality, virility, vitality, and lowered resistance against disease, the substitution of fat for flesh, and the consequent falling into disuse of the secreting structures, such as the mammary (milk) glands, and also the gradual disappearance of distinction temperamentally, between the sexes. Muscular tissue must be used, stretched and relaxed, and the per-

formance repeated frequently if vitality is to be preserved, and atrophy (wasting) avoided. Work necessitating physical exertion is needed for all the muscles of the body, from the heart down, if a steady stream of blood is to be supplied the reproductive organs, and virility is to be maintained. It is important, in maintaining size, to avoid the sacrifice of quality for roughness or coarseness; quality and ability to wear well are inseparably mated. A. G. HOPKINS.
Saskatchewan.

The Money-making Clydesdale.

Editor "The Farmer's Advocate"

In your issue of April 22nd was an article entitled, "Improving the Clydesdale." With your permission, I wish to take exception to some arguments brought forth.

At the Dominion Fair, at Calgary, last summer, were several horses in the aged class (Clydesdale), weighing over 1,900 pounds, which is getting somewhere near the draft-horse scale. The article mentioned above spoke of four objections which the Americans had to the Clydesdale, as compared with the Percheron, viz.: Lack of weight, excess of hair, white markings, lack of crest and carriage.

I will treat of these objections in order. Regarding lack of weight, it is true some Clydesdales have won in recent years which lacked weight, but the only reason they did win was on account of excessive quality, not merely in legs and feet, but in all-round conformation, and we have all seen draft horses weighing around 1,400 which could outlast and outwork horses weighing 1,600 pounds and over, but lacking draft-horse conformation. Scottish breeders in Scotland were among the first and largest exporters of draft horses to the colonies, and they found that a medium-sized, active drafter was more serviceable in colonial work than a heavier horse with a loggy gait.

The second objection is not worth considering. The feathering of a Clydesdale is an ornament to any drafter, and much as some men say they don't care for a showy team, I notice, when a bunch is corralled on a horse ranch for homesteaders' and draying companies' inspection, the horses with white faces and white feet, with lots of feather, are invariably selected first.

The last objection is only the creation of a morbid imagination. The great horse, Baron's Pride, is typical of what the Scottish breeder is aiming at. Of course, all Clydesdales are not what Clydesdale breeders consider nearly perfection, but the majority of winning Clydesdales have a good, high crest, with a high, proud outlook, and, taking the article in question all around, I am afraid that the writer has become rather alarmed (unnecessarily) regarding his favorite breed, possibly from hearing considerable "hot air" from some American neighbor regarding the Percheron horse. The Percheron is a good draft horse, and he is becoming more rangy and lighter in the middle than he was some years ago, but some Americans out here can't see that, and make a person tired talking of "down in the States." If the Americans want Percheron horses so badly, by all means let them have them, but I have talked with several who are now breeding Percheron mares which they brought with them to Clydesdale stallions, in preference to Percheron sires. The best and final test of any breed of horses is how they sell, and the way the Clydesdale horse is selling, even to Americans, who excuse themselves by saying they wish they could get Percherons, is sufficient demonstration of his popularity and serviceability as a draft horse.

Alta. "RANCHER."

Some Good Unregistered Stock-Getters.

Editor "The Farmer's Advocate"

I am very much amused at some of the writers who write re entire-horse legislation. I do firmly believe that the Ontario Government is wise enough to let such matters alone. It is always some fellow who is interested in getting some good-for-nothing, registered or imported horse that he owns himself a greater share of the trade than he is entitled to, that does the shouting in this case, or some big importer who has been making money so fast these last few years that he thinks he can get legislation to suit himself. Ontario people will not abide such a compulsory law. Ours is a free country, and free and intelligent people, not a mixed people, such as are in some sections of the West, where they will abide by almost any law. We also have all classes of people, from the Indian, to what is called by some the English "lord" or "high much a muck." Well, they all own and drive horses, and we want for them just the kind of horse they want, and I think we have them for them. We have here, in East Simcoe, around Elmvalle, and to the north, I believe, as fine a lot of entire horses as there is in Canada. Take the Clydesdale, the Hackney, the Standard-bred, the French horses, and the Coach; and some that are not registered that do

business at a straight price, and are leaving grand stock. We have had some horses that have been in our country that were not registered, yet, were they only back to-day, they would do a fine trade. Now, it would certainly be a shame to castrate such horses to please some of those who are in the business that are endeavoring to get some kind of legislation to suit themselves, so that they may enrich themselves, by making the people come to them. Those men who handle the cheap stallions to-day, and who peddle into every farmer's barnyard, are having a hard time, and they can't make it pay. It costs almost as much to keep a poor horse as a good one, and the people are finding it out. Now, if the Government wishes to do anything along this line of legislation, if they would take a few thousand dollars of their money, and give to the editor of "The Farmer's Advocate," and send those fellows who breed to those cheap horses some good reading matter, and stop those others shouting about castration, license fee and Government inspection, things would adjust themselves shortly. JOHN STEWART.

Simcoe Co., Ont.

[Note.—A system of stallion license or stallion enrollment would not necessarily exclude sound grade stallions that had proven themselves good stock-getters.—Editor.]

The Colt and His Feet.

Careful attention must be given to the feet of the young colt. The feet should attain a regular and even growth, and should be perfectly matched in pairs. Great importance attaches to the angle at which the feet grow, the proper inclina-



Cow Stable at Central Experimental Farm, Ottawa.

Showing feed passage, mangers, drinking fountains, and control tank at end of passage.

tion of which should be similar to that of the pasterns when standing on level ground. Colts reared on hilly ground are very liable to irregular and uneven growth of feet, and if this defect is neglected, the foot and the joints above it become permanently deformed, and the horse is practically ruined.

To avoid this, regular attention must be paid to the state of the feet, and the horseman should remember to keep the toes at a uniform length and breadth, at the same time letting the heels down with a rasp, in order to encourage frog pressure. The first shoes must not be fitted to a young colt until he has been educated to "give" his feet in proper order. A loud, bullying tone must never be used on a young horse, but he should be treated with every indulgence until he learns that he is not to be hurt. Any sign of obstinacy must, however, be repressed.

The butchers' boycott on unwarranted cattle has come into force throughout England, with varying results in different sections, though in the majority of markets the boycott proved a failure. In London a compromise has been effected, and the vendors have agreed to pay one shilling to an insurance fund for every bullock or heifer purchased for slaughter within ten days. Bulls and cows are excluded from the agreement. At Liverpool the dealers refused any warranty, and in no case was one given. At Worcester the auctioneers sold without any warranty. At Cocker-mouth a new insurance scheme agreed to by farmers and butchers came into force. At the Salford (Manchester) market—one of the largest in the kingdom—no warranties were given, and business proceeded as usual.

LIVE STOCK.

Well-equipped Cattle Stable.

In many particulars, the cattle barns at the Central Experimental Farm, Ottawa, are models that can be used to advantage in planning for smaller and less-pretentious stables. Every precaution has been taken to provide perfect ventilation, and to insure cleanly conditions throughout. In all quarters, too, necessary conveniences to facilitate every operation are installed.

The floors are of cement. The main passage in the cow barn, in the bull barn, and in the steer barn, as well as in the feed room, are all on the same level. The stands or stalls, also, slopes neglected, show about the same height as the main passage, etc., above the ground line. The feed passages between rows of cows are six inches higher than the main passage, while the manure passages are about four inches lower. The manger bottoms are about one inch higher than the highest part of the stand or stall floor. The divisions between the mangers and the stands are of cement, six inches high next the manger, seven inches high next the stall, and six inches wide. The gutters are eight inches deep next the cattle, and six inches deep next the passage.

The feed passages are about one inch higher in the center than next the mangers, so facilitating cleaning, and preventing any water lying thereon. The passages behind the cows are about one and one-half inches higher in the center than next the gutters, thus insuring any liquid manure running back to the gutters at once. The stands fall from

the front to rear at the rate of about one inch in four feet. The mangers have a fall of about three inches in their entire length of thirty-five feet, permitting easy washing or flushing out. The gutters, besides being slightly lower on the side next the passage, have a fall of about two inches in their entire length, so permitting of more easily handling the liquid part of the manure, as well as helping keep the cows clean. The sides of the gutters are vertical.

The main passages are about seven feet wide, and feed and manure passages are uniformly six feet in width. The mangers are twenty-one inches

wide, with rounded bottoms, while the gutters are eighteen inches wide, with smooth, plain bottom. The stands vary in length, one stand compared with another, the longest stand being about six feet four inches from gutter to stanchion bed, the shortest showing scarcely more than four feet between the two similar points. Each stand varies in length from end to end of the row; for instance, the longest stand is five feet nine inches at one end, and six feet four inches at the other end of the row, while the shortest stand is four feet six inches at one end, and only four feet at the other. All cement floors whereon cattle are supposed to walk or stand, are given as rough finish as possible.

LIGHT AND VENTILATION.

Windows as large as possible, and as frequent as strength would allow, occur in three sides of the stable. The windows on the south-east, the exposure on which the doors open, reach from the ceiling to within three feet of the floor, and are practically continuous, even the doors being glass in the upper parts. The main barn will accommodate about 90 head, and is lighted by 450 square feet of glass, practically every foot of which admits the direct rays of the sun for a longer or shorter period every sunny day. This shows about five square feet of glass or light per head, which helps render things bright, cheerful and sanitary.

Fresh air is admitted at the floor level by means of air ducts bringing the fresh air from intakes just outside the walls. The openings total 15 feet in area, or about 24 square inches per head. The outlets are three in number, situated near the middle of the stable, when con-

sidered from side to side; from end to end, one is about the middle, and one near each end. Each outlet is 2 x 4 feet, and leads directly to the peak of the roof. The total outlet area is thus about 24 square feet, or about 36 square inches per head. Both incoming fresh air and outgoing foul-air currents are controlled by dampers or keys. It is thus possible to regulate the temperature to a nicety. During the winter of 1907-08, whatever the temperature outside, the thermometer inside stood around 48 degrees F.

The windows are all hinged at the bottom, excepting those that extend to the ceiling on the south-east exposure; these latter are hinged in the middle, and all open in from the tops. They are held at about a 60-degree angle by means of chains. This permits of ample air currents when warm weather necessitates an otherwise abnormal circulation of air.

Water is constantly in front of the cattle in small drinking fountains. If desired, the mangers may be filled with water fit for drinking.

FACILITIES OR CONVENIENCES.

The feed room is not remarkably large, but permits of preparing enough feed for two or three days for 150 to 160 head. It is situated close to the silos (700 tons capacity), near the meal bins, and may be supplied with straw or hay from overhead. A root pulper is located conveniently. Roots have to be hauled in about once a week when being used in large quantities.

Scales at the feed-room door permit of easily weighing the feed, which is carried in carts running on the floor. Some cattlemen seem to consider the suspended feed carrier the better plan, but the Agriculturist, Mr. Grisdale, does not agree.

The manure is removed by barrows, there being no overhead tracks for this purpose, any more than for the transportation of feed.

The cattle are tied by means of stanchions. Swinging stanchions are used, as they permit of cattle rising more easily, and give them more liberty when on foot. The advantage of the stanchion over the chain lies in the fact that where stanchions are used, stall divisions of a cumbersome or light-obstructing character are not necessary. When chains are used, solid divisions are necessary to prevent horned animals injuring each other. The divisions in use are constructed of 1 1/2-inch boiler pipe. These are set one foot deep in the cement floor, rise vertically 2 1/2 feet, turn at right angles, and extend horizontally 2 1/2 feet, to be screwed into a species of bracket bolted to the 6-inch squared posts carrying the stanchion support. In the case of large cows, these pipes rise 3 feet, instead of 2 1/2 feet, the horizontal reach also being 3 feet in length. Large cows are allowed 3 feet 8 inches clear between divisions, smaller animals having 3 feet 2 inches, only.

The walls are of stone, sheeted inside with "V" joint. This, while costing considerable money, is an improvement, the value of which in increased comfort and better sanitary condition can scarcely be overestimated. The upper floor has been ceiled, and here again the effect upon the cleanliness and brightness of the stable has been most marked.

Good Substance.

"In our study of dairy cattle, we have been impressed with the constantly-recurring fact that the cows that do great work show in their make-up a certain appearance of good substance. There is an amplitude of form in them that betokens power to do, ability to stand the strain of doing. This is largely shown in what may be called the 'middle piece,' that portion of the body between the shoulders and the hips.

"These great cows, in all breeds, have ample machinery to do business with. This does not necessarily mean large size. Right there is where certain men run away with themselves. There is a law of nature in this. We cannot expect something for nothing. The machinery of the cow's body must be sufficient for the demand her nature and temperament makes on it. A good cow must be well and harmoniously developed, with large, strong digestive organs, ample milk-making organs, plenty of room for the making of a calf, for great dairy capacity is based on the procreative organs.

"We must look to constitution, ability to stand up and bear the strain of dairy work, more than we have. There is danger in our breeding that we will be led away from this point, and follow off after mere ability to produce milk for a week or a month. To do this work for a long time, the cow must have sufficient substance in her make-up. There must be no weakness of build anywhere. In common phrase, she must be a 'strong cow.'"

The above, from Hoard's Dairyman, is exactly what "The Farmer's Advocate" has been contending. For sustained effort in production, and, above all, for capacity to perform, and also transmit the capacity for performance to offspring, we must have a degree of substance in our dairy stock. Constitution, vigor and capacity are the springs of vitality from which production is supplied.

Price of Mill Feed.

Editor "The Farmer's Advocate":

Your editorial on the bacon-hog situation is a good one, and to the point. I have not noticed any decrease in the number of hogs kept here; in fact, the shipments at our point have shown an increase this spring. Of course, some farmers went out of hogs, and are now feeling dissatisfied, when they have none to sell at the present high price.

The high price of mill feed is against feeders, and some of them say "things" when they are asked to pay \$26 per ton for shorts at the local mills, and then read in the Montreal market reports that shorts are quoted at \$24 in Montreal. This plan of charging the farmer one to two dollars a ton more for feed than they sell it at in the east, is one cause of his going out of wheat-growing in Waterloo County at least, as he grows coarse grain, instead, and does his grinding at home. "FARMER."
Waterloo Co., Ont.

THE FARM.

Twenty Miles of Tile on One Farm.

Editor "The Farmer's Advocate":

There are many benefits to the farmer who underdrains wet lands. Where land is thoroughly underdrained, the farmer can start seeding, as a rule, much earlier than on wet lands not under-

drained, and, as drained lands dry quickly after heavy rains, the farmer has a much longer time for seeding, and not many lost days in getting on the land. The soil is in a much better state to seed on when in a porous and loamy state, due to underdraining, than it would be if in a sour and wet state, as many fields are this spring, and such wet fields cannot be expected to grow good crops this summer, if they have been saturated with water. I

am speaking from experience on heavy clay land, with some black loam on surface in low land, all the land having a hard-clay subsoil, being in Wentworth County, two miles south of Hamilton. Farmers, when drawing manure on fields, generally place the most of the manure on the poor hills. Why are they poor? Because the surface-wash during heavy rains carries down not only the bulk of the manure, but the best of the surface soil, also, leaving the poorer subsoil on top, and the better soil is flooded down on the low-lying land; and, with the larger surface-wash in the hollows, much of the best soil is carried down the creeks and rivers to the lakes and oceans, probably to make good farms in the distant future for generations unborn. People formerly drew many loads of black soil, washed out of my field on the road, before it was drained, to fill flower pots; they do not come now. The manure and soil remain in the fields; chiefly the clear water filters off.

The soil is warmer where well drained, and spring or fall crops will keep growing during the chilly weather, such as we have had this spring; while on sour, wet land the soil is colder, and on such soils the crops may be at a standstill, or going back.

Fall wheat may be sown later on drained land, and then have a larger crop. Fall wheat seldom or never heaves out with the frosts in spring on well-drained land, while any farmer knows what will happen to it on wet soil. One year I sowed fall wheat on the drained land late in the fall, after the fields were finished where the land was

not drained, knowing that the wheat on the drained land would likely have enough top. The fields on the land not drained yielded 25 bushels per acre, while the wheat on the drained area yielded 43 bushels per acre, although the last was caught in rain for about a week before it was cut, and many of the heads broke off while cutting, losing about seven bushels per acre.

There is pleasure and satisfaction in working on dry, loamy soil, where you can use a seed drill without clogging during the latter part of March or early in April, rather than trying to mud it in near the end of May, as many are doing this year, and then blame Providence, who doeth all things well, for this state of affairs, when they are entirely to blame themselves. Truly, with regard to underdraining, as well as many other matters, "God helps the man who helps himself."

Underdraining lessens the labor required to get the seed-bed in good shape. Although our soil is heavy clay, one year we sowed 44 acres of oats on drained land, each weekday, from March 20th to 28th, and all but about one acre was just harrowed over with spring-tooth harrow, while, but for levelling, we could have drilled it without harrowing, and we did drill some that way, and we had a good crop of heavy oats.

I consider the time used in proper surface ditching for three years would be about equal to digging an underdrain 3 feet deep, and there would be the cost of tile and plowing in of soil on drain extra; while land properly underdrained requires few, if any, surface ditches, thereby leaving a smooth surface for machinery. My experience has been with over 100,000 feet, or nearly 20 miles, of underdrains, most of which has been

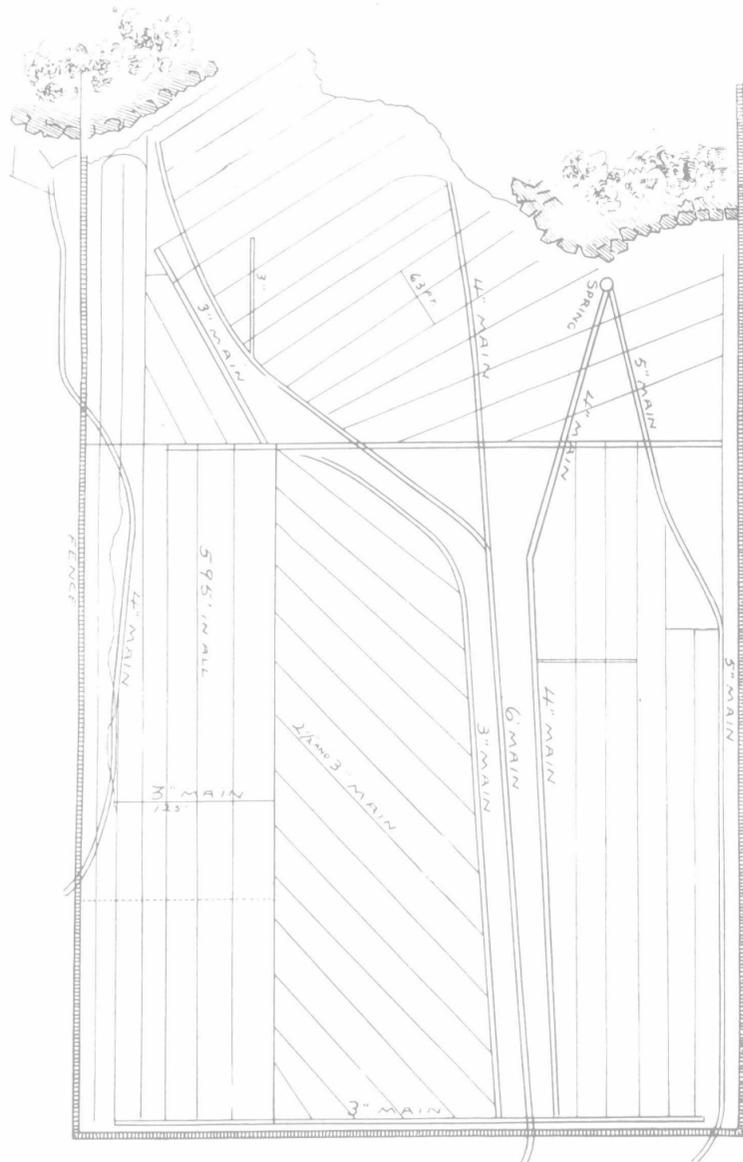


Diagram of Tile Drains in a Twelve-acre Field.

In reproduction we have, for the sake of simplicity, omitted many details which Mr. Marshall had marked on his map, such as length of each drain, distance apart, etc.

in for 12 to 15 years, and I feel that I am entirely to blame that I have still undrained lands, which are too wet to work at this late date (May 25th), while the drained fields are green with growing crops for nearly one month, having begun this year on April 8th, and last year on April 4th. Corn ground is in poor shape around here now, except where drained, and I am sorry to say that few farmers have done much here at draining. Farmers could soon have their farms in good shape if they only made a beginning at draining, by placing drains in the worst places at first, and they would soon see so much benefit that they would likely keep on at it.

Although some may think it strange, the drained land is certainly more moist in a dry time, and crops will continue to grow better on it than on other land. A good deal of heavy clay is hard in a dry time, because it previously had been sodden with water, and perhaps had been tramped on by cattle, or driven over with loads, while in a wet state. Farmers can take loads of manure or other things over drained fields in spring, at times when they can scarcely drive an empty wagon over wet, undrained lands.

Crops come to maturity earlier on drained soil, grain is heavier and plumper, and of better quality. I believe hay is of better quality, and that there is more nutriment in it, as farmers know that hay off dry ground is superior to that off wet, swampy land.

I feel that in this article I cannot do this subject of underdraining justice, so much can be said in its favor.

Farmers who have surface ditches deep enough to carry off surface water, often have to cut their crops in small sections, perhaps angling or gore-shaped, because of the too-deep ditches to cross over with machinery. My opinion is that no tile drain should be less than 3 feet below the surface, for several reasons, and I believe 4 or 5 feet deep would be better. They should be some distance below where frost goes, as the little water veins which form where water filters to the drains may be destroyed by frost, or the water in drains, where not deep, may be frozen until late in spring, thereby losing some benefit from drains at a particular time. Fewer drains will do where deep, as they then draw the water from soil farther away, and, "what is worth doing at all, is worth doing well."

I commenced underdraining by placing 6-inch tile in main hollows, and then 4-inch, 3-inch, and 2½-inch branches through other wet parts of the field; and not many drains on the low hills, with branches not quite parallel, but more by random, and found out that the more porous soil in low land dried much faster than the hills, and I had to wait some days for the hills to get dry enough; also some wide places between drains, or else mud them in, and on those muddy places the crop would not be very good. The branches at first were fifty feet or more apart, and the crops were good near drains, and not so good middle-ways. When I afterwards placed branch drains through the spaces, the crops were evenly good all over. We afterwards, in other fields, ran 4-inch, 5-inch or 6-inch mains through hollows, and 2½ or 3-inch branch drains in parallel lines, 25 and 30 feet apart, over hills and hollows, the ends of said branches joining on to mains where they came in contact with them. Two rods apart would do very well.

I will give you the approximate cost of thoroughly underdraining a 12-acre field, most of which was done in 1897, the larger mains having been in some years previously. There were 2,602 feet of older main drains, and 18,568 feet of new drains, mostly small branches, making a total of 21,170 feet in a 12-acre field, which we put in from November 17th to December 21st, 1897. I cannot give the exact figures, but cost of tile and labor was about from \$160 to \$180, part 25 and part 30 feet apart, parallel drains, over hills and hollows, besides 4-inch, 5-inch and 6-inch mains in hollows. The cost of the labor was about \$240, and of tile about \$220, for 21,170 feet. I believe every drain is working well yet, and I know no reason why they should not continue to do so for ages. If they were not working, I would soon know it. Soon after rains, a dry belt can be seen over every drain.

Making underdrains is much like pruning trees—the work may be done about any month in the year, and we often put them in during winter, when there was not too much frost, and sometimes when snow was drifting. Farmers, during spare time, may do underdraining. On hard, heavy clay, the best time is when the ground is wet to the bottom of the drain, and water in ditch can show you the fall, and then it can be dug easier.

I believe, three crops, because they are better, would fully repay the farmer who thoroughly underdrains, besides the saving in labor in the much easier working of soil after, and not having to make many surface drains. The 12-acre field above mentioned was considered poor, having been rented to several tenants, who named it the "hard field." After draining, we plowed with common plow 7 inches deep, followed by subsoil

plow, 6 inches deep, part in fall, and part in spring, and field yielded 80 bushels per acre; heaped measure, clean, plump, very heavy oats; while the next field, similar soil, not drained, yielded 45 bushels per acre, not as good oats. Another year, plowed in a similar way, the oats were about 100 bushels per acre.

I consider ¾-inch fall per rod is sufficient, but would prefer to have more. We brought a 5-inch main from a spring in one hollow to ease a 6-inch main there, along the face of a hill, and through the hill another way to outlet, a neighbor saying that we ran the water up hill, but by a spirit level we had a fall of between 3 and 4 inches per 100 feet; and, after making holes in 5-inch drain for branches, we found the chips of tile next day, at outlet, nearly one-half mile away, and no sedi-

the several branches helping to keep main and outlet clear of sediment.

I think the best time for draining on heavy clay is in April or May, when days are long and clay soft, and the next best time in October, November and December. The work can be done by hand with common spades and shovels, and the bottom with long, narrow, ditching spades. On our hard-bottomed soil, I think the best way is to plow top both ways with common plow, and then below with subsoil plow. I purchased a very good subsoil plow many years ago from the Watson Manufacturing Co. for \$10, which, by narrowing handles, would plow down four feet. Six rounds up and down will plow 3 ft. deep. With doubletree 8 feet, horses on each side of drain, and long, heavy chain from doubletree to plow,

to sag down and hold plow firm to bottom of drain, then men with spades and shovels can easily throw the loosened soil out. I had ditching machine, but it was not satisfactory, and did not go down more than 2½ feet, which did not suit me.

I have not been troubled yet with roots of trees getting into tile, but have heard of such being the case elsewhere. Some trees that grow best in wet places, such as willows, poplars, elm, or swamp oak, might possibly block drains, but I do not think the roots of fruit trees and many other kinds which do not thrive in wet places would block drains. Where tile drains pass trees

that are likely to block drains, it would be a good plan to cover tile first with waste slack lime or old mortar, which would check the roots of any kind of tree, and above such coarse, waste lime place a deep covering of good soil. We have killed grass on driveways in this manner.

We have had very little experience with sediment getting into tile. In clay soil, there is very little danger of this, if tile are joined together properly. I had a few cases where main tiles were placed in with large pieces broken off ends, and soil settled in, but we patched them up with broken pieces of tile, and the heavy rains flushed the tile out clean.

Perhaps underdraining benefits fruit trees more than anything else. Any farmer can see that the poorest fruit trees are those in the wet places, if there are any there at all. My common red-

sour cherry trees were about four times as good where drained as they were in other places; while, with regard to peach trees, there is really no comparison, as they will not grow in sour, wet land. We thought peach trees would scarcely grow on our clay soil, but I planted a few on well-drained land 15 years ago last spring, and last summer the Longhurst peach trees had borne their 10th crop, some years heavy, some light. This year, all the peach trees two years old and over, perhaps 1,500, are pink with blossoms.

Peach, plum, cherry and pear trees bear heavily on drained soil here almost every year after they are two or three years old. I have Lombard plum trees, 10 years old last year, which bore seven heavy crops in eight years. Many farmers around here did not have enough plums for their own use last year. The trees were on undrained soil, and were not sprayed, while most of our nine-year-old plum trees, on well-drained soil, sprayed twice, yielded from eight to twelve large baskets each, and prospects are bright this year.

I have maps of position of tile in farm, length of mains, branches, etc., and distances apart; also size of tile, showing connections. The branch drains should not be at right angles with mains,



Burbank Plum Graft Three Years Old.

Growing on well-drained, heavy soil, on farm of Jas. Marshall, Wentworth Co., Ontario.

ment in the drain. We opened a 5-inch main to-day for branches, and tile was clean, and clear water running therein.

The outlet may be protected by placing lower end of main in wooden box of swamp oak, with cleat to hold end of pipe, or other durable material; a good hard sewer pipe would do. It does not make as much difference as some people think, whether outlet is on the level, or two feet below level, as long as you have plenty of fall, or have the head of main on higher land. It is well to have all the upper ends of mains or branches on as high ground as possible; if this is done, there will be little danger of drains blocking with silt, as the water pressure will force it out. I had a 6-inch main that was 3 feet below surface on road, at outlet, for about two years, and it boiled up like a spring, until a sewer-pipe cul-



Peach Trees on Underdrained Heavy Soil.

Trees planted 16 feet apart, on farm of Jas. Marshall, Wentworth Co., Ont.

vert was lowered to level of outlet, and we have one now that has to rise 2 feet on side of road, the cattle in summer tramping it full of mud, but it always clears itself, because the head is much higher. Where there is not much head, it is necessary to keep outlet clear.

A 6-inch tile will carry a large quantity of water, with 1-foot fall per 100 feet; and if that size is not sufficient, one or two more could be placed parallel some distance away, thus draining other places; and I think branch drains, running to one or two mains, and all to one outlet, if possible, are preferable to many drains running to as many outlets, the pressure of the water from

but slanting along face of hills, partly in the direction that the mains run, at an angle of about 45 degrees with main. Will catch more water this way, and fewer drains will do.
Wentworth Co., Ont. JAMES MARSHALL.

Drainage, Clover, and the Muck Heap.

Editor "The Farmer's Advocate":
I read the splendid editorial, "Raise Hogs," in your issue of May 20th, with much interest. When I got to the sentence, "The one thing needed to revive the Canadian bacon industry is about one to five good brood sows, and ten to fifty well-fed, growthy shoats on every farm," I smiled at the thought of the five brood sows on the average farm. Think of it—five! But when I turned over and read A. J. Russell's letter, I laughed, and I am laughing yet. I have been interested in your editorials on this bacon question, and at first rather favored the suggestion of sending a delegation to Denmark, but have changed my mind, as I believe it is not necessary, as a very little thought soon shows where the trouble lies. A good farmer, with hair streaked with white, said to me, some time ago, "The only salvation left to the farmer nowadays is drainage, clover, and the muck-heap." Now, let us add one more, and we won't have to go to Denmark—dairy cow.

Drainage! Think of it—24th of May, and thousands of acres of land in Oxford County is not fit to sow grain on yet. I have put in four crops now, and have never yet sowed a field that I have felt satisfied with. And if we can't get the grain in as it should be, is it any wonder we don't get the crops we ought to? I never knew, till a year ago, how to get the benefit out of clover, and I believe the majority of farmers don't know yet. Now, I ask, what in the name of common sense is the use of sowing clover, and then letting two or three crops of timothy take the last spark of vitality out of the soil that the clover has put in?

Muck-heap! Will I repeat it? Is it out in a field or a shed, or in the barnyard, where you can't get to the stables without getting your feet wet? If I could, I would be like the Chinaman—I would build a stone wall around it.

Dairy Cow! My mother milked cows when I was small that used to give milk; they were small red and brindle-colored cows. When any of them would freshen, it was common practice for everybody to admire the quantity of milk they would give. Alas, now; whose fault is it that a host of our cows won't give enough milk to feed their calves? I can easily tell you: a host of the smart leaders live over in Michigan. The gun removed some, and, to use an old saying, a great many of the old homesteads know a great many of them no more.

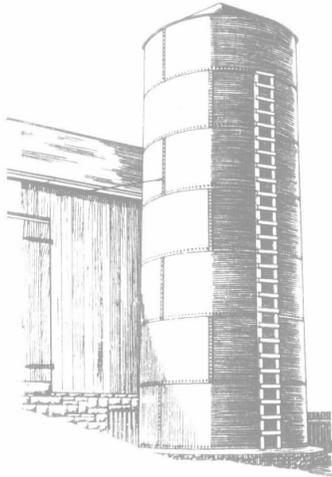
What are we to feed the pigs? Clover is all right, but how long does it stay green? Roots are all right, too, but where is the farmer who has time to grow sugar beets and mangels, and

do all the work on a hundred-acre farm alone. As for turnips, who harvested the bulk of turnips in Oxford County last fall—the farmers or the louse?

Now, there are just two things to be done: either we farmers have got to improve our drainage systems, our clover culture, muck-heap and dairy cow, or "The Farmer's Advocate" and our colleges will have to teach us how to feed mill feed plus H₂O to hogs so as to give us a fair profit doing this; or, rather, if they could make it profitable, farmers would not hesitate in keeping hogs. But farmers want facts; these big stories don't go any more. Millers need their money, as well as other people, and debts contracted for feed are just as hard to pay as any others.
W. P. EDMISTON,
Oxford Co., Ont.

Steel Silo Satisfactory.

Editor "The Farmer's Advocate":
I have a steel silo, size 12 x 37 feet; capacity, 200 tons; erected last September. Last winter the results were very satisfactory; the silage saved



Steel Silo.

On farm of James M. Boyd, Wentworth Co., Ont.

first-class, and did not freeze to any extent. The foundation was built of stone and cement, with ten bolts, 14 inches long, set in foundation, at equal distances apart, with an 8-inch steel ring fastened to the bolts, to commence the steel with. The steel part is of sheets 54 inches by 10 feet long, rolled and punched, and riveted together, with four sheets in one ring. It is 14-gauge steel, and I have a compound with which the inside is coated. This adheres to the steel, and is harder than cement.

The cost was \$165 for steel, \$21 for 6-foot

high foundation, and \$30 for labor. It cannot rust when painted and finished with the compound inside. As for durability, it will last forever, barring accident. If I were going to build another silo, I would certainly have none other than steel. I can highly recommend it to others.
Wentworth Co., Ont. JAS. M. BOYD.

Have Main Tiles Large Enough.

Editor "The Farmer's Advocate":
The chief benefits from tile draining are increased crop returns, and the fact that it takes less labor to work the land, and therefore makes it possible to keep weeds in check, especially sow thistle and twitch grass, as they seem to thrive best in land that needs draining. I have had experience with soils of clay-loam, tendency to clay in places, the subsoil being clay, with odd streaks of quicksand and hardpan. In these soils I make drains 2½ feet deep, and 4 rods apart. If they are deeper, it takes the water longer to get into the tile, and it costs more to dig than the increased distance apart would be worth. A 2½-foot drain will not draw more than two rods on each side.

Without taking into account the cost of outlet, the approximate cost per acre is: Tile, 600, at \$14.00 per thousand, \$8.40; labor, 15 cents a rod, 40 rods, \$6.00; total, \$14.10. I consider the draining will pay for itself in one to three years. We have had no experience with fall less than one-half inch per rod, though there is no doubt it can be done with less. Outlet should be protected by plank box size of tile, with cross wires if large tile. We have used nothing less than 3-inch tile. In a fairly level field, some run several small tile drains into an open waterway. We prefer running smaller tiles to main and laterals, as a drain will draw 2 rods, and you would lose 2 rods of tile and 2 rods of labor on each branch.

Ditching may be done at whatever season a person can get at it; if the land is dry, September is the best month with us. We use a digger made of old cultivator teeth (without plates), bolted to a plank, to loosen earth; 8-inch shovels and draining scoop, spirit level, and 200 feet of chalk line (O. A. C. drainage directions). We plow first, and use the digger with horses.

I have no trouble with the tile filling with sediment. We take care to cover all openings in tile with broken pieces of tile, and cover the tile over with 2 inches, at least, of surface mud, which will not wash into tile. I would advise most strongly anyone draining to have mains, where necessary, large enough, though the extra size may not be needed more than once in two or three years. A wet spring like this would more than pay difference in cost. Would advise having levels taken by experts from the O. A. C., as the cost of having work done by them is more than made up by knowing what grade you have in each drain.
J. C. CUNNINGHAM,
Wellington Co., Ont.

A Township Road - improvement Competition.

SPLENDID RESULTS FROM THE USE OF THE SPLIT-LOG DRAG IN LINCOLN CO., ONT.

In sowing the seed of rural progress, one must expect to lose many bushels upon the stony ground of unresponsive minds, and many more upon the barren wastes of inactivity, content if here and there a kernel falls on fertile soil, to grow and reproduce.

In the Provincial split-log-drag competition, instituted in 1907 by "The Farmer's Advocate," in co-operation with the Ontario Department of Public Works, there were sixty-three competitors duly enrolled, although a large number of drags were built and used by men who did not enter the contest. This split-log-drag brigade, consisting of some two or three hundred farmers, more or less, have been the means of introducing, and to some extent popularizing, this matchless means of earth-road improvement here and there all over the Province, while residents of other Provinces have caught the spirit, and demonstrated the efficacy of the drag in sections of Quebec, New Brunswick, Nova Scotia and Prince Edward Island, and we understand that the Street Commissioner of Winnipeg has adopted it, with much satisfaction, as a means of keeping up the large mileage of unpaved streets in the outlying districts of that city. Thus the good work spreads.

It will be remembered by many of our readers that the second prize in the Western District of the Provincial competition was awarded by the judge, W. A. McLean, to W. B. Rittenhouse, of Clinton Township, Lincoln County, a cousin of M. P. Rittenhouse, the wealthy lumberman, of Chicago, who, among numerous other benefactions to his native neighborhood, donated to the Provincial Government the premises of the present Horticultural Experiment Station at Jordan

Harbor. W. B. Rittenhouse is a retired farmer of means, who, having some three years ago handed over the complete management of the farm to his son, was in a position to give special attention to the mile of road which he undertook to improve.

MADE A GOOD ROAD IN ONE YEAR.

In the spring of 1907 he commenced work on an earth road, consisting of clay at one end, running to sand at the other. This road was badly in need of grading and ditching, being almost flat in places, with tough sod shoulders. By means of plow, disk and drag, he graded this road in one summer almost to a perfect crown, and kept it throughout the summer in smooth, oval condition, making almost an ideal earth road. The writer of this article has driven over it on the three successive seasons during which Mr. Rittenhouse has been at work, and can personally vouch for the improvement that has been effected, and the admirable condition in which it is constantly maintained. Last summer it was underdrained, the township council paying for the tile, and Mr. Rittenhouse, with a few of his neighbors, doing the work. While the resulting bulge above the row of tile still interferes slightly with the contour of the road, it is not too much to say that this highway to-day is kept like a race-course.

But the improvement of this one mile of road was only a beginning. The most marked effect was not on the road, but on the road-maker. It has converted him into a good-roads apostle. He has talked roads, written about roads, campaigned for good roads on the Farmers' Institute platform; and, not content with this, has gone far beyond his own beat, dragging stretches which needed attention, and trying to get neighbors interested.

Tile drainage and the split-log drag are the two means he emphasizes as the main solution of the earth-roads problem. Graveling and macadamizing are all right in their way, and, as evidencing his faith in metalled roads, he has drained and macadamized his farm lane, at an expenditure of \$500. But, for the great extent of our highway mileage, he believes, with "The Farmer's Advocate," that metalled roads are not yet to be recommended, they being too expensive, not only to build, but to maintain. With the split-log drag, the maintenance of earth roads is simplicity itself; the cost need not exceed \$10 a mile per annum, while the results are first-class roads throughout nearly the whole year, and in summer a better road for ordinary traffic than even ideal stone roads; better because not so hard, hence easier on horses and vehicle tires. Note, then, all who read this page, that tile draining and persistent dragging are THE TRUE SOLUTION of the rural-road problem throughout the greater part of Canada, save only on a few of the main-travelled arteries, which are better for hard surfacing.

A TOWNSHIP COMPETITION.

Example has its effect, and enthusiasm is contagious, but the contagion is not always so rapid as might be wished. As a means of stimulating the use of the drag, Mr. Rittenhouse hit upon the idea of a township competition, broaching it last winter at a local Institute meeting in Campden. His proposal was seconded by ex-Warden D. H. Moyer, who had built and used a drag, with very satisfactory results, in 1907. The meeting placed itself on record as favoring a grant of \$200 by the township council. In the end, the council, of which Mr. Rittenhouse is a

member, set aside \$150 for the purpose, the amount being supplemented by \$100 obtained by the mover from his cousin in Chicago. So the ball was set rolling. The competition, it should be explained, is independent of the usual stint of roadwork with the grader and otherwise, which is done by the municipality as usual on roads not in the competition.

For the purpose of the competition, the four polling divisions of the township were subdivided, making eight districts in all. Four prizes were offered in each district—a first prize of \$11, a second of \$9, a third of \$6, and a fourth of \$5. The prizes were offered to those who should take half a mile of road each, make the most improvement, and keep it in the best condition from April 1st to December 1st, 1909. The competitors have the privilege of using any implement they like, including the grader, if they are willing to use it themselves, though, so far as we are aware, none have seen fit to employ this expensive machine, preferring to rely upon the split-log drag, supplemented with plow, disk, roller, harrow, and the King ditcher, described below. The judge of the competition is John Young, of Abingdon, winner of first prize in the Provincial competition two years ago. His first trip of inspection was finished before any work to speak of had been done on the roads, while the second and last will be performed during the summer, when the roads are at their best. There are some seventy competitors taking a more or less active part, the majority being in divisions No. 1 and No. 2, in the eastern part of the Township, these being more accessible to the prime mover of the enterprise, who lives in district No. 1. Counting the fifteen or sixteen drags previously owned by the municipality, Mr. Rittenhouse says there are now one hundred drags in Clinton Township.

KEEPING UP THE INTEREST.

A competition of this kind does not run itself. It requires an expert enthusiast to push it, to induce men to enter the competition, to keep them at it, to instruct them concerning details of construction and use, and, when necessary, to spend time with individual draggers, and show them how to operate the implement. Mr. Rittenhouse has done this. In the first place, he called a meeting to explain the use of the drag; then he went out with horse and buggy to make a personal canvass. His weekly letter on the road question has been a feature of the local newspaper, the Beamsville Express, and has helped to sustain interest, and incite to renewed effort. He accompanied the judge upon his rounds of inspection, and, day after day, has been upon the roads, spending half a day with one competitor, and a few hours or minutes with another, instructing, showing, helping, lending implements, particularly the ditcher—all for the good of the cause. He has ever a critical eye for sod shoulders on the road, and urges all and sundry to come and get his ditcher, and clean out their ditches, cut off the grass on the sod shoulder, and make a clean, oval surface from gutter to gutter. Once done, it is a simple matter to keep such a road in first-class shape year after year. Indeed, a well-dragged road will tend to acquire too much crown, though this is easily overcome by reversing the drag occasionally, and spreading a little earth toward the ditches.

DRAG EFFECTIVE FOR GRADING, AS WELL AS MAINTENANCE.

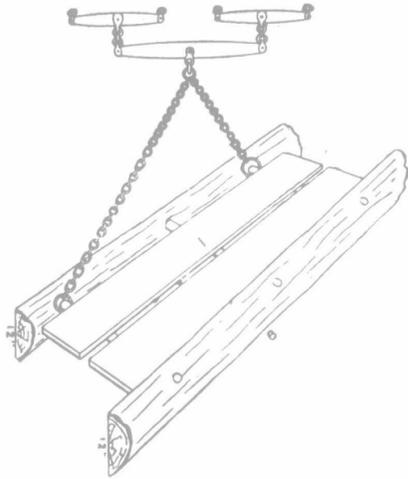
The dragging of a road can be done, with little loss of time, by a farmer who lives alongside it. Although for a township the probability is that the grader would be a more economical means of putting a bad road into shape, there is no doubt that it can be done better, and almost as cheaply, with the drag. The grader leaves a nice surface, but the center is often somewhat loose and spongy, with an accumulation of sods, dust, and red or blue clay, soaking the water up readily. A dragged road, on the other hand, builds the crown layer by layer, making a smooth, well-compacted surface, which sheds the water readily. As a means of grading, the split-log drag is, therefore, an emphatic success for use by a farmer on his own beat, though its prominent purpose is maintenance, for which it is a decided improvement on the single-stick, tongued leveler, in use over many sections of the country.

DRAGGING IN THE WINTER.

When to drag, is a very important point. In the winter, in spring, and occasionally in summer after prolonged heavy rains, excellent results are obtained by dragging in the mud, turning the drag upside down and backward, round side of the slabs to the front, and mshed edges down. For this purpose, the mud must be sloppy, wet. If not dragged at this stage, one must wait until the sticky stage is past, when the road is moist, but not wet; and, in Clinton Township, the drags are made with an iron face on the lower flat edge of each slab, to make them take hold of the dry surface more effectually. The most correct dragging is done when the roads are dry, after a rain, while they are moist, but not sticky. The dragging scrapes off any little projections, clears the cuts, and leaving a smooth, hard surface,

over which it is a pleasure to drive, and which does not readily grind up into dust.

One difficulty met with by amateur draggers is a ridge of loose, lumpy ground along the center of the road, where it cleans off the end of the drag the last time across. This may be very easily smoothed out, and a nice oval shape secured, by simply hitching on behind the drag, running it backwards one round, or even half a round. This distributes the loose earth, and leaves a perfect finish, preventing the development of a "hog-back" in the center of the road. An ideal earth road should be from 18 to 30 feet wide, but slightly convex in the center, rounding more sharply toward the sides, with a clean,

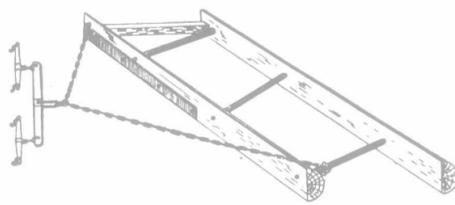


Earlier Form of Split-log Drag.

smooth surface from ditch to ditch. Such a road can be, and has been, built and maintained with the split-log drag.

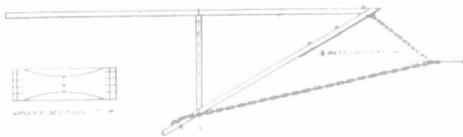
DEVELOPS A PUBLIC SPIRIT.

In the Clinton Township competition, some of the draggers have become very enthusiastic. More than one have improved their roads to an extent which it would have otherwise cost the municipality \$25 to \$50 to accomplish. They have not stopped at grading, but have zealously kept their beats picked clear of stones, and, on at least one beat, many days' work have been expended in digging out, removing or burying large boulders.



King's Improved Form of Split-log Drag.

In short, the dragging has been an education and stimulus in road improvement to every man who has taken hold of it, and has developed a public spirit in men who never before thought of plowing a drainage furrow which they could find an excuse for asking the township to dig. One man, when first asked by Mr. Rittenhouse to take half a mile of road, said to him: "I suppose you are getting well paid to go around and work this thing up?" "No, I'm not doing it for money," was the reply. "But you must have some object in it?" "Well, I'm getting on in years, and



The King Ditcher.

"I've never done very much for the township before, and I thought it was time to start." "If that's the case, I'll take half a mile of road," was the response. "The rest of the story, let the camera tell. The views reproduced herewith were taken by a member of our editorial staff on May 22nd. They show some of the roads just after dragging, following a shower of rain. It was impossible to cover the township, or to photograph all the dragged roads driven over. No attempt was made to select the ones likely to be awarded prizes, although the roads pictured are admittedly among the best of those being improved in the competition.

The illustrations are submitted as evidence of

what may be accomplished with the split-log drag. The roads are actually better than represented, for, in making a picture of a smooth road, every little imperfection is exaggerated greatly. A fresh wheel-track appears conspicuous, even though it has not rutted the surface at all, while a few crumbly lumps of clay, which would scarcely be noticed in driving, show plainly on the sharp silhouette of a photograph.

TO SECURE SYSTEMATIC DRAGGING.

The question may be asked, "Is such a competition a good way for a municipality to insure the systematic dragging of its roads?" As a permanent policy, it probably would not, for the competition would become an old story in time, and people would tire of the good work. Its value consists in that it gets people interested, and demonstrates the advantage of a new method. Even then, it needs a pusher behind it. Mr. Rittenhouse believes that, for a settled policy, it would pay the council to engage men here and there to drag the roads, each man being given as much as he could well do, and paid for his time, a skilled commissioner, being appointed to supervise the work, and dismiss any who failed to attend properly to their portions. Whatever means is finally adopted, there can be no doubt of the efficacy of the split-log drag for road improvement and maintenance.

HOW THE DRAG IS MADE.

The accompanying cuts, made from designs submitted by D. Ward King, inventor of the drag, are almost self-explanatory. The first cut shows the original form of drag, while the second represents an improvement, made by setting the hind slab back 16 or 18 inches, so that the end of it would not catch in the face of the ditch when making the first round. A brace at the end gives added strength. King described the original drag thus: "The two halves of a split log (preferably of cedar), ten to twelve inches thick, are set on edge thirty inches apart, both flat sides to the front. The cross-pieces are wedged in two-inch auger holes bored through the slabs. If working a clay or gumbo road, it is advisable to put iron (old wagon tire, or something of that sort) on lower edge of drag at end of six months; for softer soil, at end of twelve months."

The drags used in Lincoln County are largely modelled after this pattern, except that most of them are sawn, instead of being split. They are also shod with iron on the lower front face of each half log, and some have stuck handles in behind, the more easily to control the drag. Still another new wrinkle is somewhat indistinctly depicted in one of our half-tone illustrations. It consists of a spike driven into a cross-piece next the inside end (the end of the drag nearest center of the road). On this, a lever with a rounding bottom is hung, so that it runs along easily when not in use, but when the drag comes to a hole or a long hollow or flat place, such as is often found between the shoulder and the center of a road, the lever may be borne down, lifting the inner end of the drag, and depositing the loose earth exactly where wanted, instead of running so much of it off at the end, to be finally drawn to the center, to accentuate the "hog-back" there. J. M. Wismer, the man who invented this idea, calls it "the better half" of the split-log drag. With it, he has narrowed six feet, and brought almost to the desired oval, a road which in the beginning was not only six feet too wide, but high in the center, and hollow between it and the sides.

THE DITCHER.

An invaluable complement of the split-log drag is the King ditcher, described in "The Farmer's Advocate" of May 11th, 1908. It is a convenient device for cleaning ditches, cutting off grass shoulders, and putting the dirt up in position so that it may be handled to better advantage with the drag. Several of these ditchers, patterned essentially after the accompanying design, are in use in Lincoln County, and are found very useful. The ditcher consists of a guide-plank, 2 inches by 12 inches by 12 feet, and a mouldboard 2 inches by 12 inches by 8 feet. These are braced with a cross-piece 3 feet long, as shown in figure. The mouldboard should be shod with an iron plate 1/4 inch by 1 inch by 3 feet, held in position with 1/2 inch bolts, countersunk. The cross-brace should be hollowed 3 inches on each side at the middle, the hollowing to begin not less than 1 inch from each end, in order that its bearing against the guide and mouldboard planks shall not be shortened, nor the nailing space decreased. This is done to prevent the earth from heaping up in front of the brace. A light platform is needed to make the use of the ditcher safe. The hitch is made as shown in the figure, the short side of the chain being about 2 feet 3 inches in length, and the long side 8 feet 3 inches. The chain is made to pass over the mouldboard, so that it may clear itself more readily. Two or three horses, according to the difficulty of the particular condition, are necessary to clear a ditch. To secure the best service from the ditcher, a weight of about 200 pounds should be placed over the front end.

Three and a Half Miles of the Best Earth Roads in Lincoln County, Ont.



Road being dragged for the third season by D. H. Moyer, who has had his beat graded by the township on condition that he was to maintain it without charge for five years. Note that the drag is being run backwards to smooth down and spread the small ridge of loose earth left at the last time across.



Half-mile on the Fly road dragged by J. M. Wismer. This road was too wide and was in many places ridged in the center, but flat between center and shoulders. Has been narrowed from 36 to 30 feet, shaped up nicely and kept smooth, all with the King ditcher and the split-log drag. Note the lift-lever on drag, devised by Mr. Wismer.



A road in the making. Five-eighths of a mile that has been greatly improved by Angus Stewart. Disk marks show on side where the loosened earth has been drawn to the center with the drag.



Half-mile of good clay road dragged by Frank Love. The camera has exaggerated the slight imperfections along the track.



Cherry Avenue—a mile of splendid clay and sand road dragged the third year by W. W. Stattenhouse, whose farm at the north end of the beat is bordered by rows of cherry trees. This road has been graded from a rat condition with the split-log drag, and maintained like a turnpike. Also graded last year.



Half-mile of beautiful earth road improved by H. Culp. Furrows shown on right of picture have presumably been plowed away for the purpose of narrowing the road. Mr. Culp has done a great deal of work putting this road in shape, and its condition is even better than the cut represents.

Bored Well for Drainage.

Editor "The Farmer's Advocate":

Re well for drainage, while your answer (issue May 20th, page 863) is correct, according to Webster's definition of artesian wells, it is not correct, as the term artesian is popularly understood as applying to bored wells in Western Ontario. Many wells are bored which do not flow, hence are not artesian wells in the strict sense of the term, but the water rises to a certain head, and affords a plentiful supply of water by pumping. The peculiarity of these wells lies in the fact that you can pump them down, but all the water you pour into them will not raise them above their head, which varies in localities, some places 10 feet, some 20 feet, some 60 feet below the surface. Hence the possibility of using them for drainage. Such a well is used to drain the basement of the Odd Fellows' Block in Wheatley, Ont., and is working very successfully. I am told. Whether such wells would supply sufficient outlet for a large volume of water, is another question. Kent Co., Ont. P. L.

Exports of wheat and flour from Australia since the middle of December, 1908, to April 6th, 1909, amount, approximately, to 26,491,239 bushels, or 709,587 tons, valued at £5,211,000. Reckoning the 1908-09 wheat crop at the low estimate of about 62,000,000 bushels, the surplus available for export, writes Commercial Agent D. H. Ross, is about 900,000 tons.

After a roadbed has been properly graded, there is no necessity for using a grader, for the road can be kept in better shape with the small scraper or drag than it can with the grader, and with less than half the expense.—[E. M. Moore, in Michigan Farmer.

THE DAIRY.

Dairy-school Training and Certificates for Makers.

The committee having to do with the preliminary work arising out of the law passed at the last session of the Ontario Legislature, requiring certificates for cheese and butter makers, met in Toronto last week. A notice will shortly be sent to makers, outlining the method to be adopted in granting these certificates, and what they will have to do to obtain such.

The new law provides that after 1910, only those who hold diplomas or certificates from the dairy schools, or who hold a permit from the Department of Agriculture, will be allowed to have charge of a factory engaged in the manufacture of butter or cheese. From a census taken last season in Eastern Ontario, the proportion of those managing factories, who hold diplomas from the dairy school, is much smaller than was expected. Out of over one thousand men who have charge of factories in that part of Ontario, only 300 have ever attended the dairy school, and of this number only 150 hold diplomas. This is all the more surprising when it is stated that the dairy school at Kingston has been in operation for thirteen years, and the attendance during that time has been about all the school could well accommodate. The explanation is that those who have attended have put in more than one term at the school. The tendency is for makers, who have once attended the school, to return again frequently for a brushing up. Having tasted of the good things in the way of information upon cheese and butter making which the school has been able to give them, they have evidently realized that they cannot obtain too much of a good thing.

In Western Ontario, though no accurate census has yet been obtained, the proportion of makers who have attended the dairy school is probably much larger. Yet, there is a considerable number who are now successfully managing cheese factories and creameries, and have been doing so for years, and who have never attended the dairy school, nor received a diploma from such school. Taking the Province as a whole, it is a safe estimate that more than one-half of the men who are to-day managing cheese factories and creameries have never attended a dairy school. These, unless the law is modified in some way, will have to be content with a special permit from the Minister of Agriculture in order to continue in the business after the Act comes in force. It is casting no reflection on the work of dairy schools, or the training given at such institutions, to say that there are many of these men who are just as well qualified to manage a factory as some graduates of a dairy school; and yet they will not have the same standing under the law as it now reads. The committee considered this phase of the question very carefully, and it is possible that some way may be found for giving old and tried men in the business a certificate of qualification equal to any that may be obtained at a dairy school.

The situation in Eastern Ontario in this regard is rather a peculiar one. There are many makers managing small factories who would like to attend the dairy school, but they cannot afford to do so. When the season's business is closed up they have no more than will keep themselves and their families during the winter, and are lucky if they have that. For this reason it would be a hardship to compel such to attend a dairy school in order to qualify for the highest-grade certificate. Competent men of this class should receive full recognition in some other way.

However, it would be in the best interests of the business generally if every maker had a dairy-school training. Makers obtain from the school valuable information of a practical nature that cannot be obtained in any other way. The instructors report that, as a rule, makers with a dairy-school training are more amenable to instruction in the factory, and take up suggestions more readily, than those who have not had such training. The dairy school and its work, therefore, is deserving of the highest recognition in all matters affecting the qualification of makers under the certificate plan. The time may come when it may be possible to grant certificates of qualification only to those who have dairy-school training; but until such time as factories are able to pay makers a sufficient remuneration to enable them to obtain dairy-school training, the qualification of many makers for the work will have to be determined in some other way. W. J. W.

Canadian Cheese Popular.

"Although Canadian cheese is popular in the Old Country," said L. E. Annis, of Toronto, who spent last summer in Great Britain, "there seems to be a gradual falling off in the demand for our product. Siberia is coming in as a strong competitor. Conditions there are much like those in Canada, while land and feed are cheaper.

"Butter also is coming to Great Britain in large quantities from Siberia, and being placed

composition of cheese. Payment by weight of milk alone is rightly condemned as unjust and leading to dishonesty.

It is a pity the dairy authorities of America cannot get together, thresh this question out and agree upon the most equitable system to recommend. Disagreement among authorities results in continuance of the pernicious pooling system.

About the Milk Commission.

Editor "The Farmer's Advocate":

In your editorial headed "Ontario Milk Commission," in the issue of the 27th inst., you state: "It would seem that the milk dealers have been left out of consideration, etc." Perhaps you are not aware that W. F. Nickle for many years owned and bred a small but very select herd of Jersey cattle, and that the milk from these cattle was retailed in Kingston. His dispersion sale advertisement was in your columns. This route catered to a fairly extensive and most particular clientele, and, speaking from the view of a casual observer, seemed a model in cleanliness and neatness.

Though under the direction of a manager, you will, I believe, find that the shrewd insight and marked attention to detail which Mr. Nickle has shown in his other business affairs in this city will have been extended to this milk business, and that he will prove a most efficient member of the commission. LIMESTONIAN.

Frontenac Co., Ont.

POULTRY.

Practical Poultry Pointers.

Poultry-raising is profitable, when properly managed. The man who embarks in the poultry business should understand how to profitably raise a few fowls before going in for hundreds.

Rats are the chick's enemy, and they should be at all times excluded from the poultry premises; also, beware of hawks and weasels. White chicks seem to draw the attention of the hawk more than colored ones.

Farmers who have introduced Standard-bred poultry are now satisfied they were behind the times while they kept the mongrel. They will keep nothing but the pure breed now.

Chicks should not be allowed to run through wet grass; it means death to them. If your "Mother Hen" is kept in until such time as the grass is dry, you will raise a larger percentage of chicks.

The brooder and coops should be cleaned at least three times each week, for cleanliness is one great factor in raising chicks. A thin layer of road dust put on the floor of the brooder or coop, will make it easier to clean, and absorb any foul dirt. Wet and filth are bad for chicks.

Soak the incubator lamp wick in vinegar for two or three hours; it will keep the lamp from smoking in almost every case.

Chicks should be made to scratch for fine seeds in their litter, which should be fine-cut straw or chaff, or I find clover leaves make excellent litter for young chicks. My chicks are out of the brooder at 7 a.m., and do not go back until about 5.30 p.m. The brooder door is left open and the chicks have the privilege of returning at will.

Always avoid feeding sloppy food to chicks—it causes bowel trouble. Of course moist food is all right, a little at a time, but some people feed wet mash, which is very injurious to chicks. Oatmeal, corn meal, boiled rice, table scraps, etc., with a little raw beef about twice a week, is what my chickens are now getting, and they are growing well.

Locate the brooder or chicken coop in a sheltered nook if possible, where the sun's ray will strike it early in the morning. Then if the brooder is in a sheltered place, it makes less trouble looking after the lamp. You will not waste so many matches.

Poultry is growing in demand. The prices are good. Why, then, should the farmer not raise and supply some of these fowl? Eggs are a good price for the time of year. Of course, grain is high in proportion, but, nevertheless, farmers who raise their own grain can make a good profit



Queen II.

Three-year-old Ayrshire cow. First in Derby class at Ayr and reserve champion at Glasgow, 1909.

in the same stall with the Canadian product. Lack of uniformity places our butter in grade two. New Zealand goes into class one, along with Danish butter.

"We must increase our output of cheese and improve the quality of our butter or Siberia will take a large share of the trade that should be ours. Canadian butter is not inferior, but it lacks uniformity. Many purchasers will not buy butter with salt in it."

Basis of Calculating Cheesemaking Value of Milk.

Bulletin No. 308, of the Experiment Station at Geneva, N.Y., urges the adoption of the fat test as the basis for paying for milk at all cheese factories, citing facts and figures calculated to show that, quality and quantity of cheese both considered, the simple fat test gives the fairest measure of the value of milk for cheesemaking. In claiming this the dairy authorities of the station are at variance with the teaching of Prof. Dean, who has at various times conducted experiments to demonstrate that the fairest method of distributing cheese-factory proceeds is on the basis of per cent. of fat plus two, allowing two to represent the cheesemaking value of the casein in the milk. The New York Station mentions this method as worthy of attention, also Babcock's proposition of payment by the relative values of fat and other cheese solids, based on yield and

by feeding it to their hens and turning it into eggs.

Ontario should have her farms stocked with more pure-bred poultry. Each and every farmer who has not got pure-bred fowl should secure them this fall. One will never regret the change from mongrels to pure-breds.

Use your best judgment this fall, and cull your flock closely. Keep no culls; send them to the block. Procure better stock, by introducing a new male to your best hens; good results will follow.

Let everyone keep strict accounts in his poultry department, and I am confident if proper care and attention be exercised that the ledger will balance on the right side. Try it and see.

Farmers who raise poultry and want to learn more in regard to housing, feeding, etc., would do well to write to the Ontario Agricultural College, Guelph, Ont., for poultry bulletins. They contain a valuable lot of information.

Roosts should be about 2 1/2 inches wide, about 3 ft. off the floor, and if the nests are arranged under the dropping board it will make things handy, and save time in a great many ways. High roosts and round roosts are now almost a thing of the past.

Young chicks well cared for and properly housed will grow almost to your surprise. But they are delicate little things the first week or ten days; after that, with reasonable care, they will thrive and grow rapidly.

Poultry-raising is good work for the women folks, and most women know how to look after the little chicks properly. Give your wives or daughters the profit they derive from raising poultry; it will encourage them and help you as well.

Onion tops, lettuce leaves and cabbage are all excellent to feed chicks as green food; also clover leaves. Provide your young chicks with a dust bath. They enjoy scratching and dusting themselves, and it helps keep the lice away.

Incubators should be carefully stored away in a dry place when they are not needed for hatching. The glass should be well protected in order to avoid breaking.

Never neglect to look after the small details. They are what necessitate your attention; they crown your efforts with success. Little by little makes great things. The poultry-raiser has a great many small tedious details, but not one should be overlooked. They are the makings of the business.

Try to keep your poultry and poultry premises free from that little enemy the louse. They will creep in and establish a permanent abode if you are not diligent and active. Close observation will tell the condition of your flock. Keep fowl, but don't keep lice as their partners.

Every day the poultryman in active service learns something he did not know before—some new methods to save time or bring better results are popping up. On the other hand, you will learn to know why you failed at certain things last year. Close observation and practical poultry service counts for a whole lot of success.

Rely on your own experience, and do not let theories persuade you.

Start to give your poultry better care. See if you can't give them a better house, a more proper food, and I know your biddies will be thankful.

J. W. DORAN.

Renfrew Co., Ont.

Determining Fertility of Eggs Before Hatching.

Some time ago the following questions submitted to "The Farmer's Advocate" were referred to me:

No. 1.—Is it possible, before setting the eggs, to ascertain whether they are fertilized or not?

No. 2.—By breaking an egg (that has not been set, of course) can one, with the aid of microscope or other instrument or means, make sure that the germ is fertilized?

Que.

My answers were as follows:

No. 1.—There is no examination to which the unbroken egg can be subjected that will furnish the information.

No. 2.—Yes, by an embryologist or one who has skill in the use of the microscope. While the aid of the microscope is necessary, a very high power is not required.

Subsequent to writing the above I thought it well to obtain the opinion of those at certain of our large universities who are engaged in embryological investigations. A has kindly furnished me with the following answers:

No. 1.—I regard it as impossible to distinguish between a fertilized and an unfertilized egg before incubation.

No. 2.—It is quite easy for an embryologist to determine whether an egg is fertilized or not after it is broken.

Authority B wrote me as follows:

No. 1.—I know of no means to that end.

No. 2.—The diagnosis is simple enough. The blastoderm is clearly distinguishable, especially if

a low-power magnifier is used. There is no blastoderm visible if the egg has not been fertilized.

It will be observed that in these answers there is an absolute agreement, and, consequently, that your correspondent may accept them as correct.

FRANK T. SHUTT,
Chemist, Experimental Farms.

GARDEN & ORCHARD

Seeking Outlets for Ontario Small Fruits.

There is more concern than formerly among fruit-growers this season as to the possibilities of marketing the crop satisfactorily. The outlook for a big crop of all kinds of fruit is very bright. If the yield is anything like what present conditions indicate, there will be some difficulty in finding a market for it at satisfactory prices. Especially is this true of the more perishable fruits, such as berries and cherries. The strawberry crop is likely to be exceptionally large. This crop is all marketed in Ontario, and during the past couple of years at satisfactory prices. This year it looks as if an outlet will have to be found outside of the Province, if fair prices are to be obtained.

No attempt has been made yet to ship strawberries to the West. For the past couple of years some Ontario cherries have been shipped to Winnipeg, and have realized good prices. The cherry season is on about the time of the Winnipeg Exhibition, and as the Ontario Government makes an exhibit of fruit at that exhibition, there has been someone on hand to look after the shipments of cherries as they arrive. For a couple of years past P. W. Hodgetts, Director of the Fruit Branch, Toronto, has had charge of Ontario's fruit exhibit at Winnipeg, and has looked after the shipments of cherries sent out by growers. These shipments have sold at satisfactory prices, and the intention is to make much larger shipments this season, in view of the prospects for a big crop.

With strawberries it is different. This crop is marketed before the Winnipeg Exhibition takes place. To make shipments to the West it would be necessary to send someone along to look after them when they arrive. This would add greatly to the expense. It would be useless to send shipments without some interested parties at the other end to receive them and place them before buyers in the West in proper shape. For this reason it is not likely that any shipments of strawberries will be made this summer, though it would greatly improve market conditions at this end if some other outlet than the local market were found for this crop when the yield is likely to be very large.

A beginning has, however, to be made some time, and if it is desirable to develop a market in the West for berries and other tender fruits, it would be worth while for the Government to send someone to Winnipeg to look after initial shipments and place the fruit before the trade there in proper shape. In developing a market in the West for Ontario small fruits the business must be handled in the best way. The fruit sent must be of the best to begin with; then it must be forwarded under conditions that will permit of its arrival in marketable condition. If this is done there is no doubt that profitable prices can be obtained for a considerable amount of the product.

CHRONICLE.

Thinning Fruit on Trees.

Editor "The Farmer's Advocate":

Ladders, step-ladders and intelligent men are all that are required in thinning fruit on the tree. As a general rule, it is well to take off all small and deformed apples. It is inadvisable to leave more than two apples together, and, if the tree be heavily laden, thin to one.

On July 7th, last year, I commenced to thin Greenings, and continued on Holland Pippins, Alexanders and Baldwins. When the fall apples are about the size of walnuts, they may be thinned. Thinning Spies before last of July is not recommended, but afterwards it may be proceeded with until harvest.

In 1908, this work, on my entire orchard of Greenings, Baldwins, Kings, Golden Russets, Spies, and a few other varieties, effected a uniformity of size in the ripened crop that facilitated packing in boxes, a method certain of adoption in the near future, for it is only thus that we will be enabled to receive the highest market price, and prove our boxed apples equal to those of British Columbia and Oregon.

By thinning, the buds for the following year

are benefited by the nourishment which has not been uselessly absorbed by unsalable fruit. Proper modes of fertilizing, thinning, spraying, cultivating and pruning cannot but produce apples fine enough for the world's competition.

In thinning ordinary-sized trees, which are about two-thirds loaded, a man could thin from ten to fifteen trees per day. In case of an unusually large tree being overloaded, a man would need to spend about one-half day in removing the small and deformed apples.

In breaking the stem, one may use the same method as in picking in the fall, and avoid injury to the fruit buds for the succeeding year. There is very little danger of injuring the fruit buds in thinning, the only danger being in the placing of ladders, and a person moving about in the tree, when he is liable to break the fruit-spurs.

Although I found the expense of thinning in 1908 averaged 5 cents per barrel of fruit harvested, the cost of picking and packing was reduced, in not having to pay for the handling of small and inferior fruit.

A large, overloaded tree, if not thinned, would probably produce about four barrels of firsts, but if thinned, would very likely yield eight or more, thus almost doubling the profit, after paying a man 75 cents for thinning it. My entire crop of eight hundred and eighty barrels were picked and packed for 20 cents per barrel, and, including the cost of thinning, was handled much cheaper than in the previous year.

From this method, adopted for the first in 1908, I reached results otherwise unobtainable. Only 7 per cent. were graded seconds, while 98 per cent. ranked as firsts.

Therefore, in conclusion, my advice to the fruit-growers of Ontario is to thin apples, peaches, and, in fact, all fruit where trees or vines are overloaded.

J. J. GILBERTSON.

Norfolk Co., Ont.

More Spraying of Orchards this Year.

Though the Ontario Legislature last winter did not pass the legislation asked for by fruit-growers in regard to spraying of fruit trees, orchardists are taking up spraying more vigorously than ever this season. The co-operative associations are exerting themselves, and more spraying is being done this season than in the past. Heretofore it has been confined largely to the San Jose scale area; but now spraying mixtures are being applied in districts where there is no scale, and in sections where the codling moth was most destructive last year.

Many farmers have purchased spraying outfits and are doing the work under the supervision of the inspectors employed by the Government. The sprayers used have the capacity of power sprayers, but are operated by hand. This enables orchardists to do the work quickly and at the proper time. In Western Ontario spraying is being systematically done in many districts in the more northerly counties, and in Eastern Ontario in the apple-growing centers bordering on Lake Ontario. This spraying is being done chiefly to combat the codling moth, and the ravages of this pest are not likely to be so apparent in this season's crop as was the case last year. If the spraying is properly done, and the crop of apples much improved thereby, it will be an incentive to continue and extend the work in future.

W. J. W.

English Fruit Crop Prospects.

The acting Trade Commissioner at Leeds, Eng., writing to Trade and Commerce Weekly Report, under date of May 8th, says:

There is every prospect of an excellent fruit crop in England this year, providing no frosts are experienced during the next few days. Information received from various parts of the country shows that the outlook is very promising. From the principal fruit-growing districts come reports of a gratifying show of blossom on the apple and pear trees. Berries are also looking well, especially gooseberries and strawberries, but, unfortunately, in the case of plums, the bloom has been much affected, and the fruit looks like being a failure. The hard winter, from all accounts, has done no damage to the young trees; indeed, according to one expert, hard-winter fruit invariably turns out well.

The month of May is, of course, a most critical time of year for fruit-growers, as, if there should be any severe or continuous night frosts during this month, considerable damage is always done to the trees just as they are beginning to bloom. Although it is rather early to speak definitely, it can be said, with a fair degree of certainty, that, should nothing untoward happen during this month, there will be more than an average yield of apples and other fruit in England this year, with the exception of plums.

Fruit-crop Outlook.

Prospects are bright for a fine crop of fruit in Canada's fruit-producing districts. The report issued by Alex. McNeill, Chief of the Fruit Division, under date of May 31st, shows that in Eastern Canada the winter was mild and trees and bushes came through with little damage by frost, sleet or mice. Near Winona and Fruitland, in the Niagara district, some of the peach buds on lower branches were killed in orchards along the lake. British Columbia experienced severe cold and light snowfall. In irrigated districts, where cultivation was continued late in the season, some killing of young wood has been reported. Strawberries suffered from heaving, except where thorough mulching was practiced. Some damage was done also to peach, plum and pear buds, but apples escaped with little injury.

The unusually backward spring, with cool, wet weather, is said not to be unfavorable for fruit, as the bloom was held in check until danger of frost was past. Cultivation and spraying, however, have been delayed. In Ontario fruit sections the bloom is at least two weeks late, but fine weather at the end of the month was favorable for the setting of fruit. In Nova Scotia spraying and cultivation commenced about May 10th, but cool weather resulted in late bloom in the Annapolis Valley. Extremely backward weather in British Columbia gives rise to reports that fruit buds are nearly a month behind their usual time.

For convenience in estimating the marketable crop, the fruit districts of the Dominion are divided as follows:—

District No. 1.—Counties north of Lake Erie and Niagara district.

District No. 2.—Counties on Lake Huron and inland to York County.

District No. 3.—Counties bordering on Lake Ontario north to Shabot Lake and Georgian Bay.

District No. 4.—Ottawa and St. Lawrence valleys to Lake St. Peter and south-western Quebec.

District No. 5.—New Brunswick, with north-eastern Quebec.

District No. 6.—Hants, Kings, Annapolis and Digby Counties, Nova Scotia.

District No. 7.—Nova Scotia not included in District 6.

District No. 8.—Prince Edward Island.

District No. 9.—Lower mainland and islands, British Columbia.

District No. 10.—Inland valleys, British Columbia.

Districts 1, 9 and 10 ship the commercial crop of peaches and other tender fruits.

Districts 1, 2, 3, 6, 9 and 10 grow plums, pears and winter varieties of apples for long-distance markets and export.

District 4 ships Alexander, Wealthy, Fameuse and McIntosh Red apples.

Districts 5 and 7 will not produce sufficient winter fruit for home consumption.

APPLES AND PEARS.

Apple trees everywhere give a good showing of bloom.

In District 1 the apple bloom would indicate a moderate to good crop. The early varieties that bore well last year are not showing so full a bloom as the winter varieties this year. Spies, Baldwins and Russets are showing well.

In District 2 the winter varieties, particularly, are showing an abundance of bloom. The early and fall varieties are not blossoming so heavily.

In District 3 the prospect is for a heavy bloom. At present the indications are for a good apple crop.

In District 4 the bloom is from ten to fifteen days late in the Ottawa and St. Lawrence valleys, but nearly all varieties will blossom out for a full crop.

In Districts 5, 7 and 8 the bloom is very backward, but conditions are favorable.

In District 6 (Annapolis Valley) the indications are for a full bloom for all varieties.

In Districts 9 and 10 (British Columbia) the apple bloom is fairly heavy.

Pears have blossomed well everywhere. In the Niagara Peninsula and District 1 generally, the showing so far is for a good crop.

There are excellent bloom prospects reported from the County of Prince Edward and the counties along the north shore of Lake Ontario, in District 3.

In District 2 there has also been a good showing of bloom.

The prospect for the pear crop in British Columbia is better in the lower mainland than in the interior valleys. A heavy bloom is reported from District 9; but in District 10 the Bartlett

Clapp and Duchess suffered in some instances from severe winter frosts. The Anjou, Winter Nelis and Kieffer varieties are showing the best bloom.

PLUMS, PEACHES AND CHERRIES.

All kinds of plums budded out remarkably well in Ontario. An exceedingly heavy bloom is recorded in the Niagara District, particularly of the Japan varieties. There is every prospect of a full crop in the commercial plum section. Plums and Italian prunes have blossomed out well in British Columbia.

There has been an abundance of bloom in the Ontario peach belt, and the prospect, on the whole, is very encouraging. Along the lake front, however, in the Niagara district, from Stony Creek to within a short distance of Grimsby, peach buds were thinned in the lower branches by winter frosts. A short distance back from the lake to the mountain the peach orchards were full of bloom. This condition is reversed in the immediate neighborhood of Jordan Harbor and Port Dalhousie. The peach orchards nearest the lake show the best bloom. There has been very little wet weather during the blossoming season to interfere with the "setting" of the fruit. In several instances more or less serious damage to peach buds is reported from British Columbia, which will likely bring the crop below the average.

Cherries everywhere have blossomed heavily. At present the outlook is for an abundant crop throughout Eastern Canada. All varieties have blossomed well in British Columbia, except in certain localities in the interior valleys, where sweet varieties are reported injured by frost.

SMALL FRUITS AND TOMATOES.

Strawberries have wintered well in Ontario, especially where the patches made a good growth last fall. Small fruits of all kinds are doing well. Raspberries, blackberries, currants and gooseberries give promise of an average crop in British Columbia.

Most varieties of grapes have come through the winter well. In the Niagara District the Concord especially are looking thrifty, but the Niagaras in some cases are reported partially killed back by winter frosts.

Tomato plants are being set out in large numbers. They should do well if not hurt by frosts.

INSECTS AND FUNGI.

Insects are commencing to be noticeable. The codling moth is likely to be numerous on account of the mild winter. The bud moth is plentiful. It has been seen working on old trees as well as young. The cigar-case bearer is also at work. It is interesting to note that spraying is becoming more general among the smaller orchardists.

Outside of sections infested with San Jose scale and oyster-shell bark-louse, three or four applications of properly-prepared Bordeaux mixture will control at least seventy-five per cent. of insects and fungi attacking the apple. The injurious work of the bud moth and cigar-case bearer on the buds and foliage can be prevented largely by the first spray applied just as the buds are expanding. This application is also important in checking the development of apple scab. The second and very important spraying just after the blossoms have dropped is the death knell of the codling moth or apple worm. The subsequent sprayings are useful in controlling leaf-eating insects and fungous diseases.

Peach-leaf curl is quite prevalent this year on unsprayed trees, but is hardly noticeable where the peach orchards were sprayed with lime and sulphur.

Black-knot is very prevalent on the plum and cherry. Cutting out a few inches below the knots and burning the affected branches is the only remedy. Spray unaffected trees with Bordeaux as a preventive.

FOREIGN PROSPECTS.

The season has been very backward in Great Britain on account of late cold winds. Reports received in the middle of the month indicated a prospect for more than an average yield of all fruits in England, with the exception of plums, which have bloomed very light. Later reports of severe May frosts have been received, which may alter the prospects. The first early estimate of the conditions on the continent is favorable for a good fruit crop. In Belgium and Holland the trees are reported looking better than they have for a number of years.

An Apple-buyers' Game.

Early in the season, apple-buyer No. 1 strikes the "easiest mark" in the locality—some man hard up—and offers him about half or three-quarters of what his apples are worth. He haggles around for an hour or so, and then goes away, without buying. In a few days, buyer No. 2 appears, and haggles some more, but offers about \$5 or \$10 more for the orchard, so the owner thinks he must be getting about what his fruit is worth, and lets them go, little dreaming that No. 1 and No. 2 are really working together. Co-operation among the apple-growers will block this game.

THE FARM BULLETIN.

Field Crop Competitions.

The Ontario field-crop competitions are being taken up more vigorously than ever this season. The Provincial Department limited the number of societies that could take part this season to 100, and present indications are that the full number will be reached. There are already 91 applications in, and some more to come. Owing to the lateness of the season the time for making entries has been extended, and it is possible that more than the limit will be received.

The number of farmers in each society entering averages 20. With 100 societies entered, this will mean 2,000 individual farmers engaged in these crop competitions this season. Entries have come in from all parts of the Province, from societies extending from Glengarry in the east to Sault Ste. Marie in the west, and also to south-western Ontario.

As was the case last year, a society can enter for only one kind of crop. Out of the entries so far, 60 are for oats. There are entries also for fall wheat, goose wheat, barley, corn, beans, peas and potatoes. Several societies have not yet decided upon their grain. While oats, as was the case last year and the year before, is the chief crop chosen, there will be a sufficient number of other grains selected this year to make the competitions of more general interest to grain-growers. The progress made by these field-crop competitions has been remarkable. Three years ago, when first organized, about 200 farmers took part. Last year the number was increased to 650. This year it will be 2,000 or over, and these, distributed as they are, pretty much over the whole Province, will mean an increased interest in crop production and improved grain yields.

The Superintendent of Agricultural Societies is endeavoring to interest local societies in field-crop competitions for boys and girls. No Government grant will be made for this purpose. Societies are urged to make this a feature at their fall shows, and many of them are taking the matter up. These competitions will be limited to boys and girls from 10 to 18 years of age, and will be confined to wheat and oats, and prizes for sheaf exhibits only. Each competitor will be expected to select from the standing crop a sufficient number of the best plants with the best heads to make a good-sized sheaf, and to enter this for a prize to be given at the local shows. The object of this work is to encourage boys and girls to take an interest in grain crops, and in the production of a better quality of grain. CHRONICLE.

Saving Daylight by Law.

Editor "The Farmer's Advocate"

The measure which was brought before the House of Commons during the past session, and which is commonly known as the "Day and Light-saving Bill," has been referred to a select committee to obtain evidence, and will, no doubt, be brought before the House again next session, and unless strong representations are made, it will doubtless become law. I have not noticed in any of the farming or horticultural papers any discussion on this point, and think it well to bring the same to your notice, and that of your readers, as it is one which will vitally affect fruit-growers and farmers generally, particularly those branches of agriculture which have anything to do with the catching of trains. In the first place, it seems to me that the measure is intended to benefit a class of people who already have too much consideration at the hands of our Legislatures. It is proposed to put the clock back eighty minutes, so that the city man will get up an hour and twenty minutes earlier than is his usual wont, and that there will be that length of time for recreation after the close of business. If the measure becomes law, it means that the railway time tables will be made to conform to the new state of affairs, and the farmers who have to ship their milk to the city on the early morning trains, and who are obliged to start milking anywhere between half-past four and half-past five in order to accomplish this, will virtually have to start their operations an hour earlier. I feel quite confident that the majority of farmers do not realize what this means. The farmer does not need to have the clock put back, as his business calls him early in the morning, and in the busy seasons, such as haying and harvest, very often necessitates his working quite late in the evening. An hour and twenty minutes tacked onto the beginning of his day, to suit city men who are too lazy to get up in the morning, is asking too much, when one considers the very large proportion which the farmers form of our total population. With the fruit-growers, especially in the Niagara district, the change of time will affect them at the latter part of the day, especially during the summer and fall during the picking season. All those engaged in this business will remember that it is a very common thing to have to wait until the dew has become

dried upon the bushes and trees before one can pick. This is particularly so in connection with berries, and if the trains are scheduled to start one hour and twenty minutes earlier than they are at the present time, it simply cuts that much time off the picking day.

A committee was formed last winter, of which I was a member, to confer with the representatives of the Canadian and Dominion Express Companies, to induce them, if possible, to rearrange our service, so that the growers would have a longer time in which to pick, but their great excuse was that they must be into Montreal in time for the early morning market, and in order to do this, it was necessary to start the trains when they did. If the Montreal market is held about eight o'clock under the present arrangement, I suppose the same time will hold good under the new regime, and this will necessitate arranging the schedule of trains according to the clock.

The matter, in my opinion, is too serious to be allowed to pass without some protest, and I, therefore, take the liberty of bringing the matter before you, and if the city men want to save the daylight, let the manufacturers open their factories at half-past five a.m. and close at half-past four; they will then accomplish the same thing, without the childish method of putting the clock back.

A. E. KIMMINS.

Wentworth Co., Ont.

Macdonald College Convocation.

For the first time in the eighty years of its history, McGill University, on Thursday, June 3rd, held a convocation outside the limits of the City of Montreal. Ste. Anne de Bellevue was the place thus honored, and the occasion was designed to take the place of formal opening exercises for Macdonald College, for which the College buildings were not in condition when the work of instruction actually began in the fall of 1907. Nature smiled auspiciously upon the proceedings. The warm sun of a clear June afternoon lighted up the young green of the lawns and newly-planted shrubs and trees, the white and pink blossoms of the orchards, the gray of the macadamized roads and the beautiful blue of the Ottawa. Within the Assembly Hall an audience of eight hundred persons were assembled when the convocation procession, headed by His Excellency Lord Grey, official visitor of the University, and Principal Peterson, of McGill, entered, with all its brilliancy of academic colors—scarlets and purples and blues.

The business of convocation was the conferring of the honorary degree of Doctor of Laws upon five gentlemen—three Americans and two Canadians—who have attained prominence by their services to the cause of agriculture and education on this continent. The following are brief summaries of their careers, as set forth by those who presented them for their degrees:

Hon. James Wilson, Secretary of Agriculture for the United States, was born in Ayrshire, Scotland, in 1835; emigrated to America with his parents in 1852, and in 1861 took up farming in Tama County, Iowa. When his neighbors needed a man to represent them in the State Legislature, they chose Mr. Wilson, and in his third term as Representative, he was elected Speaker of the Assembly. Entering the larger field of national politics, he sat as a member of the Federal House of Representatives from 1873 to 1877, and from 1883 to 1885. When the Iowa College of Agriculture, which was not doing much, wanted a man, Mr. Wilson left the geographically larger field and became the Director of the Agricultural Experiment Station and Professor of Agriculture with a single student. Six years later there were 67 students, and to-day 577 regular and over 800 partial students in agriculture. When in 1897 President McKinley wanted a man for his Cabinet to take charge of the important Department of Agriculture, he sent for Mr. Wilson, and in his case there had been no objection raised to a third term, for he has the unique distinction of having served in the Cabinets of three successive Presidents. Seventeen million five hundred thousand dollars passes annually through his Department, and the same scrupulous thrift that characterized him as a farmer is exercised in seeing that due value is received for every dollar of these millions.

Gifford Pinchot, Chief of the Forest Service of the U. S. Department of Agriculture, and Chairman of the Commission for the Conservation of Natural Resources, was born in Connecticut in 1865. Graduating from Yale at the age of 24, he studied forestry in Germany, Switzerland, Austria and France, and in 1892 began systematic forestry work on the Vanderbilt estate at Biltmore, N.C., and became a member of the National Forest Commission. He has been the most active leader in the movement for the conservation of natural resources. "But for Mr. Pinchot," said President Roosevelt, "the National Conference of State Governors on the conservation of natural resources would never have been held." In addressing Convocation, Mr. Pinchot referred to his cordial reception by Earl Grey, when he came to Ottawa to ask the co-operation of the Canadian Government in an international North

American conference on conservation, and to his pleasant association with the Hon. Sydney Fisher (who was also on the platform) in the work of that conference. Mr. Pinchot stated that a world conference on the same subject was now being arranged—perhaps the first conference of all the powers in which no nation had anything to lose and every nation had something to gain.

Dr. James Earl Russell is a native of New York State, and a graduate of Cornell University. He has served in secondary education, as European agent of the University of the State of New York and the National Bureau of Education, and as Professor of Pedagogy and Philosophy in the University of Colorado. He has been for twelve years Dean of the Teachers' College of Columbia University, New York City, and has rendered valuable service to Canada as an adviser in the organization of Macdonald College. He was presented for the degree by Dr. Dale, Professor of Education in McGill.

Duncan McNab McEachern, D.V.S., F.R.C.V.S., Eng., was born in Argyleshire, Scotland, in 1891. Graduating from the Royal Veterinary College of Edinburgh in 1862, he came to Canada in the same year, and took up the practice of his profession in Woodstock, Ont., lecturing during the winter in Toronto and adjacent places. He aided in the establishment of the Toronto Veterinary College, in 1866 founded the Montreal Veterinary College, and in 1889 became Dean of the Faculty of Comparative Medicine and Professor of Veterinary Medicine and Surgery in McGill University. It was on Dr. McEachern's recommendation that the Government quarantine was established at Levis, Que., in 1876, and he has rendered invaluable service as Chief Inspector and veterinary adviser to the Canadian Government. Dr. McEachern has been foremost in the campaign against bovine tuberculosis. "Thirty-two years ago," said Dr. T. G. Roddick, in presenting him, "eight years before Koch discovered the bacillus of tuberculosis, Dr. McEachern read a remarkable paper in Montreal, declaring his belief that tuberculosis was a contagious disease."

Principal James W. Robertson, born in Ayrshire, Scotland, came to Canada thirty-five years ago, and first achieved distinction in the improvements of the methods of the dairying industry, the rapid strides of which during the last twenty years are in no small degree the outgrowth of his efforts. In 1886 he was appointed Professor of Dairying in the Ontario Agricultural College; in 1890, Dominion Commissioner of Dairying and Agriculturist of the Central Experimental Farm at Ottawa. In 1895 he became Commissioner of Agriculture, and in 1907 was appointed Principal of Macdonald College. Principal Robertson was presented for his degree by Vice-Principal Moyses of McGill College.

O. A. C. 1909 Graduating Class.

The 1909 Ontario Agricultural College graduating class is composed of thirty-nine members. Of these, twenty-two are residents of Ontario, three came from Nova Scotia, one each from Saskatchewan, British Columbia, Quebec, Prince Edward Island and United States, four from England, and one each from the following countries: Scotland, Belgium, Jamaica, B.W.I., Spain and South Africa. It will thus be seen that the Old World also is well represented.

We give below the home addresses of the various members of this class, together with the positions they have obtained as far as is known at present:

AGRICULTURAL OPTION.

- R. J. Allen, Guelph, Ont.
- P. E. Angle, Forks Road, Ont. Appointed District Representative of the Provincial Department of Agriculture in Simcoe, Ont.
- C. F. Bailey, Canning, N.S. Appointed Assistant to G. A. Putnam, Superintendent of the Ontario Farmers' Institute staff.
- A. D. Campbell, Strathroy, Ont. Appointed District Representative of the Provincial Department of Agriculture at Morrisburg, Ont.
- E. F. Coke, Mile Gully, Jamaica, B.W.I. Has accepted a position with "The Farmer's Advocate" of Winnipeg, Man.
- Gonzalo Diaz, Ferrol, Spain. Expects to return home shortly, and after spending the winter in Spain to start his work in the Argentine Republic.
- H. C. Duff, Dobbington, Ont. Appointed District Representative of the Department of Agriculture at Norwood, Ont.
- Norman Foster, Toronto, Ont.
- W. D. Jackson, Fulton, Ont. Expects to be engaged in orchard survey work for the Ontario Department of Agriculture for the summer.
- M. J. Joubert, Bloemfontein, South Africa. Returning to his native country, and has been appointed Cerealist for the Agricultural Department, Orange River Colony, with headquarters at Bloemfontein.
- A. A. Knight, Brackenrig, Ont.
- C. A. Lawrence, Stratford, Ont.
- J. M. Le Clair, St. Therese, Quebec.
- N. D. McKenzie, Galt, Ont. Take a position

as Farm Manager of a 1,500-acre farm at Alpena, Michigan, U.S.A.

- D. E. MacRae, Cumberland, Ont.
- P. H. Moore, Truro, E.S. Will be connected with the Experimental Department of the College for the summer.
- R. R. Moore, Norwich, Ont. Mr. Moore is another man who prefers the farm to the city life, and intends returning home to the old place.
- Harry Sirett, Rosseau, Ont. Appointed District Representative of the Department of Agriculture at Carp, Ont.

BIOLOGICAL OPTION.

- G. A. Cutler, Roleau, Saskatchewan. Appointed Assistant to Professor L. S. Klinck, Head of the Field Husbandry Department at Macdonald College, Quebec.
- Alfred Eastham, Preston, Lancs, England. Appointed by the Agricultural Department of Ontario for fungus investigations and orchard survey work, with special regard to apple cankers, chiefly in Prince Edward and Ontario Counties.
- E. W. Stafford, Toronto, Ont. Appointed Assistant Entomologist to F. L. Washburn, St. Anthony Park, St. Paul's, Minn., U.S.A.
- W. R. Thompson, London, Ont. Appointed Special Field Agent to the United States Department of Agriculture, with headquarters at the Gipsy-moth Lab., Melrose Highlands; quite near Boston, Mass.
- R. C. Treherne, Surrey, England. Has settled on a fruit farm near Grimsby, Ont.
- J. F. Monroe, Niagara Falls, Ont. Appointed Assistant to Professor Blair, Head of the Horticultural Department at Macdonald College, Ste. Anne de Bellevue, Quebec.
- A. G. Turney, Laventhen, Belgium.

HORTICULTURAL OPTION.

- W. L. Bengough, Toronto, Ont.
- R. A. Boddy, Guelph, Ont.
- Frank Brady, Canning, N.S. Has gone West to manage a fruit farm at New Denver, B.C.
- B. Hoy, South Swansea, Mass. Appointed as Assistant Horticultural Inspector for Department of Agriculture in British Columbia.
- J. W. Jones, Pownal, P.E.I.
- A. J. Logsdail, Clapham Common, England. Has charge of the Plant-breeding Department at the Ontario Horticultural Experiment Station at Jordan Harbour, Ont.
- M. S. Middleton, Vernon, B.C. Appointed as Assistant Horticultural Inspector for the British Columbia Department of Agriculture.
- George Manton, Eglinton, Ont. Has returned home, to take up floriculture.

BACTERIOLOGICAL OPTION.

- G. C. Cunningham, Oil Springs, Ont.
- G. H. Unwin, Tunbridge Wells, Kent, England. Resident Master or Dean at the Ontario Agricultural College.

DAIRY OPTION.

- W. H. Irvine, Habermehl, Ont.
 - A. McLaren, Edinburgh, Scotland.
 - A. D. MacIntosh, Guelph, Ontario.
 - W. M. Waddell, Kerwood, Ont. Mr. Waddell has obtained a very good position in Indiana, in connection with dairy work.
- Of the above candidates the following have passed: Allen, Angle, Bailey, Coke, Cutler, Diaz, Duff, Eastham, Foster, Irvine, Jones, Joubert, Knight, Lawrence, McIntosh, Mackenzie, McLaren, Monroe, Stafford, Thompson, Treherne, Turney, Unwin, Waddell. The following must take supplementals: Campbell, Cunningham, Hoy, Jackson, Logsdail, Middleton, Moore (P. H.), Sirett.

Dr. S. B. Sinclair, formerly Vice-Principal of the Ottawa Normal School, has been appointed by the Board of Governors of McGill University to the position of Head of the School for Teachers of Macdonald College, at a salary of twenty-five hundred dollars and residence. Since Christmas he has occupied the position of Acting Dean, rendered vacant by the appointment of Prof. Locke to the Chief Librarianship of the new Carnegie Library, Toronto. Dr. Sinclair is an honor graduate of Toronto and Chicago Universities, and holds Ontario Public School Inspectors' and High School Head Masters' certificates. He is familiar with rural conditions, having spent his boyhood on the farm, and having had experience as a rural-school teacher. In 1891 he wrote a book containing a sequential course in nature study for elementary schools.

A despatch to "The Farmer's Advocate" just before going to press, intimated that W. W. Ballantyne and Wm. Jones had been chosen as Ontario members of the bacon-hog commission, with G. Garcau, from Quebec; J. E. Sinclair, from Prince Edward Island, and Mr. Pye, from Alberta.

C. C. James, Deputy-Minister of Agriculture for Ontario, leaves for England on Thursday, where he will devote some time to the expansion of the work of the Provincial Colonization offices.

Many Thousands
of people are using the
Savings Bank Department
of the
**BANK OF
TORONTO**
FOR THEIR SPARE MONEY.

BECAUSE—

Their money is safe in this Bank.
The account is profitable to
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future days the surplus money
of to-day.

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Savings Account in this Bank?

ASSETS, \$40,000,000

MARKETS.

Toronto.
LIVE STOCK.

At West Toronto, Ont., on June 7th, the receipts were 48 cars, comprising 1,064 cattle, 24 sheep, 32 calves; exporters—nothing doing till Tuesday, but choice cattle selling high; picked lots of prime quality, \$5.90 to \$6.25; loads of good, \$5.80 to \$5.85; medium, \$5.25 to \$5.50; common to medium, \$4.90 to \$5.20; cows, \$4.50 to \$5; bulls, \$4.50 to \$5.25; milkers, \$30 to \$65; veal calves, \$3 to \$5.50; sheep, \$4 to \$5 per cwt.; spring lambs, \$3 to \$6.50 each; hogs, none on sale, packers quoting 10 cents per cwt. lower; selects, fed and watered, \$7.65, and \$7.40, fed at country points, but drovers say that they, the packers, will not get any at these prices.

REVIEW OF LAST WEEK'S MARKET.

Total receipts of live stock at the City and Union yards last week were 337 cars, consisting of 5,323 cattle, 4,641 hogs, 809 sheep, 1,141 calves, and 132 horses.

The quality of fat cattle was generally good. Trade was never better for all classes of butchers' and exporters. Prices for butchers' were firmer, but exporters, as a rule, were about 10 cents per hundredweight easier than in our last quotations, in sympathy with the British markets, which were quoted easier. The main reason for butchers' cattle being firmer was that the American buyers who are now operating at the Union Stock-yards are taking many of the best-finished butcher cattle for export purposes. Some of the best butchers' sold higher than the medium exporters.

Exporters.—Export steers sold from \$5.90 to \$6.40, the bulk going at \$6 to \$6.25; best finished cattle, butchers' weights, sold at \$5.60 to \$6, and one extra-quality load, 1,060 lbs. each, brought \$6.25 per cwt. Export bulls, \$4.75 to \$5.25; export cows, \$5 to \$5.25. Butchers'—Prime picked lots, \$5.70 to \$5.90; loads of good, \$5.35 to \$5.60; medium, \$5.15 to \$5.35; common, \$4.75 to \$5; cows, \$4 to \$5.

Stockers and Feeders.—There was little business transacted in either stockers or feeders, as the demand was so great for cattle to kill, that prices for feeders were held too high, many of them being bought to kill. Prices were quoted unchanged, as follows: Feeders, 900 to 1,100 lbs., at \$4.75 to \$5.25; stockers, 500 to 700 lbs. each, \$3.50 to \$4.25.

Milkers and Springers.—A moderate supply of milkers and springers met a fairly strong market for all of good quality. Prices ranged from \$30 to \$60, and one or two of extra-choice quality sold at \$70 to \$74 each.

Veal Calves.—Receipts large; prices easier, at \$3 to \$5.25 per cwt. A few new-milk-fed calves of choice quality sold up to \$6.

Sheep and Lambs.—Receipts are growing larger as the season advances, especially spring lambs, the quality of which is none too good as a rule. Ewes

sold at \$4.50 to \$5 per hundredweight; rams, \$3.50 to \$4 per hundredweight; yearlings, \$6.50 to \$7 per hundredweight; spring lambs, \$3.50 to \$5.50, and \$6 each.

Hogs.—Packers quoted prices for hogs 25c. per hundredweight lower. Selects, \$7.75, fed and watered, and \$7.50, f. o. b. cars at country points. Some of the buyers were predicting still lower prices for this week.

Horses.—The horse market did not show much change, either in the volume of trade or prices paid, since our last report. Manager Smith, of the Union Horse Exchange, reports having sold over 100 horses at about the same prices. Drafters, \$175 to \$210, with prime-quality horses at \$225; general-purpose, \$170 to \$195; drivers, \$100 to \$160; expressers, \$175 to \$210; serviceably sound, \$30 to \$80 each.

BREADSTUFFS.

The grain markets were stronger, especially wheat, oats and corn. Wheat—No. 2 red, white or mixed, \$1.30 to \$1.35. No. 1 Manitoba northern, \$1.31½. No. 2 northern, \$1.28½. No. 3 northern, \$1.27½, at Georgian Bay ports. Rye—No. 2, 75c. to 76c. Peas—No. 2, 96c. Barley—No. 2, 61c. to 62c.; No. 3 extra, 62c.; No. 3, 60c. Buckwheat—Scarce and firm, at 70c. Corn—No. 2, American yellow, 82c. to 83c.; Canadian, 76c. to 77c. Oats—No. 2, 58c. to 59c., track, Toronto. Flour—Ninety per cent. Ontario patents, \$5.75 to \$5.85, in buyers' bags, Toronto; Manitoba first patents, \$6.20; second patents, \$5.70; strong bakers, \$5.50.

HAY AND MILLFEED.

Hay.—Baled, car lots, on track, Toronto, firm, at \$13 to \$13.50. Straw—Baled, car lots, on track, Toronto, \$7.50 to \$7.75. Bran—Car lots, on track, Toronto, \$25. Shorts—Car lots, on track, Toronto, \$26. Manitoba meal, \$33 per ton. Flax-seed meal, \$3.75 per cwt.

FRUIT AND VEGETABLES.

There is little to report, unless we give prices of the fruit received from the Southern and Middle States, which is being received in large quantities. Strawberries are selling at 15c. per quart, by the case; cabbage, new, per case, \$2.25; new potatoes, \$2 per hamper; cucumbers, from Florida, \$2.50 per case; tomatoes, six-basket cases, \$4 to \$4.25 per case.

HIDES AND WOOL.

E. T. Carter & Co., 85 East Front street, Toronto, report paying the following prices: No. 1 inspected steers, 60 lbs. up, 11½c.; No. 2 inspected steers, 60 lbs. up, 10½c.; No. 1 inspected cows, 11c.; No. 2 inspected cows, 10c.; No. 3 inspected cows and bulls, 9c.; country hides, 9½c. to 10c.; calf skins, 12c. to 16c.; horse hides, No. 1, \$2.75; horse hair, per lb., 30c. to 31c.; tallow, per lb., 5½c. to 6½c.; sheep skins, each, \$1.30 to \$1.50; wool, unwashed, 10c. to 12c.; wool, washed, 17c. to 19c.; wool, rejects, 13c. Raw furs, prices on application.

COUNTRY PRODUCE.

Butter.—Receipts liberal; prices easier. Creamery pound rolls, 23c. to 24c.; creamery solids, 22c.; separator dairy, 19c. to 21c.; store lots, 18c. to 19c.

Eggs.—Receipts moderate; prices a little firmer, at 19c. to 20c.

Cheese.—Old cheese remains firm, at 14c. for large, and 14½c. for twins. New, large, 10c., and 13½c. for twins.

Beans.—Scarce, with prices firm. Primes, \$2 to \$2.10; hand-picked, \$2.15 to \$2.20.

Potatoes.—Receipts moderate; prices firm, at 90c. to 95c. per bag, for car lots, on track, Toronto.

Poultry.—Receipts light. Turkeys, 17c. to 21c. per lb.; last year's chickens, 18c. to 20c. per lb. Spring chickens are more plentiful, and sold at lower quotations, at 40c. to 45c. per lb.

Chicago.

Cattle.—Steers, \$5.50 to \$7.20; cows, \$4 to \$5.25; heifers, \$3.60 to \$6; bulls, \$3.75 to \$5.25; calves, \$3 to \$7.06; stockers and feeders, \$3.30 to \$5.50.

Hogs.—Choice heavy, \$7.75 to \$7.80; butchers', \$7.65 to \$7.75; light mixed, \$7.35 to \$7.45; choice light, \$7.50 to \$7.60; packing \$7.60 to \$7.70; pigs, \$5.25 to \$7.15; bulk of sales at \$7.50 to \$7.75.

Sheep and Lambs.—Sheep, \$3.75 to \$6.60; lambs, \$6.25 to \$8.50; spring lambs, \$8 to \$9.25; yearlings, \$7 to \$7.75.

Montreal.

Shipments of cattle from the port of Montreal, for the week ending May 29, amounted to 3,291 head, against 4,553 the previous week, total shipments for May being 14,173 cattle and 22 horses, which is over 4,000 more cattle than in May, 1908. Besides this, a considerable number of Western Ontario cattle were purchased by American exporters, for shipment via American ports, to fill engagements, the result being that demand for ocean freight space from Montreal was dull. Liverpool and Manchester space was available at 27s. 6d. for June, London, 25s., and Glasgow at 30s., which prices might be shaded.

The quality of the cattle offered was very good. The offerings were not very heavy, and prices held steady under a good demand from butchers for local and out-of-town trade. Extra-choice steers sold at 6½c., choice at 6c. to 6¼c., fine at 5½c., good at 5c. to 5¼c., medium at 4c. to 4¼c., common 3c. to 3¼c. per lb. Receipts of a liberal number of sheep and lambs, and the likelihood of larger quantities from this forward, had a depressing influence on prices, the result being that purchases of yearling lambs were made at 5½c. to 6c. per lb. Spring lambs showed little or no change, being available from \$4 to \$9 each. Supplies of calves continued fairly liberal, and prices showed little change, being \$2 to \$4 each, for common, and \$5 to \$10 for choice. Hogs were plentiful, and prices showed quite a decline from the high point reached in the recent excitement. Selects changed hands at 8½c. to 8¾c. per lb., weighed off cars.

Horses.—Dealers all reported a dull trade last week. Shipments for export during May were 22 head, from Montreal, or 7 less than for May, 1908. Prices were: Heavy draft horses, weighing from 1,500 to 1,700 lbs., \$225 to \$300 each; light draft, 1,400 to 1,500 lbs., \$185 to \$240 each; small animals, 1,000 to 1,100 lbs., \$100 to \$150 each; inferior, broken-down animals, \$75 to \$100 each, and choice saddle or carriage animals, \$300 to \$500 each.

Dressed Hogs and Provisions.—There was a general advance in the market for cured provisions, although the market for dressed hogs has shown a decline, when compared with recent figures, live hogs having experienced a slump. Abattoir-dressed, fresh-killed hogs sold at about 12c. per lb. Hams have had a general advance, being up to 15c. per lb. for large hams, and 15½c. for medium and selected weights, 16c. per lb. for large, boneless, rolled, and 16½c. for small, Windsor backs and Wiltshire sides being 17c., spiced rolls, boneless, being 14c. Lard advanced to 9½c. to 10½c. per lb. for compound, and 14c. to 14½c. for pure, barrelled pork being \$21.50 to \$26.

Potatoes.—Increase in the U. S. tariff against foreign potatoes may have the effect of closing out, to some extent, Canadian potatoes, and of thus keeping prices somewhat lower in Canada. However, the market was very firm, and dealers sold at from 95c. per 90 lbs., to \$1.10, according to quality, the higher figure being for Green Mountains. The stock costs from 3c. to 5c. less, at country points, and bag lots sold at about 10c. more than the above figures.

Eggs.—The market held very steady, but the tone was, if anything, firmer, and prices fractionally higher. At country points, 17½c. to 18½c. was paid. Straight-gathered sold here at 20c., selects being 22c., and No. 1 stock 19½c. to 20c.

Butter.—The quality of the butter offering was choice, the make being full grass. Prices did not show much disposition to decline, 21½c. to 22c. being paid for creameries, in the Townships. These sold at about 22½c., wholesale, although less choice qualities could be had at ½c. to 1c. less. Shipments for export, from Montreal, were light.

Cheese.—Although the quality of the cheese has shown an improvement, prices have declined. This was doubtless due to the increased make. The grass is now good, the weather cool, and the make should be large and of fine quality. There was a very fair demand over the cable, and it was claimed that quite a number of sales were put through, Quebec stood at about 11½c., Townships at a fraction more, and Ontarios at 12c., though some asked 12½c. On Monday, Easterns dropped to 11½c. to 11c., and Ontarios to 11½c. to 11c.

IMPERIAL BANK
OF CANADA

CHARTERED 1875.

Capital Authorized, \$10,000,000
Capital Paid Up, - 5,000,000
Reserve, - 5,000,000

SAVINGS DEPARTMENT.

\$1.00 opens an account. Interest paid at highest current rate from date of deposit.

Farmers' sale notes discounted.
Branches throughout the Dominion of Canada.

Grain.—The market for oats was particularly strong. Canadian Western were quoted at 59c., car lots, ex store; extra No. 1 feed being 58½c., and No. 1 feed being 58¼c., while No. 3 Canadian Western brought 58c., and No. 2 feed 57½c. No. 2 barley sold at 72½c. to 74c., Manitoba feed barley 66½c. to 67c.; buckwheat, 69½c. to 70c.; peas, \$1.05 to \$1.06.

Flour.—The market for flour continued very strong, and prices of Ontario winter-wheat flour scored another advance, being far above Manitobas. Ontario winter wheat patents were \$6.75 per barrel, straight rollers \$6.50 to \$6.60, Manitoba first patents being \$6.30 to \$6.50, seconds being \$5.80 to \$6, and strong bakers \$5.60 to \$5.80.

Feed.—The market held firm and steady, at \$22 to \$23 per ton for Manitoba bran, \$24 to \$25 for shorts, Ontarios being no longer quoted.

Hay.—The market was firm, owing to the late spring, prices being now \$13 to \$13.50 per ton for No. 1 hay, \$12 to \$12.50 for extra No. 2, \$10.50 to \$11 for No. 2, clover mixed \$9 to \$9.50, and clover \$8 to \$8.50.

Seeds.—Prices showed no change. Red clover was \$13 to \$14 per 100 lbs., alsike \$16 to \$18, and timothy \$5.25 to \$6.50, in bag lots.

Hides.—The market was active, quality of hides improving, and prices a cent higher, in the case of beef hides, dealers paying 11c., 12c. and 13c. per lb., and 13c. and 15c. for calfskins, according to quality, and selling to tanners at ½c. advance. Lamb skins were up to 15c. each, sheep skins being \$1 each, and horse hides \$1.50 and \$2 each. Rough tallow brought 1½c. to 3c. per lb., and rendered 5½c. to 6c. per lb.

Cheese Board Prices.

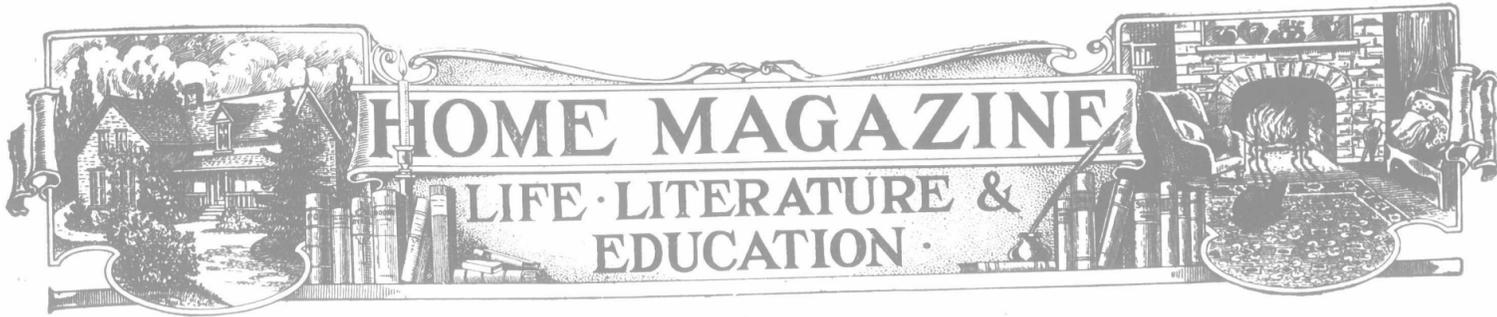
Farnham, P. Q., butter at 22c. Sherbrooke, P. Q., butter at 21½c. Stirling, Ont., cheese at 11½c. to 11 9-16c. Campbellford, Ont., 11½c. to 11½c. Peterboro, Ont., 11 7-16c. to 11½c. Madoc, Ont., 11½c. to 11 7-16c. Woodstock, Ont., 11½c. Tweed, Ont., 11 7-16c. Belleville, Ont., 11 9-16c. to 11½c. Alexandria, Ont., 11½c. Winchester, Ont., 11½c. Brockville, Ont., colored at 11½c. Kingston, Ont., 11½c. Vankleek Hill, Ont., 11½c. Victoriaville, P. Q., 11½c. Ottawa, Ont., 11½c. Kemptville, Ont., 11½c. Huntingdon, P. Q., colored cheese at 11½c.; white at 11c.; butter at 21½c. to 21½c. Iroquois, Ont., 11½c. Listowel, Ont., 11½c. Picton, Ont., 11½c. Perth, Ont., 11½c. to 11½c. Cornwall, Ont., 11½c. Napanee, Ont., 11 11-16c. London, Ont., 11½c. to 11½c. St. Hyacinthe, P. Q., cheese 11 9-16c., and butter 21½c. Chicago, Ill., cheese, dairies, 12½c.; twins, 12c. to 12½c.; butter, creamery, 22c. to 26c.; dairy, 20½c. to 24½c.

Buffalo.

Cattle.—Prime steers, \$6.75 to \$7.25. Veals—\$6 to \$8.75.
Hogs.—Heavy, \$7.90 to \$8; mixed, \$7.85 to \$7.90; Yorkers, \$7.35 to \$7.80; pigs, \$7.15 to \$7.25; roughs, \$6.65 to \$6.80; dairies, \$7.40 to \$7.75.
Sheep and Lambs.—Lambs, \$4.80 to \$8, a few at \$8.15.

British Cattle Markets.

London cables for cattle were 13c. to 13½c. per lb. for Canadian steers, dressed weight; refrigerator beef was quoted at 10½c. to 10¾c. per pound.



A boy was killed in Eastern Ontario last week by picking up the end of a live wire that had blown down—another example of the fatality which so often attends ignorance of the power of electricity. It should be impressed upon children that electric wires of any kind must not be tampered with.

The warm and dusty days have come again, and lo! the automobile is with us once more, smothering our fields with dust, and making us realize that a thing of beauty is a joy forever, as we catch a fleeting vision of humped-over figures and goggled eyes. Perhaps our horses—at least in the frequented districts—have begun to get over the delusion that the machine, with its evil smell, and curious occupants, is a visitant direct from the nether regions. Perhaps the "sports" no longer have the excuse for censure and ridicule of us that existed in the days when we found it expedient to drive into a fence-corner to avoid broken bones and a repair bill. But our old grudge against the automobile still rankles. The old love never grows cold. For it is a delightful thing to see the roads, for which we have paid in good money or statute labor, gradually transferred from their peaceful bed to our verandas and trees and grain fields. We have been taught that the stomata of the leaves of trees and shrubs and grasses are for breathing purposes, and that air is as necessary to the plant as to the animal. But the stomata are choked and grain "lands" nearest the highway are white—but not with snow. Time was when we liked to sit on the front lawn of a Sunday afternoon, and to leave the front windows open to the winds of heaven. But to-day the windows are shut tight, and when dinner is over we hie to the back field and watch the cows, and think of the good old days, and of the good future ones, when the "sports" shall have betaken themselves to the clouds. And we bless the Wright Brothers and good old Count Zeppelin, and Professor Graham-Bell.

And, as we sit by the cows and the silent woods, we wonder why the fancy for speeding autos has existed so long. The bicycle stunt played out in half the time. When bicycle-heat appeared, bicycle speeding gave way. But then, bicycles were comparatively cheap, and all the ambitious had a turn out of them. Or, perhaps, it is not so well known that the auto-speeder's pot of honeyed bliss also contains its fly. If so, send the good tidings on. Dr. A. J. Read, in "Good Health," acknowledges that motoring is exhilarating, and that it "may" add to happiness and health. But he points out dangers in speeding. There is nervous strain in it. The tendency to arch the body forward is very injurious. The exposure to cold drafts is harmful. The force of the air against the ear while riding rapidly often develops a middle-ear disease, and may lead to deafness. "In the spring and summer, one also needs to use protection for the eyes, as the force with which gnats and small insects will be hurled against the cornea is likely to injure the delicate tissues." And there is danger of burns while working with the cylinders.

By and by, the consciousness that he is not comfortable, and that he is

improving neither health nor beauty, may filter into the brain of the speeder, as he sits with goggled eyes and batting-stuffed ears. The automobile we may have always with us, but the day of the speeder may pass. Let us hope on.

People, Books and Doings.

In Denmark, the maximum speed permitted for automobiles is 18½ miles an hour. Their use after sundown is absolutely prohibited.

The Boer war cost the British Government nearly \$800,000,000; that between Russia and Japan cost Russia \$840,000,000, and Japan no less than \$1,000,000,000. A modern battleship easily costs \$6,000,000, without armament.

Ten thousand Chinese students, from every part of the Chinese Empire, are at present studying Western learning in the educational institutions of Tokio.

hundred cities, and to further especial steps to prevent blindness in children; also, a study of workingmen's insurance, and of industrial conditions generally, has been made in Pittsburg and other places.

Prof. Wm. Osler, M. D., F. R. S., F. R. C. P., one of Toronto's famous "old boys," now regius Professor of Medicine at Oxford University, addressed the Ontario Medical Association in the "Queen City" last week.

The famous picture of Christina, Duchess of Milan, will remain in the National Gallery at London, the required price having been made up—\$50,000 from the Government, \$45,000 by public subscription, and \$210,000 by a wealthy private man interested in art. This portrait was painted by Holbein at the order of Henry VIII., who thought of the young widow of sixteen as a possible bride. It came, however, into possession of the Norfolk family, and many years ago

ment has been set afoot by Bishop Rawnsley to provide for further legislation which may make it impossible for great works of art to leave the country.

Two Masterpieces of Ancient Sculpture.

By Alice Blythe Tucker Wilcox.

A year ago last Christmas there came to my new home in Oklahoma a large, heavy wooden box, marked "Handle With Care." I had it taken to the kitchen, and, with the feeling of excitement which comes to everyone, I suppose, when an unexpected and mysterious-looking gift arrives, my husband and I proceeded to unpack it. We removed a heavy layer of excelsior, and then a white object appeared, which, on examination, proved to be the cast of a wing, then another wing, then a carefully-wrapped body and pedestal, and behold before us a fine replica, about eighteen inches high, of the Victory of Samothrace! How glad I was to see it, and to learn from the card accompanying it that it was really mine. It reminded me of great sea breezes, or of the mighty sweep of winds over our lakes, and in Oklahoma I was homesick for, the sight of water, for here there are no large lakes, and no beautiful rivers.

But the Victory was not all the box contained. Further delving brought to view the statue of Venus de Milo. Now my happiness was complete, for, perhaps strange to say, I did not own a copy of either of these two famous statues of antiquity.

While we were busied with the unpacking, my colored maid, Edith, who took a deep interest in all her mistress' affairs, stood looking on, but saying nothing. I carefully carried my treasures to the library, and there placed them on the mantel, where they stood out beautifully against the dark-red of the bricks. Some time afterwards I discovered Edith (whose name was really Susie, but who thought I would like her better if she gave herself a "pretty-sounding" name, and so had taken that of Edith when she came to me, just as she would probably take Angelica, or some equally euphonious cognomen when she went to her next mistress), I discovered her, with arms akimbo, studying my statuettes. "Mis' Wilcox, is they dolls for you to play with, or is they images?" was her question. "Which do you think they are, Edith?" I asked. "I sure doesn't know," and she went to look after her corn cake, her opinion as to whether they were dolls or images still holding conflict in her mind. One day, however, she said to me, "Mis' Wilcox, I'se b'lieves now they is images." "Why?" I asked. "'Cause I'se likes to look at them mo' and mo', and the longer I'se looks at them, the mo' queer they makes me feel." "Queer!" I said. "Yes, they kind a' makes me think of things far away. I don't guess they is dolls; they is images."

And so the poor colored woman, who knew nothing of art, and who, even for her race, was unusually ignorant, felt the subtle influence of the great masterpieces of sculpture, and doubtless she was a better, woman because for a few weeks she lived where she could feel of beautiful things—"They kind a' makes me think of things far away."



Victory of Samothrace.

Mrs. Russel Sage has donated a large sum of money, to be the nucleus of a fund for "the improvement of social and living conditions in the United States." The fund will not be drawn upon to aid any work that is now being done effectively, or is likely to be done effectively by other organizations. Over \$1,000,000 has already been devoted to the tuberculosis campaign. Assistance has also been given to the establishment of children's playgrounds in over one

was placed in the National Gallery as a twenty-eight year loan by the present Duke of Norfolk. Recently, the Duke, being in need of funds, sold the picture to an art firm, the Messrs. Colnaghi, for \$305,000, on condition that the nation might have the privilege of buying it in within a week's time. A wealthy American negotiated for it, but was unable, as said above, to secure it. The incident is stirring up considerable interest in Britain, and a move-

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gained in two weeks. I went over to the weat field yesterday and help load a wagon of weat fore the barn and we got upon the top of the load and had a ride home and it was swell. I stood up two or three times when the wagon was going and I fell down on the weat again because we had to go over the bumps. I have just been an hour writing this letter, kisses for all—26 for Geo., 30 for Mother and 40 for Father."

Last year 530 children were sent out, many of them receiving a welcome from our "Advocate" readers. The expenses amounted to about \$550. The children are sent out in July, commencing Tuesday, the 6th. Those friends who are willing to undertake the charge of children should let the Secretary know, not later than June 19th, stating whether boys or girls are preferred. If the same children are desired again, as you had last year, kindly let the Secretary know. State P. O. address, and nearest railway station. Other directions will be sent by the Secretary on application. She says, in a letter recently received:

"The boys and girls are still needy—last year we had over 900 names on the list, but through lack of homes, only 530 were sent out."

How many doors will open to them this year?
DORA FARNCOMB.

A Great Opportunity.

I.

The month of June, 1909, will mark an epoch in the history of our country, when, on the invitation of its Canadian Branch, the International Council of Women will hold its fourth quinquennial meeting in Canada. Women who are leaders in thought and action, socially, educationally, and philanthropically, will be our guests, some of them accredited delegates, with their expenses paid by the Government of the countries they will represent, but all of them women selected and honored by their fellow countrywomen as those worthy to be their representatives, and to convey their sentiments and greetings, not only to their Canadian sisters, but to their fellow-workers from other lands.

The last quinquennial meeting was held in Berlin in 1904, on the invitation of the German Council of Women, and it was on that occasion that Canada's invitation for 1909 was tendered, and enthusiastically accepted. The time is drawing very near when the "glad hand" of Canadians, men and women alike, will be warmly grasped in token of friendship, of fellowship in work, and of kindred aims, by the women of world-wide reputation from across the ocean, from the United States, and from the sister colonies of Australia, Queensland, Tasmania, New South Wales, etc.

This is Canada's opportunity—one it cannot afford to lose—for the comparing of the methods of work on many lines, and under varied conditions, in many lands. That our own Dominion and Provincial Governments recognize this, is proved by the financial grants they are making towards the somewhat heavy expense fund, whilst the civil and other authorities in the several cities through which the visitors from overseas will pass en route, are arranging to do them honor, and to show them, as far as possible, the almost boundless resources of the Dominion, and how an intelligent and progressive people know how to develop them. With this object in view, the Ontario Government will take the guests to Guelph, to inspect and be entertained at the Macdonald Institute. The Canadian Women's Historical Society and the Toronto Travel Club will arrange a visit to Niagara Falls, whilst hospitable plans are daily being outlined whereby the guests of Canada may carry back with them sunny memories of our

country, and impressions of the high place it must always hold amongst the nations of the world.

Now that the Women's Institutes of Ontario are in affiliation with the Canadian National Council, they will, it is hoped, make special efforts to have their representatives present at the coming congress; and, seeing that it would be impossible for mortal man or woman to attend all of the sections, or to give due consideration to all of the many topics under discussion, they may like to take particular note of one which, under the heading of "Women in Agriculture," will have a prominent place on the programme. Amongst the addresses, followed by discussion, will be one by Miss Nellie Edwards, of Coaley Poultry Farm, Gloucester, Miss Edwards being reputed to be the only successful poultry-farmer in England, and it will be interesting to hear the experience of women of other countries engaged in the same industry. Miss Wilkinson, of Swanley Agricultural College, will speak of "Women as Gardeners," and Miss H. F. Seaver upon "Dairy Work." The writer remembers the fact that our own Mrs. Hoodless visited Swanley at the International Congress of 1899, and, as she has always taken a vivid interest in the subject of agricultural pursuits for women, we are very likely to hear her voice amongst those of the specialists who will discuss these subjects under their many aspects.

The responsibility of making preparation for this mighty gathering falls upon the Toronto Local Council of Women, and most bravely and unfalteringly are they undertaking it. It is at their request that the use of the university buildings has been granted, nine rooms to be daily occupied simultaneously by the several sections of education, philanthropy, industries, health, and physical training, literature, art, social work and moral reform, professions for women, and laws concerning women and children. There will be three immense evening meetings in each week, to be held in Convocation Hall, and open to all holding congress tickets. Mrs. Timothy Eaton, at her own charges, and under her own supervision, decorates this splendid hall, and it will be done not only artistically, but patriotically. Canada first, but also by flag and symbol marking the welcome Canada extends to sister lands.

Toronto homes will be hospitably opened to Canada's guests, and nothing will be left undone by the various committees of arrangement, whereby may be insured successful results. Railway, hotel and boarding-house charges will be published, and so will be artistically-illustrated handbooks, and the "Who's Who?" with photographs and biographical notes of the speakers. Anyone, whether gentleman or lady, in affiliation or not with the Canadian National Council, can obtain tickets at \$1.50 to cover admission to every section for the whole course, or for 25 cents for a single day, a badge for identification accompanying each course ticket. There are many evidences that the demands for these tickets will be phenomenal, and, therefore, it will be the part of wisdom to make early application for them, lest the supply should fall short, and the opportunity of a lifetime be lost.

H. A. B.

Whippoorwill.

By Dora Read Goodale.

Voice of the long June twilights,
Of the dusk-brown woods and streams,
Dwelling half in the hill-gaps
And half in the realm of dreams.

Hark! It throbs like a heart-beat
On the mantling silence round—
Joy, with a church-bell cadence—
Grief, with a singing sound.

Lone and hushed is the landscape:
The night is starry and still,
And the earth flings up her challenge
In the cry of the whippoorwill.

"The Farmer's Advocate" Fashions.



DESIGN BY MAY MARTON.

6316 Blouse with Dutch Collar.
6198 Circular Skirt.
Embroidery Pattern 412.

6316.—Blouse with Dutch collar, sizes 32 to 42 inches bust.
6198.—Circular skirt, sizes 22 to 30 inches waist.



6266 Sailor Blouse,
32 to 40 bust.



6302 Empire Kimono,
32 to 40 bust.

6302.—Empire Kimono, sizes 32 to 40 bust.

The above patterns will be sent to any subscriber at the very low price of ten

cents per pattern. Be careful to give Correct Number and Size of Patterns Wanted. When the Pattern is Bust Measure, you need only mark 32, 34, 36, or whatever it may be. When Waist Measure, 22, 24, 26, or whatever it may be. Allow from one to two weeks in which to fill order, and where two numbers appear, as for waist and skirt, enclose ten cents for each number. If only one number appears, ten cents will be sufficient.

Address: "Fashion Department," "The Farmer's Advocate," London, Ont.

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.]

Buffalo Bugs.

Dear Dame Durden,—This spring, while housecleaning, when lifting our carpets we found a little "woolly" moth which people tell us is the "Buffalo moth," and that it is impossible to get rid of them when once they get into a house.

Will you please tell me if you know anything of them, their habits, and manner of working? Also how to do away with them, if it can be done.

Thank you for the help we have received from the Ingle Nook. We do enjoy reading "The Farmer's Advocate" so much.
"JEMIMP."

Grey Co., Ont.

The "carpet-beetle" (*Anthrenus scrophularia*) lays its eggs in woolen material of any kind. When the eggs hatch the larvae, which then feed on the wool, are tufted with hairs, and are then known as "buffalo-moth," or "buffalo-bug." The beetle itself is broadly oval, with brick-red scales along the middle of the wing-covers, and two irregular white bands running transversely. As a preventive of these pests in boxes and closets, a liberal use of naphthaline balls is recommended. To banish them from carpets, clean and beat the carpets thoroughly; clean the floor well, and pour or rub gasoline over the carpet, leaving it out of doors where the gasoline will evaporate thoroughly before relaying.

Handle the gasoline with care, as it is very inflammable and volatile. Do not let flame or fire of any kind, even lamp-flame, be about while using it, and do not let hot sunshine strike on the vessel in which it is contained, for fear of explosion. Gasoline is an excellent solvent—I use it continually to clean net or silk waists, etc.—but it is a very bad master. With care, it is safe; with the least carelessness, it is exceedingly dangerous.

After treatment keep a close watch, and if more eggs should hatch, and the beetles again appear, repeat the operation. The gasoline is very effective, and a second treatment, at most, is usually sufficient for the season.

Cleaning Linoleum.

Dear Dame Durden and Nookers,—As we have taken "The Farmer's Advocate" for a long time, I have been interested in the Nook, and have been thinking about writing, but put it off till now. There are a good many things I am interested in—about housecleaning, and fixing up the home; flowers, and gardening, and care of the sick. I want to tell "June Eye" that I admire her courage in doing her work herself on crutches. I am afflicted with a lame arm; had my shoulder dislocated the day before Christmas; had it set inside of half an hour. Was near the village when our horse was frightened and upset us. It is not strong yet; cannot lift it up very high; but I have done all the housecleaning alone, washing over head, papering, and all.

Someone spoke about the kitchen cabinet. I have one. I do not like the zinc top, either, but I think it is a real help in housekeeping, everything in its place. If I were going to get one again, I would write to the Chatham company and ask to have one made without the zinc top. It would be real nice covered

with oilcloth. That is what I intend to do with mine when it gets too shabby. I do not want to go back on this cabinet. As it was one of our fair sex that designed it, we ought to stand by it, and where there is a defect, try and remedy it by making some new suggestions and sending them to the company. Would like to know the best way to clean oilcloth and linoleum. Will send recipe for oatmeal cookies that are fine.

Dundas Co., Ont.

DAWN.

Do not use soap, ammonia, nor any other strong cleaning agent for linoleum. Wipe it with a cloth, moist with warm water, or with skim-milk and water mixed. Once or twice a year, give the linoleum a rub of good furniture polish. . . . We shall be pleased to have the oatmeal cookie recipe.

A Suggestive Letter.

Dear Dame Durden and Chatterers All,—Last fall I wrote to the Ingle Nook for information regarding stencilled curtains, and, now that I have the curtains up, I thought I'd write and tell what success I had. I used a linen scrim for the curtains. It comes 36 inches wide, and costs 18 cents per yard.

I hemmed them down one side and end, and put the pattern just back of the hem. I used the Greek-key design, in blue.

For the color I used Prussian blue and flake white, mixed to get the right shade, and thinned with turpentine. It does not take long to do them, and the work is very interesting.

For rods, we got two pair of small, brass rods, on one pair of brackets.

On the stencilled curtains we sewed small brass rings (the kind used in fancy-work), and hung them next the window. The curtain is much more easily drawn on the rod if hung with rings. On the outside rod we shirred a printed scrim valance about sixteen inches deep. They are very simple and dainty, but I wish I had gotten Madras instead of the printed scrim. I think it would be prettier, particularly if in blue, to match the blue in the stencilling.

As to whether the curtains will wash, I think they will not fade if carefully done. I painted some stripes on a strip of the scrim and washed it, for a sample. Someone was enquiring how to treat butter utensils so that the butter would not stick.

We pour boiling water over the print, ladle, butter-worker, etc., and then rinse in cold water. Leave the print in the cold water until ready to use. We never have the least trouble, and consider it more convenient than scrubbing with salt.

Have any of the Chatterers used wild clematis as a vine for verandas? It is every bit as pretty as clamatis paniculata, which it much resembles. It blooms earlier (in August), and is followed by a white, fluffy down, which is also attractive. It transplants easily and grows rapidly. A strip of poultry netting fastened near the ground and up to the top of the veranda, is a very good screen for this or any other clematis.

Does anyone know how long it takes Chinese primrose seed to germinate? We have seed sown over two weeks and it is not up yet. Does it require any more particular care than other seeds, such as pansies, marguerite, carnations, etc.

I am afraid some of the Chatterers will soon be saying, "Is she never going to stop?" so I'd better not write any more. Thank you ever so much for your kind advice about the curtains, and also for the many other helpful hints we get from the dear Ingle Nook.

Perth Co., Ont.

MARGARET.

My dear, if I were you, I would use the printed scrim valance for some other window, door, shelf, or bookcase, and make a valance of the plain scrim, like that used in the curtains, with a Greek key border to match along the lower edge. Your window would then look lovely; everything about it would be in perfect keeping. I imagine a room with curtains such as you have described, an "old" blue rag-rug or Japanese matting in cream and old blue, cushions of blue denim on the couch, etc., etc. How pretty it would be! Many thanks for writing us.

I cannot find any record as to how long it takes for Chinese primrose to germinate. Prof. Bailey says in regard to it: "It requires about seven months

from date of sowing to bloom. For fall flowering, sow in March. Soak seeds 24 hours in water, then sow in pans filled with light, sandy soil, covering the seeds very thinly with sand; temperature 70 degrees F. Keep pans always moist and shady. In two or three weeks, prick out the young plants into shallow boxes filled with two parts peat, one part garden soil. Keep shady and moist. When plants are large enough, put in small pots, shifting into larger pots as necessary, and making the soil heavier at each transplanting. At the last shift (five or six months after sowing), make soil rich with cow manure and bone meal. Throughout the summer, syringe twice a day. In fall, get them accustomed to the sun, and in winter, keep at a temperature of 50 or 60 degrees F.

Perhaps your seeds are slow because they were not soaked, or perhaps they were not fresh ones—a most important matter with this plant.

Our Scrap Bag.

An otherwise attractive face is often spoiled by thin, colorless eyebrows. Massaging with good vaseline, night and morning, is said to remedy the deficiency.

Fireless cookers are now for sale in nearly all of the cities where, as savers of gas, they are becoming very popular. They are made on the principle of the hay-box which has been mentioned in these columns so often, and are, of course, neater in appearance, though not more effective.

When baking cookies or ginger snaps, invert the pan and place them on the bottom. They will not scorch on the under side, and are much more easily taken up.

When frying or boiling ham, add just a little sugar to improve the flavor.

To restore the color to ivory knife-handles, try rubbing them with turpentine.

Haldane Macfall, writing in a British weekly on the framing of pictures, pleads strongly for the use of plain and—except in case of very large pictures—rather narrow frames. In general, he favors dark wooden, rather than gilt frames, even for oil paintings. "Avoid, like the plague," he says, "the framing of watercolors that prevailed in early-Victorian days. Particularly avoid a large, flat or elaborate gold frame, enclosing a wide, white or colored mount. The only frame that can be tolerated with a wide, white mount, is a very narrow one, with a dainty ornament at the corners. This may be used for delicate water-colors and black-and-white prints. . . . When mounting prints, keep the mount as near the tone of the paper on which the print is made as possible, but lighter rather than darker. Never use the ghastly thing called a gold mount." For prints, photos, and water-colors, Mr. Macfall quite favors passe partout. This will be welcome news to those who have already availed themselves of this method of framing, which is quite the least-expensive method yet devised for small pictures.

Scientists—among them such eminent scientists as Metchnikoff, Tissier, Combe and Bourget—are beginning to recommend strongly the use of sour milk and buttermilk as a curative. It has been found that the lactic-acid germ found in all sour milk makes war upon the microbes of putrefaction, which multiply, often to staggering numbers, in the colon or large intestine; also that these microbes of putrefaction give rise to a condition responsible for many ailments. It appears, then, that a very valuable, though very inexpensive, medicine has been too long overlooked.

Dr. J. A. Gilbert, writing in "Medical Record," sets forth the value of skim-milk as a food, appraising it even above whole milk. "The milk which is richest in cream is not, therefore, the most nutritious," he says, "for the very simple reason that a rich milk is less easily digested and absorbed than a milk in which the fat percentage is low. As far as its other constituents are concerned, a milk poor in fat is as valuable a food as a milk rich in fat." Upon the whole, he avows skim-milk, also buttermilk, form a valuable source of food which should not be slighted. The removal of the cream

lessens somewhat the power to give energy and heat, but the proteid element, the element that produces muscle and builds up the body, has by no means been eliminated.

A writer in London (Eng.) Lancet says there is danger in the dust disseminated by the annual spring housecleaning, dust of necessity laden with germs. He writes as follows: Spring cleaning, after all, amounts to the application of aseptic principles to the dwelling-house, and modern refinements teach that unless the process is well done it might as well be left undone. The accumulation of dirt in a house is repugnant to sanitary ideas, but the process of cleaning should not be an annual ceremony, but one carried out at more frequent intervals. Few householders, however, would find it convenient, we imagine, to submit the house to a kind of aseptic process more than once a year, and yet the fact that it is commonly done only once, means that an accumulation of some depth and intensity has to be dealt with. Theoretically, no materials that may probably contain dormant disease-producing entities should be allowed to accumulate their forces, and therefore spring cleaning as an annual aseptic process applied to the house is wrong in principle. According to this view SPRING CLEANING SHOULD BE ABOLISHED IN FAVOR OF A REGULARLY - CONDUCTED CLEANING PROCESS KEPT UP ALL THE YEAR ROUND AT COMPARATIVELY SHORT INTERVALS. This is the course pursued by many careful citizens nowadays, and the public would do well to follow their example."

Some Laundry Hints.

Several methods are given to prevent wash materials from fading. Before washing, treat by one of following methods: (1) Add 1 teaspoon spirits turpentine to each ½ gal. cold water. Wet the goods in this very thoroughly, wring dry, and hang in the shade in a place exposed to the wind. Afterwards launder as usual. (2) Soak in salty water for 20 minutes, then hang in a shady place, without wringing, to dry. Afterwards launder, and when rinsing (for pink, green, or lavender), add a cup of vinegar to the rinsing water. (3) Before washing blue materials soak for half an hour in cold water, in which 1 ounce sugar of lead to each gallon of water has been added.

Black goods are not likely to run or fade if turpentine, 1 tablespoon to the pail, is used in the rinsing water.

When washing colored goods of any kind, have the water merely lukewarm, and make into a lather with white soap before putting in the clothes. Never rub soap directly on the material. Wash as quickly as possible, as no colored articles should be left long in soapy water; rinse through two cold waters, and hang in the shade where there is breeze enough to dry the clothes quickly.

Instead of starch, use the following for black and dark colors: To every quart water allow 1 ounce gum arabic. Dissolve the gum in a very little cold water, then pour the required quantity of water, boiling hot out of the kettle, over it. Let cool to lukewarm before starching the clothes. Dry the clothes, sprinkle lightly, fold away until damp enough, and iron on the wrong side with an iron that is not too hot. About 2 ounces gum is enough for an entire gown. Sometimes when starching dark blue goods, the ordinary starch is made very blue with bluing.

Re Bacteria Essays.

The result of the "Bacteria" examination will appear next time, if possible. Many thanks to the numbers who took this subject up in such good earnest.

"Mother, does Doctor Smith wear his everyday clothes under that long white gown when he preaches?" asked a little girl who had seen the edge of the minister's trousers under his robe.

"Yes, dear," was the reply.

"Well," she continued, "now I know why it is called a surplus."

The Beaver Circle.



China's Three-year-old Emperor.

His august majesty, Pu-yi, is seen standing, holding tightly to the hand of his father, Prince Chun, who holds in his lap the Emperor's younger brother. It need hardly be said that Prince Chun is the real ruler.

The Lost Pup.

He was lost!—not a shade of a doubt of that,
For he never barked at a sinking cat,
But stood in the square where the wind blew raw
With a drooping ear and a trembling paw
And a mournful look in his pleading eye
And a plaintive sniff at the passer-by

That begged as plain as a tongue could sue,
"O, mister! please, may I follow you?"
A lorn, wee waif of a tawny brown
Adrift in the roar of a heedless town.
Oh, the saddest of sights in the world of sin
Is a little lost pup with its tail tucked in!

Well, he won my heart (for I set great store
On my own red Bute—who is here no more),
So I whistled clear, and he trotted up,
And who so glad as that small lost pup?
Now he shares my board and he owns my bed,
And he fairly shouts when he hears my tread.

Then if things go wrong as they sometimes do,
And the world is cold and I'm feeling blue,
He asserts his rights to assuage my woes
With a warm red tongue and a nice cold nose
And a silky head on my arm or knee
And a paw as soft as a paw can be.

When we rove the woods for a league or about
He's full of pranks as a school let out,
For he romps and frisks like a three-months' colt,
And he runs me down like a thunder-bolt.
Oh, the blithest of sights in the world so fair
Is a gay little pup with his tail in air!

—James Clarence Harvey, in Fruitman's Guide.

Our Letter Box.

Dear Puck,—This is my first letter to the Beaver Circle. I am in the Junior Fourth Book. I like going to school in the summer time because we can play ball. I can skate, and we have quite a lot of ponds of ice in the winter. I have got some wild flowers in the woods this spring. I help my father to harrow; my oldest brother can plow, seed, harrow and cultivate. I take music lessons from Miss Patterson. I have taken twenty-three lessons. My brother is taking music lessons also. My sister is going to High School in Erin, just about three miles from where we live. She boards in Erin, and I go over for her every Fri-

day evening, and get a music lesson also. We have a horse that I can drive. I had a patch of early potatoes last year and got ten dollars for them, and got a watch with the money.

I think I will close with a riddle. Why is it that an elephant can't get in a car? Because it can't get its trunk checked.

NORMAN LAUGHLIN (age 11).
Belfountain.

My Dear Puck,—I guess you will think I am writing too often, but I like to join in your Circle. I am greatly interested in your flowers and birds. Edna has certainly got a good plan. How would it do to draw birds, too? I have been gathering flowers very many times. One 24th of May we went: mother and father, and one of my friends, her name was Marie Freeman. We picked three great big bunches each; my friend and I gave ours away. There was a man with a broken arm, so we gave him some to put in his room. It seemed nice for him to have them. Last summer three of my little friends came from Toronto to see me. We had a lot of cherries, and they would sit on the fence and eat them. It would seem quite queer to a country girl to live in the city. We also swung and climbed apple trees. One day when we were swinging the swing broke, and my friend skinned her arm, but I did not hurt myself at all.

There is not much pretty scenery around here, but it was beautiful down where we used to live. There was a big sugar grove just over our fence. We have got quite a few pear trees, a lot of plum and cherry trees, a few apples, and one apricot.

Well, I must not take too much room in this Corner, as it is a very precious corner.

A riddle:
What is the difference between a jeweller and a jailor? Ans.—One sells watches, and the other watches cells.

HELEN A. PARRY (age 11).
Princeton, Ont.

Our Junior Beavers.

Dear Puck,—This is my first letter to "The Farmer's Advocate." I live between two small villages, Eldorado and Malone. The train runs by our house. The Moira river running past our house is very beautiful in the spring, and in the summer we can spend most of our spare time fishing. Our house is up on a hill, we have a lovely view. In the summer time we can see twenty fields of grain and a pond on which we can run a raft nearly all summer. We have a lovely grove of maple trees not far from the house, which we enjoy very much, searching for flowers and listening to the lovely robins. I think we live in the prettiest place in Madoc Township. I go to school every day, and got into the Second Book last summer. I like to go to school very much. We have lots of fun playing ball and other games.

I will have to close for this time, as I feel I am writing a long letter for the first time.

ADA SMITH (age 9).
Malone, Ont.

Do you live near the mines in Hastings Co., Ada? If so, tell us about them some time, please.

Dear Puck,—As I read the letters from the other girls and boys, I will try to write one, too. I live on a farm about six miles from Lake Erie, and about six miles from River Detroit. I go to school nearly every day, and, as there is a bush on my way, I often gather many spring flowers, some violets, spring beauty, and others that I do not know the names of. I will close my letter, wishing you success.

RITA COYLE (age 8).
Vereker, Ont.

Dear Puck,—My brother-in-law has taken "The Farmer's Advocate" for some time, and we are all very much interested in it. I live on a farm, and I can have a garden for myself. I go to school every day and like our teacher very much. I intend to try for the Senior Third Book at midsummer.

There is a woods to the east of my house, and I often go to it and pick wild flowers. The last time I was out I got

dog-tooth violets, spring beauties, bread-and-butter, trilliums and Hepaticas.

Riddles:
In marble walls as white as milk, lined with a skin as soft as silk, within a crystal fountain clear, a golden apple doth appear. No doors there are to this stronghold, yet thieves break in and steal the gold. Ans.—An egg.

As round as an apple, as flat as a crisp, four little eyes and can't see a bit. Ans.—A button.

LOTTIE HOWIE (age 10).
Massie, Ont.

Dear Puck,—My father has taken "The Farmer's Advocate" for quite a number of years, and we are all interested in it. I live on a farm. West of our farm there is a woods, to which I often go to pick flowers. I have two miles to go to school. I am going to try for the Senior Third Class at midsummer. I have a pony; I call her "Leith." I have a little black spaniel dog named "Millie." I will close wishing the Beaver Circle success.

Riddle:
What is the difference between a woman and a soldier? Ans.—The woman powders the face, and the soldier faces the powder.

VERA PERDUE (age 10).
Massie, Ont.

Dear Puck,—My father has taken "The Farmer's Advocate" for eleven months. We have two bronchos, one Lilly, the other Maud. The other horses are Topsy, Kate, and Goldie. We have seven calves. We have an old dog named Jack, and he is just the age of me, and a kitten a year old, which we call Buster. We call her Buster because she has some light brown spots on. I guess I will close my letter now. I hope it won't get in the waste-basket.

NORMAN MERCER (age 10).
Norval Station, Ont.

Many letters are held over for want of space.

Bird Food.

Some time you may find a wounded birding which will starve to death if you do not feed it. Do you want to know what to do? Here is what a writer in "Country Life" says about it: "I have a very simple recipe for baby-bird food which admirably answers their needs. On it I have reared nearly every kind of native song-bird common in the vicinity of New York—robins, bluebirds, thrashers, catbirds, wrens, grosbeaks, tanagers, sparrows, goldfinches, jays, cardinals, even flycatchers and swallows. This is the recipe: Two parts of grated boiled potato to one part of hard-boiled egg, the yolk and white being both used, mixed thoroughly in a stiff paste. Only a small portion should be prepared at a time, especially in warm weather, as it readily sours, and is a most fertile medium for the cultivation of germs if long exposed to the air. In feeding the mixture to very young birds, water should be added, making it of the consistency of thick oatmeal porridge.

"Now you have your bird and your food, but it is another matter to make him eat. Waiting till the first fright of capture is somewhat abated, I find hunger a great aid. Usually, in the course of half an hour after taking, a young bird will readily open its mouth, if approached in the right way, and then his wants are supplied by the aid of a little stick of wood, rounded into a point at the end, and flattened so that it will hold a morsel of food. After once discovering that such a stick, with such food, is as acceptable as the parent's beak with its worm or insect burden, the bird adapts itself quickly to the new conditions. Some birds, however, are nervous, and have to be humored more or less for the first day, and often for the second and even the third day. The intervals of feeding should not be greater than half an hour or forty minutes. Three or four morsels may be supplied, each time, and my experience is that if the food is sufficiently moist, it is better not to give the bird water until nearly full grown.

"Unless one has a spare room in the house which can be devoted to the little creatures, they will have to be kept in a cage or box, and they often resent such



WHAT every cook should know is, which wheat makes the best flour, and why.

Winter wheat is put into the ground in the fall, but does not ripen until the following July. It matures slowly, is soft and very starchy.

Spring wheat is sown in April or May, and ripens in August. It's a flinty, translucent wheat, rich in gluten and contains nearly twice as much nutriment as winter wheat.

Royal Household Flour

is made entirely from the hard, nutritious spring wheat, carefully selected from all the wheat of this kind grown in Canada.

Royal Household is fine, light and pure—milled by the most improved methods—in a mill as clean as your own kitchen.

Ask your grocer for Ogilvie's Royal Household—just enough to try. You won't mind the slight advance in cost when you see the results in your bread and pastry.

Ogilvie Flour Mills Co., Limited, Montreal.







WINDSOR BUTTER SALT

Prize Butter

—the kind that wins cash and medals at the fairs, and brings top prices in the market—is always made with

Windsor Butter Salt

6

Please Mention this Paper.

FREE TO Asthma Sufferers

A New Home Cure That Anyone Can Use Without Discomfort or Loss of Time.

We have a new method that cures Asthma, and we want you to try it at our expense. No matter whether your case is of long-standing or recent development, whether it is present as hay fever or chronic Asthma, our method is an absolute cure. No matter in what climate you live, no matter what your age or occupation, our method will certainly cure you right in your own home.

We especially want to send it to those apparently hopeless cases, where all forms of inhalers, douches, opium preparations, fumes, "patent smokes," etc., have failed. We want to show everyone at our own expense that this new method will end all difficult breathing, all wheezing, and all those terrible paroxysms at once and for all time.

This free offer is too important to neglect a single day. Write now and begin the cure at once. Send no money. Simply mail coupon below. Do it Today.

FREE ASTHMA COUPON.
FRONTIER ASTHMA CO., Room 28 W
Niagara and Hudson Sts., Buffalo, N.Y.

Send free trial of your new method to:

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PICKED PIMPLE AND DIED

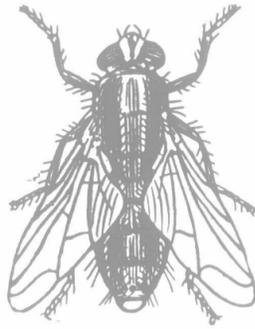
Under above heading a leading daily paper, of May 27, tells of a farmer's son in Leeds County contracting blood poisoning through picking a pimple. This happens only too often. We always advise patients not to press pimples and blackheads, but to leave them in and use

OUR HOME TREATMENT

to cure the trouble. It will do it every time. Let us convince you. We've been treating pimples, blackheads, blotches, eczema, etc., successfully for over seventeen years. Write us if you have any skin, scalp, hair or complexional trouble. Our charges are moderate, and we always cure. Get booklet "F"; it's free.

SUPERFLUOUS HAIR, MOLES, Warts, Ruptured Veins, etc., always permanently destroyed by our reliable method of antiseptic Electrolysis. Satisfaction assured.

HISCOTT DERMATOLOGICAL INSTITUTE
61 College St., Toronto. Estab. 1892



CAREFUL HOUSEKEEPERS COMMENCE USING Wilson's Fly Pads

early, knowing that a few flies killed prevent a host in midsummer.

Imperial Holsteins!

For sale. Bul calves sired by Tidy Abbe Kirk Mercedes Pasch, whose seven nearest dams have records within a fraction of 27 pounds, out of show cows with high official records. A most desirable lot of coming herd-headers. **W. H. SIMMONS, New Durham P. O., Ont., Oxford County.**

HEREFORD BULLS!

Three high-class young pure-bred Hereford bulls for sale at reasonable figures. Address:

J. LINDSAY, LIMEHOUSE, ONTARIO.

PLEASE MENTION THIS PAPER.

confinement, fighting for liberty with the bars or walls of their prison. The exclusion of light by covering the cage with a cloth, will do much to allay this propensity; and in a short time the birds become so accustomed to their environment as no longer to persist in trying to gain an unknown freedom.

"The critical moment arrives when they are to be restored to their liberty out of doors. It is well not to forget that the education which has been given, has not fitted them to cope with the food problem as presented in nature. Moreover, they have become tame, semi-domesticated and fearless; so that they ought to be set at liberty in a place that no cats frequent. When ready to go out in this way, they have learned to feed themselves, if properly brought up; as a time comes when young birds no longer wish to be fed, either by their real or foster parents. They are also constantly gaining new information about food, for as soon as able to forage they taste whatever there is about them."

The Golden Dog (Le Chien D'Or.)

A Canadian Historical Romance.

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CHAPTER XIX.—Continued.

The Chevalier did not notice, or did not care for, the slight touch of sarcasm in the Intendant's tone. "Thanks, Bigot!" drawled he. "My egg shall be hatched to-night down at Menut's. I expect to have little more left than the shell of it to-morrow."

"Well, never mind! We have considered all that, Chevalier. What one loses, another gets. It is all in the family. Look here," continued he, laying his finger upon a page of the ledger that lay open before him, "Mademoiselle Angélique des Meloises is now a shareholder in the Grand Company. The list of high, fair, and noble ladies of the Court who are members of the Company will be honored by the addition of the name of your charming sister."

The Chevalier's eyes sparkled with delight as he read Angélique's name on the book. A handsome sum of five digits stood to her credit. He bowed his thanks with many warm expressions of his sense of the honor done his sister by "placing her name on the roll of the ladies of the Court who honor the Company by accepting a share of its dividends."

"I hope Mademoiselle des Meloises will not refuse this small mark of our respect," observed Bigot, feeling well assured she would not deem it a small one.

"Little fear of that!" muttered Cadet, whose bad opinion of the sex was incorrigible. "The game fowls of Versailles scratch jewels out of every dung-hill, and Angélique des Meloises has longer claws than any of them."

Cadet's ill-natured remark was either unheard or unheeded; besides, he was privileged to say anything. Des Meloises bowed with an air of perfect complaisance to the Intendant as he answered: "I guarantee the perfect satisfaction of Angélique with this marked compliment of the Grand Company. She will, I am sure, appreciate the kindness of the Intendant as it deserves."

Cadet and Varin exchanged smiles, not unnoticed by Bigot, who smiled too. "Yes, Chevalier," said he, "the Company gives this token of its admiration for the fairest lady in New France. We have bestowed premiums upon fine flax and fat cattle; why not upon beauty, grace and wit embodied in handsome women?"

"Angélique will be highly flattered, Chevalier," replied he, "at the distinction. She must thank you herself, as I am sure she will."

"I am happy to try to deserve her thanks," replied Bigot; and, not caring to call further on the sub-

ject, "what news in the city this afternoon, Chevalier?" asked he; "how does that affair at Belmont go off?"

"Don't know. Half the city has gone, I think. At the Church door, however, the talk among the merchants is that peace is going to be made soon. Is it so very threatening, Bigot?"

"If the King wills it, it is," Bigot spoke carelessly.

"But your own opinion, Chevalier Bigot; what think you of it?"

"Amen! amen! Quod fiat fiat! Seignior John, the fool of Paris, could enlighten you as well as I could as to what the women at Versailles may decide to do," replied Bigot, in a tone of impatience.

"I fear peace will be made. What will you do in that case, Bigot?" asked Des Meloises, not noticing Bigot's aversion to the topic.

"If the King makes it, invitus amabo! as the man said who married the shrew," Bigot laughed mockingly. "We must make the best of it, Des Meloises! and let me tell you privately, I mean to make a good thing of it for ourselves whichever way it turns."

"But what will become of the Company should the war expenditure stop?" The Chevalier was thinking of his dividend of five figures.

"Oh! you should have been here sooner, Des Meloises; you would have heard our grand settlement of the question in every contingency of peace or war."

"Be sure of one thing," continued Bigot, "the Grand Company will not, like the eels of Melun, cry out before they are skinned. What says the proverb, 'Mieux vaut engin que force' (craft beats strength)? The Grand Company must prosper as the first condition of life in New France. Perhaps a year or two of repose may not be amiss, to revictual and reinforce the Colony; and by that time we shall be ready to pick the lock of Bellona's temple again and cry, 'Vive la guerre! Vive la Grande Compagnie! more merrily than ever!'"

Bigot's far-reaching intellect forecast the course of events, which remained so much subject to his own direction after the peace of Aix la Chapelle—a peace which in America was never a peace at all, but only an armed and troubled truce between the clashing interests and rival ambitions of the French and English in the New World.

The meeting of the Board of Managers of the Grand Company broke up, and—a circumstance that rarely happened—without the customary debauch. Bigot, preoccupied with his own projects, which reached far beyond the mere interests of the Company, retired to his couch. Cadet, Varin and Pensault, forming an interior circle of the Friponne, had certain matters to shape for the Company's eye. The rings of corruption in the Grand Company descended, narrower and more black and precipitous, down to the bottom, where Bigot sat, the Demiurgus of all.

The Chevalier des Meloises was rather proud of his sister's beauty and cleverness, and, in truth, a little afraid of her. They lived together harmoniously enough, so long as each allowed the other his or her own way. Both took it, and followed their own pleasures, and were not usually disagreeable to one another, except when Angélique commented on what she called his penuriousness, and he upon her extravagance, in the financial administration of the family of the Des Meloises.

The Chevalier was highly delighted to-day to be able to inform Angélique of her good fortune in becoming a partner of the Friponne, and that, too, by the grace of his Excellency the Intendant. The information pleased Angélique with delight, not only because it made her independent of her brother's management of money, but it opened a door to her wider opportunities. She had been thinking of going to the city to see her to-night, the night of the 27th.

which she knew would be made to-night by Le Gardeur de Repentigny.

The Chevalier des Meloises had no idea of his sister's own aims. He had long nourished a foolish fancy that, if he had not obtained the hand of the wealthy and beautiful heiress of Repentigny, it was because he had not proposed. Something to-day had suggested the thought that unless he did propose soon his chances would be nil, and another might secure the prize which he had in vain fancy set down as his own.

He hinted to Angélique to-day that he had almost resolved to marry, and that the projected alliance with the noble and wealthy house of Tilly could be easily accomplished if Angélique would only do her share, as a sister ought, in securing her brother's fortune and happiness.

"How?" asked she, looking up savagely, for she knew well at what her brother was driving.

"By your accepting Le Gardeur without more delay! All the city knows he is mad in love, and would marry you any day you choose, if you wore only the hair on your head. He would ask no better fortune!"

"It is useless to advise me, Renaud!" said she, "and whether I take Le Gardeur or no, it would not help your chance with Amélie! I am sorry for it, for Amélie is a prize, Renaud! but not for you at any price. Let me tell you, that desirable young lady will become the bride of Pierre Philibert, and the bride of no other man living."

"You give one cold encouragement, sister! But I am sure, if you would only marry Le Gardeur, you could easily, with your tact and cleverness, induce Amélie to let me share the Tilly fortune. There are chests full of gold in the old Manor House, and a crow could hardly fly in a day over their broad lands!"

"Perfectly useless, brother! Amélie is not like most girls. She would refuse the hand of a king for the sake of the man she loves, and she loves Pierre Philibert to his fingertips. She has married him in her heart a thousand times. I hate paragons of women, and would scorn to be one, but I tell you, brother, Amélie is a paragon of a girl, without knowing it!"

"Hum, I never tried my hand on a paragon; I should like to do so," replied he, with a smile of decided confidence in his powers. "I fancy they are just like other women when you can catch them with their armor off."

"Yes, but women like Amélie never lay off their armor! They seem born in it, like Minerva. But your vanity will not let you believe me, Renaud! So go try her, and tell me your luck! She won't scratch you, nor scold. Amélie is a lady, and will talk to you like a queen. But she will give you a polite reply to your proposal that will improve your opinions of our sex."

"You are mocking me, Angélique, as you always do! One never knows when you are in jest, or when in earnest. Even when you get angry, it is often unreal and for a purpose! I want you to be serious for once. The fortune of the Tillys and De Repentignys is the best in New France, and we can make it ours if you will help me."

"I am serious enough in wishing you those chests full of gold, and those broad lands that a crow cannot fly over in a day; but I must forego my share of them, and so must you yours, brother!" Angélique leaned back in her chair, desiring to stop further discussion of a topic she did not like to hear.

"Why must you forgo your share of the De Repentigny fortune, Angélique? You could call it your own any day you chose by giving your little finger to Le Gardeur! you do really puzzle me."

The Chevalier did look perplexed at his inscrutable sister, who only smiled over the table at him, as she nonchalantly cracked nuts and sipped from a little drop.

"I shall puzzle you, Renaud!"

said she at last. "I am a puzzle to myself sometimes. But, you see, there are so many men in the world—poor ones are so plenty, rich ones so scarce, and sensible ones hardly to be found at all—that a woman may be excused for selling herself to the highest bidder. Love is a commodity only spoken of in romances or in the patois of milkmaids now-a-days!"

"Zounds, Angeliq! you would try the patience of all the saints in the calendar! I shall pity the fellow you take in! Here is the fairest fortune in the Colony about to fall into the hands of Pierre Philibert—whom Satan confound for his assurance! A fortune which I always regarded as my own!"

"It shows the folly and vanity of your sex! You never spoke a word to Amelie de Repentigny in the way of wooing in your life! Girls like her don't drop into men's arms just for the asking."

"Pshaw! as if she would refuse me, if you only acted a sister's part! But you are impenetrable as a rock, and the whole of your fickle sex could not match your vanity and caprice, Angeliq!"

She rose quickly with a provoked air.

"You are getting so complimentary to my poor sex, Renaud," said she, "that I must really leave you to yourself, and I could scarcely leave you in worse company."

"You are so bitter and sarcastic upon one!" replied he, tartly; "my only desire was to secure a good fortune for you, and another for myself. I don't see, for my part, what women are made for, except to marry everything a man wants to do for himself and for them!"

(To be continued.)

GOSSIP.

Wm. Hunter, of the firm of R. Hunter & Sons, Maxville, Ont., recently sailed from Glasgow with a baker's dozen of selected Ayrshires, including the grand two-year-old bull, Bonnie Scotland, winner of first prize at Ayr this year.

James Dalgety, of the firm of Dalgety Bros., will sail for the Old Country in about a week, where his address will be Park Place, Dundee, Scotland. Parties wanting any special class of horse, and writing him, he will be pleased to do his very best to please and suit them.

The annual auction sale on June 2nd, of a draft of young Shorthorns from the Valley Home herd of S. J. Pearson, Son & Co., at Meadowvale, Ont., was fairly successful, considering the lateness of the seeding season, and farmers being unusually busy. The stock was in fine condition, and of an excellent class, and good bargains were secured by buyers. The nineteen head sold brought a little over \$1,400, or an average of about \$75 each.

The dispensing sale of the Ayrshire cattle and Clydesdale horses belonging to the estate of the late Andrew Mitchell, of Barcheskie, Kirkcudbright, Scotland, on May 27 and 28, is said to be a record one for that country, the disposal totalling over \$10,000. In Ayrshires, the highest price, \$500, was paid by R. R. Ness, of Howick, Quebec, for the bull, Auchinbraun Star, who also secured the highest-priced cow at \$375, and 23 others of the offering being the largest buyer present. The whole herd of 297 head, including old cows and young calves, averaged \$99 each.

At the Bath & West of England Show, on June 25th, the championship for the best Shorthorn bull went to J. H. Madens' roan two-year-old, Duke of Home, sold to Mr. Miller for Argentine. S. J. Dean & Sons won in the yearling class with the red, Proud Roman, bred by J. McWilliam, and sired by Achilles. He was reserve champion. J. D. Willis was first for aged bulls with Ston-crop, a white son of Stonytown Pride, bred by Lord Brougham. In the Aberdeen-Angus division, Mr. Criddle had the champion bull in Everwise, and the same exhibitor had the champion female in the county, Blackbird 2nd, by Elate.

ANOTHER GREAT JERSEY SALE.

F. S. Cooper & Sons' annual sale of imported and home-bred Jerseys, held at Linden Grove, Coopersburg, Pa., on May 31st, was a grand success. The 122 head, of all ages, averaged close to \$650, which record has only been surpassed once or twice in the last twenty years or more. The sensation of the sale was the five-year-old bull, Viola's Golden Jolly (imp.), not catalogued to be sold, but at the last moment Mr. Cooper decided to include him in the sale, and he went to Kinloch Farm, Kirksville, Mo., at \$12,000, the highest price ever paid for a Jersey bull at public auction. The four-year-old bull, Raleigh's Fairy Boy (imp.), sold for \$8,200, to C. I. Hudson, Long Island, N. Y. Seventeen Oxford Lads averaged \$990, and fifteen Golden Jollys averaged \$1,276. Eleven bulls, over a year old, averaged \$2,161. Fifty-five cows, over three years, averaged \$694.

A. L. Hickman, Court Lodge, Egerton, Kent, England, exporter of pure-bred stock, whose advertisement runs in "The Farmer's Advocate," writes: "I have recently exported to Henry Bone, of Brussels, Ont., the four-year-old Clydesdale stallion, Alphonso, winner of first prize at Stranraer as a foal, and again as a two-year-old. His sire, McRaith, is a big winner, and is by Macgregor, by Darnley. His dam, Gladys, is a winner of first and champion prizes, and made \$1,250 at her breeder's dispersion sale. She is by Baron's Pride. This young horse is thus splendidly bred; he has more weight and a better middle than the majority of Clydes, and should do a lot of good in the district where he stands. I have also recently exported to F. D. Erhardt, of Boston, U. S. A., two of the best young Ayrshire cows to be found on this side. One, Auchlochan Rosette, last year won 1st, Royal, Newcastle; first and champion, Lesmahagow; first, Kilmarnock, and second, Highland Society's Show. The other, Barcheskie Sultry, last year won first at Sanubar, the only time shown, and is in calf to Auchinbraun Star, the famous prizewinning bull, that has lately realized \$500 at the Barcheskie dispersal sale."

TRADE TOPICS.

English Riding Breeches, made to order, with a perfect fit, correct style, and absolute satisfaction guaranteed, and the price stated, is the substance of the Bedford Riding Breeches Company's advertisement in this paper. For patterns and easy self-measuring forms, address B. R. D., "The Farmer's Advocate," London, Ont.

"LESS-FRICTION" WINDMILL.—The Less-friction windmill is the promising name of a new windmill being put on the Canadian market this season by the Hayward Windmill Co., Ltd., who are establishing a plant in London, Ont. This mill was invented six or seven years ago by Walter Hayward, being designed to lessen friction at every possible point. The first experimental mill was erected on a farm owned by Mr. Hayward in Minto Township, Wellington Co., Ont., and for four years is said to have given general satisfaction, with a cost for repairs of only five cents for a new bolt. This test convinced the inventor that his mill should meet with ready sale.

Patent was secured in Canada last January. Application has been made for Great Britain and United States. Later, it is intended to patent this windmill in Germany and France. Offices and shops are located at 666 Bathurst street, London, Ont.

There are many particulars in which this windmill differs from those already in use. The frame is made of steel, and the castings of malleable iron. The pitman rod is done away with, the work of lifting being performed by a smooth-running eccentric roller. The wheel is solid, not in sections, so that there is no chance for bolts becoming loose. Roller and ball bearings are used throughout, and not one key is required in the whole construction. Agents will be secured in all localities. For particulars, write to the Hayward Windmill Co., Ltd., at London, Ont., and mention "The Farmer's Advocate."

Going to Build? We'll Loan You the Money.

If you contemplate building or buying a home, improving your farm, or purchasing more land, we will be pleased to give you complete information about our convenient Loan Department. Call or write:

THE ONTARIO LOAN AND DEBENTURE CO.

A. M. Smart, Manager
Dundas St. ~ Market Lane.



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 count 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.

An excellent time for prospective buyers to see some fine farms at great bargains and very easy payments: 175 acres 2 1/2 miles from Paris, 10 miles from Brantford, same from Galt; the best of clay loam, easy to work; no wet land, no waste land, all cleared; good orchard and small fruit; \$4,000 two-story brick house; lots of water, pumped by steel windmill; several stone-basement barns. This farm will grow 4,000 bushels of grain a year, besides lots of hay and pasture. Price only \$10,500. The owner loses a lot of money at this price. \$2,500 down, balance at 4 1/2%. I have some 100-acre and 150-acre farms; choice clay loam; fine buildings; easy terms of payments at 4 1/2%, and light payments down. 10 acres; clay loam; brick house; stone-basement barn; a lot of small fruit; \$1,700. For particulars apply to R. Waite, Canning, Oxford County.

COMPLETE threshing outfit for sale. 17 horse-power. Geo. White & Sons, Traction engine, Waterloo separator (33x48 inch cylinder) with all attachments. Write: Thresher, Farmer's Advocate, London, Ont.

FOR SALE.—The Spilsbury farm, 274 acres, three miles east of Colborne. Two good dwelling houses, new bank barn, old and new orchards, forty acres timber. For particulars apply to G. E. R. Wilson, Colborne, Ont.

FARMS FOR SALE.—Hundred and fifty acres, half mile from village of Ethel, County Huron. Good buildings; clay loam soil; two wells; river borders west side. Small grove. An ideal home. Must be sold immediately; owner going West. Six thousand seven hundred dollars. Terms easy. Particulars: National Realty Co., Limited, Toronto.

WANTED.—A herdman who can fit Shorthorns for show. Send references to: W. H. Gibson, Huntlywood Farm, Beaconsfield, near Montreal.

PRIZEWINNING HEREFORDS FOR SALE.

The Forest View Farm Herd. The best in Canada. First in sweepstakes at Toronto, London, and seven other leading Canadian shows during the season of 1907 and 1908. Owing to the death of the owner, this herd must be dispersed. Everything must be sold by October 1st. Come and get a bargain. For further particulars address:

N. B. GOVENLOCK, ADMINISTRATRIX, Forest, Ontario.

Cowan's Perfection Cocoa

Is absolutely pure, strong and healthful. Delightful in flavor, nourishing, economical. Cocoa should be boiled three or four minutes in either milk or water to produce best results.

The Cowan Co. Limited, Toronto.

Don't Throw it Away

USE **MENDETS**

They mend all leaks in all utensils—tin, brass, copper, grates, hot water bags, etc. No solder, cement or rivet. Anyone can use them; fit any surface, two million in use. Send for sample pkg., 10c. COMPLETE PACKAGE ASSORTED SIZES, 25c. POSTPAID. Agents wanted. Collette Mfg. Co., Dept. K, Collingwood, Ont.



Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial count 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 30 cents.

BUFF ORPINGTON EGGS—\$1 per 15; 9 chicks guaranteed. Splendid selected stock for eggs and market purposes. Free illustrated catalogue. Hugh A. Scott, Caledonia, Ont.

BUY 95% FERTILE EGGS—That will produce winter layers. Ancona eggs, \$6 for 100; fifteen for \$1. Single-comb White Leghorn eggs, \$4 for 100; fifteen for \$1. Special price on larger quantities. Free circulars. Edward C. Apps, Box 224, Brantford, Ont.

EGGS FOR SALE.—Imported Imperial Pekin Eggs, Rankin strain. Fertile eggs for hatching one dollar for eleven. Milton Bean, Mount Dennis, Ont.

EGGS REDUCED—Indian Runner ducks, \$1.00 per 15. Single-comb Brown Leghorns, 75c. per 15. Frank Bai ard, Glanworth, Ont.

EGGS FOR HATCHING—Barred and White Rocks, White and Silver Wyandottes, Black and Buff Orpingtons, Brown and White Leghorns, Black and Spangled Hamburgs, Houdans, Black Javas, Dorkings, Single and Rose Combed R. L. Reds. These birds won over 300 1st prizes at nine shows. \$1 per fifteen eggs. F. W. Krouse, Guelph, Ont.

S-C WHITE LEGHORNS of prizewinning strains. Eggs priced for remainder of season, 75c. for 15, hatch guaranteed, Geo. D. Fletcher, Binkham, Ont., Erin Station.

GOSSIP.

The dispersion sale of the Shorthorn herd of Messrs Denny, of Chiddingstone, Kent, England, on May 21st, was very successful. This is the herd which produced the Royal champion bull of 1908, Chiddingstone Malcolm, shown by Sir Richard Cooper. The dam of this bull sold for 100 guineas. The three-year-old Duthie-bred bull, Pride of Sittyton, bought as a calf at a Collynie sale for 750 guineas, sold for 600 guineas, to Sir Walpole Greenwell, the runner-up being Mr. Maclellan, who secured the yearling Chiddingstone Diamond, at 300 guineas. Forty-eight females sold for an average of \$345. The eight bulls made an average of \$830, and the whole herd, 56 head, brought an average price of \$420.

A GRAND SHORTHORN SALE.

One of the most successful sales of Shorthorns in America in recent years was that of Carpenter & Ross, at Mansfield, Ohio, on May 25th, when 46 head sold for an average of \$466. Eight bulls brought an average of \$585, and 38 females an average of \$441. Among Canadian breeders present and bidding were W. G. Pettit, W. A. Dryden, J. A. Watt, and the Millers, the last named being the runners-up for the white yearling bull, Maxwellton Sultan, the son of Whitehall Sultan (imp.), that went to Rosenberger & Edwards, Tiffin, Ohio, at \$2,200, the top price of the sale. Three show cows sold for \$900 to \$1,125 each, and two show heifers at \$1,000 to \$1,030 each. Breeders of Shorthorns will find encouragement and inspiration in the result of this sale, which amply demonstrates that there is backbone and red blood in the breed, and that good cattle are in demand, at profitable prices, and are likely to remain so.

For Your Pocketbook's Sake--Read This

I am so confident that the Olds Engine is the most economical and most durable engine you can buy that I will make this proposition to every buyer of an Olds Engine:

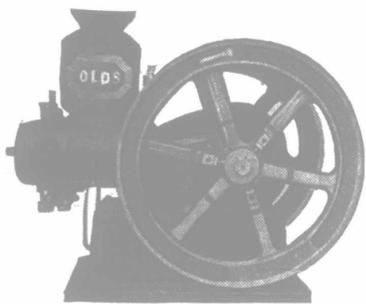
I agree to replace, free of charge, any part of an Olds Engine that breaks or becomes worn, from any cause whatsoever, within one year from date of shipment, provided the replacement is one you think should be borne by the manufacturer. You are to be the only judge. There is to be no argument, no delay in returning old parts and getting new ones; you decide and I abide by your decision.

J. B. SEAGER, Gen. Mgr.

OLDS ENGINES

Give you the power you need at the price you can afford to pay for it.

Do you think this proposition could be made on any engine but a practically perfect one? You can easily see that to stand this supreme test of durability and perfect workmanship it must be built right, of the very best material, of the simplest construction. This is the kind of an engine you want. You take no chances in buying an Olds. All of my representatives can furnish these repairs without any delay. They do not have to consult me. Write to my nearest agent. He can fix you out with the best engine you can buy, no matter what others cost.



Olds Hopper Jacket Engine

Write To-day for Our Handsome Catalogue.

It contains many fine pictures of the very latest models of Olds Engines, with a detailed description that makes the engine question as plain to you as an open book. It contains letters from farmers who have used the Olds Engines, and they give their practical every-day experience with it.

Olds Engines are made in all sizes, to suit every kind of work on the farm. We have exactly the kind of engine you want. Tell me what you want to do with it, and I will tell you just exactly the kind of engine you want to buy to do the work. It will be an expert opinion that costs you nothing.

Some of the Features of the Olds Engine.

Olds Patent Seager Mixer.—The only one that makes a perfect mixer of gas and air, giving the greatest power. No pump to leak or get out of order. No moving parts.

Removable Valve Mechanism. Removable Water Jacket. Jump Spark Ignition. Piston and cylinder ground to a perfect fit, giving better compression and more power.

Simplicity, three separate inspections, durability, economy and certainty of operation.

Our catalogue explains these points in detail.

Olds Engines are of the highest efficiency at the very lowest price, because we can produce them without wasting a penny's worth of labor.

DO NOT THINK OF BUYING AN ENGINE WITHOUT INVESTIGATING AN OLDS.

Our hopper jacket engine on skids or wheels, 3 to 12 H. P., is ready to run when you get it. Fill it with gasoline, throw on the switch, turn the wheel, that's all. No piping to connect, nothing to set up, always ready, can be moved anywhere.

We also make regular engines 8 to 50 H. P. for heavier work.

Every Olds Engine is fitted with the Seager mixer, which is recognized as being the most effective mixer that has ever been invented. No pump to leak, no moving parts to get out of order. They also have a removable water jacket, so if through carelessness the water should freeze, but very little damage is done.

It is to your decided advantage to send for our catalogue.

Do it now before you forget it. A postal card will do, but, better still, write me a letter, telling me what you want the engine to do, and you will get a personal letter from me that will give you the facts you want. Write me or my nearest representative.

J. B. SEAGER, Gen. Mgr.

OLDS GAS POWER CO.,

Main Office and Factory: Lansing, Mich.

E. B. Echlin, 19 York Street, Hamilton, Ont.



"I guarantee every Olds Engine that leaves the factory to be in perfect running order. I do not spend much time in the office. I am out in the shop with my coat off watching every detail."

"By keeping right out around the workmen seeing that all the little things are actually done, I know the engine you get is all right and that the high Olds standard is maintained. I also know the engine is 'beat by every test,' because I look after the testing and inspecting myself. They are the best you can buy, whether you pay less or more than the Olds price."

Write me about your own particular case. Let me advise with you. What I can tell you will fit your case exactly. Then you can decide what engine to buy.

J. B. SEAGER, Gen'l Manager.

GOSSIP.

THE DAVIDSON SHORTHORN SALE.

Two years ago, the Sittyton Grove herd of Shorthorns was dispersed because of the necessity of winding up the estate of the late James I. Davidson, who was for many years the intimate friend of the late Amos Cruickshank, and who imported the whole product of the Sittyton herd for many years.

Now it is found necessary that the new herd collected by the present James I. Davidson, at Sittyton Grove Farm, Balsam, Ont., with the intention of having Scotch Shorthorns as good as could be found, and of breeding from them as a life's business, must be sold on account of the continued ill health of the present proprietor. This step is being taken with the greatest reluctance, and after repeated attempts to give the work the attention it needed, had proven a failure. The cattle will be sold just in their working form, but they are in nice condition, none of the cows are old they look like money-makers, and they show it from the number of extra-fine calves at foot. Many of the matrons of the herd are of the kind that one takes a second look at and asks about when seen in a herd. No herd has many such, but every good herd will be found with a few, the more the better. There are a few of that class in this herd; they would be an ornament in any group, and a credit to the owner; their calves show that they would be profitable, also. There are a few of the best cows to be sold that the writer has seen in an auction-ring for years, while the breeding is as good as Cruickshank knew how to make it.

It is unusual to make a sale in mid-summer in Canada. The sale is being made on short notice. Big prices are not expected. This, then, will be the opportunity for those who would like to have something different from the usual, something better than is often seen.

There are a number of the Cruickshank

ST. THOMAS HARROW CART

Not a lazy man's tool. It's up-to-date. It is easier to pull the driver in the cart than to drag lines on the bit. Made by

ERIE IRON WORKS, LIMITED, St. Thomas, Ont.

If your dealer does not handle them, send direct to us for further information. This cart suits any harrow

Village family, bred by Cruickshank, and by one man in Canada. Since 1834, there is no better family, and many of the best in the herd belong to it. There are Cruickshank Lavenders, both male and female, there are Missies, Matchlesses, Mysies, Racheis, Golden Drops, Wimples, Brawith Buds, and representatives of the earlier importations of Scotch Shorthorns. The sire in use, to which most of the cows are bred, is a Cruickshank Victoria, a good individual, a good sire, and perhaps the best-bred Cruickshank bull in existence, from the dual views of merit and pedigree in the ancestors.

The young bulls are all ready for service, except those mentioned under the pedigrees of dams; the calves, both male and female, that were born in September and October last, are in great form, and they are the most promising lot of calves for the coming shows that the writer has seen—there are winners in them, and it will be worth a lot to see them sold. Cheap fares on Canadian railways for Dominion Day. A cordial invitation is given to all lovers of good cattle to attend the sale. See the advertisement, and write Robert Miller, Stouffville, Ont., for catalogue.

A. Kennedy & Son, Vernon, Ont., write "The Farmer's Advocate": "We would like you to withdraw our advertisement of Ayrshires for a few months, as we are all sold out till fall, and are about tired answering enquiries for what we have not for sale at present, as our advertisement represents that we have a number for sale. We sold over 20 this spring, and could have sold twice the number if we had them. About half of them went to Manitoba and Alberta, and have given good satisfaction to the buyers. We have had over 100 enquiries, through "The Farmer's Advocate," for stock, since January 1st. They were from British Columbia to Nova Scotia."

Suffering Women! Send for my Guide to Better Health

10 Days' Free Treatment

MY FREE BOOK "Woman's Own Medical Adviser" has lighted the way to new life, hope, health and happiness for thousands of once hopeless women. It illustrates *how* and explains *why* we women suffer. It enables any woman suffering from the weaknesses of our sex to cure herself at home, with privacy, safety and sureness, without trouble, loss of work, without doctors' expense. Besides this great book, I give you *individual* advice, and send you *to-day* supply of my famous medicine, all *free of charge*. I am a *woman*—not a man, and I understand and treat women's ailments as no doctor could. I have suffered the terrible agonies of woman's weaknesses myself. That's how I discovered my wonderful cure. All the Doctors, Specialists and Patent Medicines *won't* permanently cure you—it requires knowledge man does *not* possess. If you are suffering, sister, or if you know of any other suffering woman, you owe it to humanity to write—it's a worthy act of kindness, and may mean renewed health and happiness. Remember, it costs you *nothing*. Write *now*, before all is hopeless.

I MRS. M. SUMMERS, Box H 521 WINDSOR, ONT.

"Woman's Own Medical Adviser"



QUESTIONS AND ANSWERS.
Miscellaneous.

FEEDING YOUNG POULTS.

What should be fed young turkeys? I have given them only one feed yet; that was boiled eggs. I expect to give them besides, bread and milk, sprinkled with pepper, squeezed dry; also onion tops. Is shorts good for them? JAY.

Ans.—The most successful turkey breeder we know starts his turkeys by giving them bread soaked in milk the first day; the second day gradually substituting shorts, till on the third day it is all shorts. The shorts are mixed quite damp with skim milk, but never sloppy, and are fed from the hand five times a day, giving what is left at each feeding to the hen in the coop. The poults are given all the skim milk or buttermilk they will drink in dishes cleaned before each feeding, and are also supplied three times a day with fresh water. Avoid sour, fermented food, and avoid sudden changes. The breeder referred to gives onion-tops as about one-fifth of one of the daily feeds, and dandelion leaves, cut up fine and mixed with the shorts, as one of the other four feeds. The foregoing dietary is while the hen is confined. Afterwards a feed of shorts is given in the morning, and a feed of wheat when they come in off the range at night.

ORIGIN OF FOOT-AND-MOUTH DISEASE.

Editor "The Farmer's Advocate":

In conversation with our veterinarian, he made the suggestion that the outbreak of foot-and-mouth disease in Michigan may have been caused by badly-prepared serum of one of the many anti-toxin preparations in use at the present time.

1. Have you any knowledge as to the actual origin of the outbreak or not?
2. Would you consider it possible to introduce the disease in such a manner? G. A. S.

Ans.—1. The conclusions from an investigation made jointly by the U. S. Bureau of Animal Industry of the Department of Agriculture and the Public Health and Marine Hospital Service of the Treasury Department at Washington, a report of which has recently been issued, are that the recent outbreak of foot-and-mouth disease in Michigan, New York, Pennsylvania and Maryland started from calves used in the propagation of smallpox vaccine virus which had been contaminated with the virus of foot-and-mouth disease, and the contaminated strain of vaccine originally came from a foreign country. The investigation was conducted by Dr. John R. Mohler, chief of the Pathological Division of the former Bureau, and Dr. M. J. Rosenau, director of the Hygienic Laboratory of the latter Bureau.

2. Yes, quite possible.

REGISTRATION OF STANDARD-BREDS—KEEPING CLOVER SEED.

1. How many crosses are required to register Standard-bred horses in Canada? Does a horse's dam or sire have to have a record of 2.30 or better to register?

2. (1) Which is the better way to keep over clover seed, in bags or bins? (2) Is old seed as good as new? J. B.

Ans.—1. A Standard-bred Trotting-horse Association has only recently been organized in Canada, and a register is to be opened by the National Live-stock Record Association at Ottawa. The rules are to be the same as those of the American Trotting Register, which are as follows: "When an animal meets these requirements, and is duly registered, it shall be accepted as a Standard bred trotter."

(1) The progeny of a registered Standard trotting horse and a registered Standard trotting mare.

(2) A stallion sired by a registered Standard trotting horse, provided his dam and grandam were sired by registered Standard trotting horses, and he himself has a trotting record of 2.30, and is the sire of three trotters with records of 2.30, from different mares.

(3) A mare whose sire is a registered Standard trotting horse, and whose dam and grandam were sired by registered Standard trotting horses, provided she herself has a trotting record of 2.30, or

PEERLESS

The Fence that saves Expense

Because
It needs no repairs. Made of all No. 9 Hard Steel Wire, tough and springy. It is a fence that will stand the greatest abuse. You want a fence that will not sag in warm weather nor snap in cold weather. You want a fence that you can depend on to keep your stock where you want them kept. You want a fence that will end your fence troubles. That's why **PEERLESS** is the fence for you to buy. It is known all over as

The Fence You Can Depend On

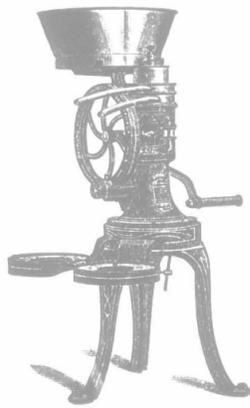
PEERLESS Fence can be perfectly stretched over any surface no matter how irregular. It forms a most perfect barrier against all kinds of stock. Our free booklet and other printed matter will give you some valuable information about wire fencing and fence construction. Write today—it's free for your name and address on a postal.

The Banwell Hoxie Wire Fence Co. Ltd.,
Dept. B
Hamilton, Ont.
Winnipeg, Man.

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Than Stock-Weather and Wear

Profitable Machinery for Farm Use.



NATIONAL up-to-date cream separators for profit and lasting service. The merits of the National makes it a winner.

GILSON GASOLINE ENGINES having satisfactory power to run all kinds of machinery from churns to threshing machines. Very cheap.

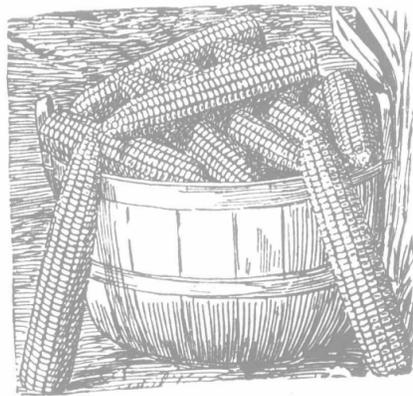
ASPINWALL POTATO SPRAYERS AND SORTERS.

STEITZ POTATO DIGGERS. New style. Easy draft. Do reliable work.

REUTHER POTATO DIGGER. Very highly recommended.

The above machinery are all guaranteed to us and our customers by the manufacturers. Your orders solicited. Ask for prices and terms to farmers. Address:

The T. C. Rogers Co., Guelph, Ont.
WHOLESALE AGENTS.



BRUCE'S RELIABLE SEED CORN, ETC.

	Bush.		Bush.
Beans, Soja or Soy	\$ 3.00	Peas, Blue Prussian	\$ 1.50
Buckwheat, Silverhull	1.00	" Grass	1.50
Corn, Angel of Midnight, 8 Rowed	1.60	" Golden Vine	1.35
" White Flint Dakota, 8 Rowed	1.60	" Brittany	1.50
" King Phillip, 8 Rowed	1.60	" Potter	1.45
" Smut Nose, 8 Rowed	1.60	" Canadian Beauty	1.50
" Australian, New, 8 Rowed	1.75	" Marrowfats, White	1.60
" King of Earlies	1.25	" Marrowfats, Black Eye	1.60
" Legal Tender	1.25	Potatoes, Pearl of Savoy	1.10
" Improved Leaming, Bruce's	1.25	" Pride of Aroostook	1.10
" Excelsior Dent	1.25	" Sir Walter Raleigh	1.10
" Cloud's Dent	1.25	" Gold Coin	1.10
" Mortgage Lifter	1.25	" Early Pink Eye	1.25
" Cuban Giant	1.25	" The Planet	1.10
" Mastodon	1.25	Vetch, Hairy	1.70
" Reid's Dent	1.25	Millet, German	1.40
" Wisconsin White Dent	1.25	" Common	2.88
" Leaming	1.15	" Japanese	2.88
" White Cap Dent	1.25	" Pearl or Pencillaria	3.60
" Selected Giant Red Cob	1.15	Crimson Clover, Fancy	6.00
" Selected Mammoth White	1.10	Lucerne, Regal, No. 1 Standard	12.00
" Evergreen Ensilage, 40 lbs	2.00	" Choice, No. 2 Standard	11.00
Cow Peas, Whippoorwill	3.50	" Regal, Turkestan	13.00

Remit 25 Cents Each for Two-Bushel Cotton Bags.
JOHN A. BRUCE & CO., HAMILTON, ONTARIO.

PEASE "ECONOMY" FURNACE

No Ashes to Sift.

Manufactured by
Pease Foundry Co., Ltd., Toronto, Winnipeg

is the dam of one trotter with a record of 2.30.

(4) A mare sired by a registered Standard trotting horse, provided she is the dam of two trotters with records of 2.30.

(5) A mare sired by a registered Standard trotting horse, provided her first, second and third dams are each sired by a registered Standard trotting horse. The Secretary of the American Association is Frank E. Best, 357 Dearborn street, Chicago. The Secretary of the Canadian Association is J. W. Brant, Live-stock Record Office, Ottawa.

2. (1) Better in bags than in bins, but better still in close-headed barrels.

(2) There is a slight loss in the germinating power of seed kept over one year, and a greater proportional loss each subsequent year.

STEEL SILOS.

Through your valuable paper, which we appreciate, can you furnish me with information as to steel silos? Are they a good, durable silo, or would they be liable to be eaten up with rust when built outside, or would paint prevent them from rusting? Which is the best silo for me to build as to durability and best keeping of silage?

2. As to cement silo, I hear there is a thickness freezes to the sides, and, if it thaws suddenly, which makes a bulk of loose silage which is apt to spoil before being used. J. A. McR.

Ans.—1. We know nothing personally about steel silos, but in another column appears a communication from one who has had a steel silo built, and, so far, likes it well. It seems a coating is applied to the inside to protect it from rust. Steel silos are being advertised in "The Farmer's Advocate" by a reputable company, the Waterous Engine Works, whose name is the best endorsement of the kind of silo they offer. Write them for particulars.

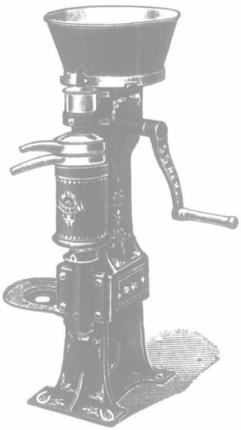
2. During severe weather, in regions where cold winters prevail, there is some trouble from silage freezing in monolithic cement silos, especially when built outside on a northern exposure. Ordinarily, the loss need not be great, if one will take pains to cut down the frozen stuff at the edges as the surface in the center is lowered, thawing out the frozen portions in the stable, using hot water if necessary. The amount of loss depends to a considerable extent on the care exercised. For the colder parts of the country cement-block silos have an advantage in this respect.

"It took you over an hour to serve that order of frogs' legs," grumbled the impatient guest.

"But there are so many orders ahead, monsieur," apologized garcon.

"Indeed! Well, the next time I'll order tadpoles, and perhaps they will be frogs when they get here."

WHY SHOULD A FARMER BUY A STRONG, DURABLE CREAM SEPARATOR?



Because he is miles away from the repair shop. Repairs mean loss of milk and cream, loss of time going for repairs, loss of money paying for them, and loss of temper. To avoid these losses look closely into the build of the machine you think of buying, and when you find the stand light, a worm gear drive, thin metal parts, you know it cannot do its work twice a day for any length of time without repairs, and will collapse entirely in a year or two.

Compare any machine made with the MAGNET'S strong, solid frame, square gears, large heavy steel bowl, with two supports, top and bottom (MAGNET patent), one-piece steel skimmer, extra strong, easily cleaned. MAGNET Brake stops the machine in eight seconds without injury to machine.

All metal parts coming in contact with milk covered with pure tin, and we know you will buy a MAGNET if it costs a few dollars more at first—it will be the cheapest.

Eleven years' use has shown no wear, and that it is the easiest to clean, easiest to turn, children of eight years can operate any size, and that it will skim perfectly for fifty years.

The MAGNET is fifty years away from the scrap heap.

THE PETRIE MFG. COMPANY, LIMITED

HEAD OFFICE AND FACTORY:
HAMILTON, ONTARIO, CANADA.

BRANCHES: Winnipeg, Man.; St. John, N. B.; Regina, Sask.; Vancouver, B. C.;
Calgary, Alta.

We Supply These
Made of Steel

SILOS

Easy to Erect, Durable,
Cheap

Waterous Engine Works Co., Limited,
Brantford, Ont.

The New Minister—"Do you know who I am, my little boy?"
Little Billie—"Certainly. Don't you know who you are?"

"Well, George," said the president of the company to old George, "how goes it?" "Fair to middlin', sir," George answered. And he continued to currying a bay horse. "Me an' this here hoss," George said, suddenly, "has worked for your firm sixteen years." "Well, well," said the president, thinking a little guiltily of George's seven-dollar salary, "and I suppose you are both pretty highly valued, George, eh?" "H'm," said George, "the both of us was took sick last week, and they got a doctor for the hoss, but they just docked my pay."

ENDED IN CONTROVERSY.

In a certain small English village there were two butchers who were sausage dealers living in the same street. One placarded his sausages at one shilling per pound, and the rival promptly placed eightpence on his card.

No. 1 then placed a notice in his window, saying that sausages under one shilling per pound could not be guaranteed.

No. 2's response to this was the announcement: "I have supplied sausages to the King."

This might have been regarded as the last word; but it wasn't. In the opposite window the following morning appeared an extra-large card bearing the words, "God save the King!"

GOSSIP.

The Holstein cow, Pontiac Glad, owned by the F. F. Field Holstein Co., of Brockton, Mass., is reported to have completed a record of 32 lbs. butter from 551.2 lbs. of milk in 7 days, and 121.73 lbs. butter from 2,556.2 lbs. milk in 30 days, making her the world's champion in both the seven and thirty days classes, at age of 4 years and 1 month.

Volume 31, of the Clydesdale Studbook of Great Britain and Ireland, has been issued. It is a bulky volume of over 1,000 pages, containing pedigrees of mares numbering from 20651 to 21997, and of stallions numbering from 14433 to 11888; additional produce, 1,542. Mares with produce, 1,317; stallions, 456; total entries, 3,345. Frontispiece portraits are those of the stallion Memento (13100), and the mare Nerissa, Vol. 29, page 97. Cawdor Cup winners of 1908.

Volume 3, of the Lincolnshire Curly-coated Pig Breeders' Association Herdbook, has, by courtesy of the Secretary, been received at this office. It is a handsome and substantially-bound volume of 125 pages, containing pedigrees of boars numbering from 639 to 897, and sows numbering from 2068 to 3262; also portraits of typical animals of the breed, the rules and by-laws of the Association, and the list of officers. The address of the Secretary is Chas. E. Clements, Sleaford, England.

GORED BY BULLS.

Two farmers in Western Ontario were attacked last week by vicious bulls. One has since died from his injuries, and the other, it is said, cannot live. In both cases the bull was allowed to run loose in the barnyard, which is a grave mistake, even though the animal has shown no disposition to attack his attendant. The bull should either be kept securely tied, or, if loose, in a box stall, with his manger so arranged that he may be fed from a passage. If he has shown the least tendency to viciousness, he should be blindfolded, and led with a strong staff, securely attached to the ring in his nose. In numerous instances, a bull considered gentle and safe has suddenly become dangerous. Trust them not.

QUESTIONS AND ANSWERS. Miscellaneous.

OAK GALL.

I am sending you for identification, through "The Farmer's Advocate," twigs of oak tree, covered with curious, acorn-shaped growths. MERSEA, Essex Co., Ont.

Ans.—This is the pointed oak bullet gall. The insect, through an incision in the tender bark, deposits its eggs, with drop of fluid, said to be poisonous to the tissue. What exudes through the wound forms the nut-like excrescence. The egg hatches, and finally emerges from the gall as a fly.

YOUNG PIGS AILING.

Am having trouble with little pigs, had one litter come six weeks ago; when a few days old, sores came around their mouth, neck and feet. They did not thrive, and when about a month old died. Had another litter come last week; they are going the same way. The sows have been fed chop all winter, and look to be in a healthy condition; are kept on a cement floor. Would you kindly let me know if there can be anything done for them? W. H.

Ans.—It is difficult to assign a cause for the ailment of these pigs. It is possible that the sows have been too liberally fed with heating food, and that their milk has, in consequence, overheated the blood of the pigs, causing the breaking out of sores. A tablespoonful of sulphur given to the sow in feed once a day for three or four days, would probably correct this to some extent, and shorts might be more suitable than grain chop. A mixture of lard and sulphur applied to the sores on the pigs would be as likely as anything to cure that trouble.

Revolution in the Price of

RIDING BREECHES

10/6 PER PAIR

SEND FOR PATTERNS And Easy Self-Measuring Forms. B. R. D. Farmer's Advocate, London, Ont.

YOU CAN SAVE READ **50%** WHAT A CUSTOMER SAYS: Dear Sir, Breeches to hand, at all that can be desired; they certainly are better than a pair I paid \$11. for a few months ago. Please keep measure.—O.H.

This gentleman measured himself according to our easy measure instructions MADE TO YOUR MEASURES. Testimonials from all parts of the World.

BEDFORD RIDING BREECHES CO.

51, KINGLY STREET, REGENT STREET, LONDON, ENGLAND.

Also in better qualities at 13s.11d. & 15s.11d.

Boo Spavin

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

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

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

FLEMING BROS., Chemists
75 Church St., Toronto, Ontario

Ormsby Grange Stock Farm,
ORMSTOWN, P. Q.

DUNCAN McEACHRAN, F. R. C. V. S., D. V. S.,
Proprietor.

Importer and breeder of high-class pure-bred **CLYDESDALES.**
Farmers or ranchmen starting breeding Clydes, pure or grade, specially invited to correspond.

Professor (coming from his club holding up triumphantly his umbrella to his wife)—You see, my dear Alma, how stupid are all the anecdotes about our absent-mindedness. You see, I haven't forgotten my umbrella. Mrs. Professor—But, my dear, you didn't take your umbrella with you; you left it at home.

THE DOSE IN TIME THAT SAVED NINE

Dodd's Kidney Pills Cured Dan. McGee's Backache.

He used the old Reliable Kidney Remedy and found a speedy and complete cure for his trouble.

James River, Antigonish Co., N. S., June 7.—(Special.)—It has again been proven in the case of Mr. Dan McGee, a well-known farmer living near here, that backache is only a symptom of kidney trouble, and that Dodd's Kidney Pills cure it quickly and completely.

"I suffered from backache for two months," Mr. McGee states. "It started from a strain and grew steadily worse. I also had occasional attacks of lumbago. I was always tired, and at times my eyes were puffed and swollen. In the mornings I had a bitter taste in my mouth.

"Then I decided to try Dodd's Kidney Pills, and the result is that to-day I am a well man. I advise all persons suffering from backache or lumbago to use Dodd's Kidney Pills."

Mr. McGee caught his kidney disease in its early stages, and Dodd's Kidney Pills cured it almost at once. Neglected kidney disease develops into rheumatism, dropsy, Bright's disease or heart disease. Dodd's Kidney Pills will cure any and all of these.

The People Back of Sunshine Furnace



Sunshine Furnace is the triumph of sixty-one years' experience—growth from a small tinshop to 16½ acres of floor space, from a half dozen artisans to 1,500, from an annual wage sheet of \$4,000 to one of \$670,000, from a capital of energy to one of \$3,000,000, from obscurity to recognition as Largest Makers of Furnaces in the British Empire.

SUNSHINE FURNACE

was placed on the market the first furnace to be wholly and solely designed by a Canadian Company.

We employ a consulting staff of furnace experts, who are continually experimenting with new ideas in order that Sunshine Furnace shall not have to travel on its past reputation for goodness.

We buy materials in such large quantities that its quality is guaranteed to us. We have our own testing rooms, so that supervision of construction is exercised down to the finest detail.

McClary's

UNION STOCK YARDS Horse Exchange
WEST TORONTO, CANADA.

The Greatest Wholesale and Retail Horse Commission Market.

Auction sales of Horses, Carriages, Harness, etc., every Monday and Wednesday. Horses and harness on hand for private sale every day.

The largest, best equipped and most sanitary stables in Canada. Half-mile of railway loading chutes at stable door. Quarter-mile open track for showing horses. Northwest trade a specialty.

HERBERT SMITH, Manager.
(Late Grand's Repository)



NEW CLYDESDALE IMPORTATION.

My new importation of 24 Clydesdale stallions is now in my stables. I invite inspection and comparison. I think I have the best lot for size, style, character, quality and action ever imported. 27 Clyde stallions and 8 Hackney stallions to select from. Prices right, and terms to suit.

T. H. HASSARD, MARKHAM, ONT.

POST OFFICE, PHONE AND STATION.



CLYDESDALES AND SHORTHORNS.—Both imported and Canadian-bred, at Columbus, Ont., the Home of the Winners. Our last importation landed in August. They include the pick of Scotland, from such renowned sires as Baron's Pride, Everlasting, Baron o' Bucklyvie, Hiawatha, Marsells, Sir Everest, and Prince Thomas. We have on hand over 30 head to choose from, from the above noted sires, from 1 to 6 years old, and including stallions and mares. Correspondence solicited. Call and see them at our barns, Columbus, Ont., before purchasing elsewhere. Our prices are right. Long-distance phone in houses. Phone office, Myrtle station. Myrtle station, C.P.R.; Brooklyn station, G.T.R.; Oshawa station, G.T.R.

Smith & Richardson & Sons, Columbus, Ont.



IMPORTED SHIRES At their St. Thomas stables, the John Chambers & Sons, of England, have for sale stallions and fillies from their noted Shire stud, high-class representatives of the breed. Correspondence solicited.

DR. C. K. GEARY, St. Thomas, Ont.



Clydesdales and Hackneys We have for sale a few choice Clydesdale mares, imported and Canadian-bred; also some Canadian-bred Clydesdale stallions. Hackney stallions and mares for sale always.

HODGKINSON & TISDALE, BEAVERTON, ONTARIO.
G. T. R. and C. N. R. Long-distance phone.



I HAVE STILL LEFT THREE CLYDESDALE STALLIONS

two of them 3 years old, the other a 4-year-old; big flashy fellows, full of quality and character, and right royally bred. I will sell them cheap and on terms to suit, as I want the room for a new importation.

T. D. ELLIOTT, BOLTON, ONT.



IMPORTED CLYDESDALES My new importation of Clydesdale stallions and fillies, landed a short time ago, are an exceptionally choice lot, full of flashy quality, style and character, and right royally bred. I will sell them at very close prices, and on terms to suit.

C. W. BARBER, Gettysburg Point, Quebec. "Close to Ottawa."



IMPORTED CLYDESDALES My new importation has now arrived—stallions and fillies—personally selected. Richest in breeding; highest in quality; with abundance of size and character. Sold on terms to suit.

GEO. G. STEWART, HOWICK, QUE.



For a prize-winning **Clydesdale, Hackney or French Coach Stallion** write me. I have generally something choice on hand.

HENRY M. DOUGLAS, STAYNER, ONTARIO, LATE OF MEAFORD.



Clydesdales and Hackneys I still have on hand a few right good Clydesdales, from 2 to 6 years old. Any one of them fit for show horses. Prices moderate. Terms to suit. Full particulars will be cheerfully given to anyone asking for same.

T. L. MERCER, MARKDALE, ONT., P. O. and Station. Long-distance phone 17.



QUESTIONS AND ANSWERS.
Veterinary.

PARALYSIS.

Cow lost the use of her legs and died. Another cow is the same way. What is the trouble, and cure? They have been fed on hay, wheat shorts and turnips.

F. L. S.

Ans.—This is paralysis, probably caused by digestive derangement. Purge with 2 lbs. Epsom salts and 1 ounce ginger. Follow up with 2 drams nux vomica three times daily. If purgation does not occur in 48 hours, repeat the purgative. Cease feeding shorts; feed bran instead, and let the cow have grass.

V.

RESPIRATORY TROUBLE IN PIGS.

I write you again re my pigs. I keep the pen thoroughly clean. The trouble seems to be a difficulty in breathing. I saw one that I sold two weeks ago, and I could hear it making an awful noise, as though its nostrils were stopped up.

E. C. C.

Ans.—The trouble must be either infectious bronchitis or lung worms. It would require a careful post-mortem examination to determine. Either is practically incurable, and the cheapest method of getting rid of either is to dispose of the lot and thoroughly disinfect the premises before introducing sound stock. I would advise you to get a competent veterinarian to slaughter and hold a post-mortem on one of those that are showing the worst symptoms. It is possible my diagnosis is incorrect, but a post-mortem will, no doubt, reveal the nature of the trouble.

V.

STOMACH STAGGERS.

Twelve-year-old carriage mare, that has always been well cared for, and looked well, has on several occasions since last December, suddenly taken peculiar spells while driving. Without a moment's notice, she throws herself to the side of the road (always to the right side), throws her head up as high as she can, trembles violently, and perspires freely. In a short time she recovers. I took her to my veterinarian, who said it was staggers. He dressed her teeth. What causes staggers, and what will cure?

E. J. S.

Ans.—Your veterinarian was quite correct. Your mare suffers from stomach or blind staggers, which is caused by disease of the stomach, exerting, through nervous connection, an influence on the brain. Treatment consists in extracting four to six quarts of blood from the jugular vein, and, at the same time, administering an active purgative, as 8 drams aloes and two drams ginger. This treatment will probably avoid an attack for a variable period, but the liability to an attack cannot be prevented. Careful feeding and care to not drive soon after a meal, or when the stomach is loaded, tend to prevent attacks.

V.

Miscellaneous.

FATALITY IN LAMBS.

The end of January last I bought two Leicester ewes, by the service certificates due to drop their lambs about the 20th of March. On February 12th, one dropped a lamb, apparently strong, and that did well the first day and died the second day. On March 12th, the other dropped two, one dead, and the other died the second day. Was feeding clover hay and turnips. I brought the sheep 25 miles in a sleigh. What was the trouble? Was it the moving or the turnips? My other sheep, with the same care, have done well. Is the trouble apt to occur again?

J. S. T.

Ans.—It is difficult to say with certainty what was the cause. If the ewes were fed turnips liberally all winter, that was probably the cause, as it is commonly the case that ewes so fed, especially with little exercise, produce flabby lambs, lacking vitality, many of which die in a few hours, or days. If the ewes have room to exercise, and are given only dry feed, we do not think the trouble is likely to recur.

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A safe, speedy and positive cure. The safest, Best & BEST EVER used. Removes all bunches from Horses. Impossible to produce scab or blemish. Send for circulars. Special advice free.

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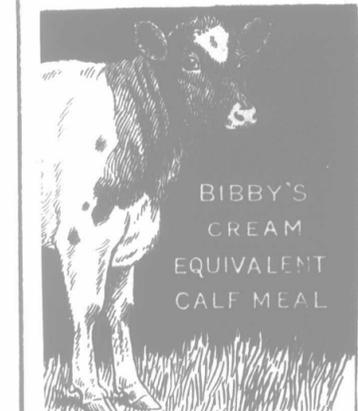
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For sale: The right sort, some of them by Klondyke, imp. Drumbo station.

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WILL SELL BY AUCTION, ON

Thursday, the First of July, 1909,

AT SITTITON GROVE FARM, THE WHOLE OF HIS

Shorthorn Herd

There are 30 FEMALES, besides numerous calves at foot.

There are 6 BULLS old enough for service.

The herd has lately been founded, and the best judgment of a noted breeder has been displayed in making the collection. The cows include some of remarkable scale and quality, all are good breeders and money-makers. The bulls are of a very high order, bred and made to be reliable as sires and show bulls too.

The whole of the cattle are of the best Scotch breeding. They were bought to breed from and not to be sold. Owing to the continued ill health of the proprietor, buyers will get the benefit of this at their own price.

The cattle are in good condition, but have no special preparation. Many of the young things have been prizewinners, and the calves being prepared for showing now are very strong.

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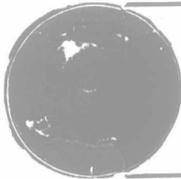
When you cannot sell your export cattle at satisfactory prices at home, and wish to ship them to the Old Country markets, write or wire for steamer space, market and shipping information to Donald Munro, Live-stock Forwarding Agent and Commission Salesman, 43 St. Sacramento St., Montreal.

Load your cattle carefully, and bill them to me. I provide the necessary feed, insurance, etc., pay freight and all other expenses from shipping point, and give liberal cash advances on all consignments. Cattle are loaded on steamer under my personal supervision, and placed in charge of capable attendants for the ocean voyage. I represent the most reliable salesmen at all the different British markets. BUSINESS ESTABLISHED 1890. REFERENCES: THE MOLSONS BANK, MONTREAL.

WILLOWDALE SHORTHORNS

I have for sale some very fine young stock bulls and heifers ready to breed. Descendants of Joy of Morning, Broad Scotch and other noted sires. Also Chester White Swine and Imported Clydesdale Horses.

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as well as a number of the useful sort of both sexes. Prices right. Large lot to select from. Up-to-date in breeding, etc. Catalogue.

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SHORTHORNS

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Calves for sale by our grand quartette of breeding and show bulls: Nonpareil Archer, Imp., Proud Gift, Imp., Marigold Sailor, Nonpareil Eclipse, Females, imported and from imported stock, in calf to these bulls. An unsurpassed lot of yearling heifers.

John Douglas, Manager. PETER WHITE, Pembroke, Ont.

SALEM SHORTHORNS

A few young bulls and choice, at tempting prices.

J. A. WATT, SALEM, ONT. ELORA STATION, G. T. R. AND C. P. R. Bell telephone.

GOSSIP.

Pneumonia has carried off the great Holstein cow, Grace Payne 2nd's Homestead. She was turned out to grass on the completion of her 30-day test, and took a heavy cold. She was valued at \$10,000, and held the world's champion record for 7-day's butter yield, 35.55 lbs. She left two sons and a daughter, and, presumably, her last calf.

On May 8th, a draft of 49 head of dairy Shorthorns, from the herd of R. W. Hobbs, near Lechlade, England, were sold by auction, making an average price of \$225 each. The highest price, \$500, was realized for Lovely 36th, a typical roan show cow, taken by R. Carr. A large proportion of the animals were of the good-milking families that have been built up by Mr. Hobbs since 1878, from carefully-selected, large-framed dairy cows, which were graded up until their descendants became eligible for the herdbook.

DEPTFORD LIVE-STOCK IMPORTS.

Very interesting is the annual report of the Superintendent of the Foreign Meat Market of Deptford, England. Cattle imports from America to the market began in 1879, and to the end of last year the totals reached the stupendous numbers of 2,937,649 oxen, besides sheep and hogs. Foot-and-mouth disease last year brought down the imports of oxen to 97,629—a much smaller number than usual. The Canadian trade began in 1893. To the end of 1908, the totals were 537,307 oxen and 296,801 sheep.

CANADA CONDENSED.

The prize list of the Canadian National Exhibition, now being distributed, contains, as usual, handsome premiums for everything Canadians make, or grow, or mine. The Exhibition this year, which begins August 28th, and closes September 13th, thus giving two full weeks open to the public, promises to be on a more magnificent scale than ever before, and the prize list is ample evidence that the President and Directors of Canada's Great Fair are determined to keep it in the van of Canadian progress.

To mention even the features of the different sections in limited space would be an impossibility. Suffice it to say that to the grand total of \$50,000 in premiums, specials are added in every department, and that no effort or expense has been spared to secure special attractions in keeping with the greatest exhibition on the continent. To hit the million mark in the matter of attendance is the avowed intention of the management this year. The prize list for live stock, entries for which close August 10th, are more liberal than ever. Parties interested should write for the prize list to Dr. J. O. Orr, City Hall, Toronto.

It is not often that one of the dignified judges of the King's Bench makes use of poetical comparisons in a decision, but Justice Darling, an English judge, did so very appropriately in a "sheep vs. grouse" appeal.

Certain mountain sheep climbed over a wall, and did damage to a grouse moor in Yorkshire. Claims to the extent of twenty shillings for damages were allowed, but an injunction, which was asked for, was refused. This refusal was carried to the King's Bench, and, in giving judgment, His Lordship, commenting on a suggestion that less active sheep should be kept, quoted:

"The mountain sheep are sweeter,
But the valley sheep are fatter.
We therefore thought it meet
To cultivate the latter."

Was it better for the community that there should be an industrious pastoral people tending sheep, or was it more important to the people of England to have grouse to shoot, and, if they could shoot them—which very few of them could, that they should have grouse to eat? Evidently the King's Bench preferred mutton to grouse, as they dismissed the appeal.

COULD NOT GO TO WORK BACK WAS SO WEAK.

Backache is the primary cause of kidney trouble. When the back aches or becomes weak it is a warning that the kidneys are liable to become affected.

Heed the warning; check the Backache and dispose of any chances of further trouble.

If you don't, serious complications are very apt to arise and the first thing you know you will have Dropsy, Diabetes or Bright's Disease, the three most deadly forms of Kidney Trouble.

Mr. James Bryant, Arichat, N.S., was troubled with his back and used Doan's Kidney Pills, he writes:—"I cannot say too much about the benefit I received after using three boxes of Doan's Kidney Pills. I was greatly troubled with an aching pain across the small of my back. I could not go to work and my back was so weak I would have to sit down. It would go away for a few days but would always return. I was advised to try Doan's Kidney Pills and I must say they completely cured me."

Price 50 cents per box or 3 boxes for \$1.25 at all dealers or mailed direct on receipt of price by The Doan Kidney Pill Co., Toronto, Ont.



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will more than double the returns from your dairy. Not an experiment, but a time-proven fact; many of them have been in constant use for years. Built in all sizes, and shipped complete. Write for special Silo Catalogue "C."

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For proof that fits can be cured, write to Mr. Wm. Stinson, 134 Tyndall Ave., Toronto, Ontario.

For pamphlet giving full particulars of simple home treatment, 20 years' success. Over 1,000 testimonials in one year. Sole proprietors: Trench's Remedies, Limited, Dublin.

Scotch Shorthorns



Have yet for sale, two extra good bulls, imported, just ready for service; also one good roan Canadian-bred bull, grandson to Batten Chancellor, imp.; also a grand lot of heifers. Write or call on

H. J. Davis,
Woodstock, Ont.

Long-distance Bell 'phone. C. P. R. & G. T. R.

Shorthorns, Berkshires, Cotswolds.

Four yearling bulls, cows with calf at foot, heifers and young calves. A number of young Berkshires ready to ship, and a nice lot of lambs coming on for fall trade.

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Our present offering: Two choice young bulls; also some good heifers and young cows. Away above the average. Pure Scotch and Scotch-topped.

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1854—Maple Lodge Stock Farm—1909

Shorthorn bulls and heifers of extra quality and breeding, and from best milking strains.

Leicesters of first quality for sale. Can furnish show flocks.

A. W. SMITH, Maple Lodge P.O., Ontario.
Lucan Crossing Sta., G. T. R., one mile.

Shorthorn Cows and Heifers.

I have Village Maids, Village Blossoms, English Ladies, Lancasters and Wimples for sale. Four with calves at foot, and one yearling heifer fit for any show-ring. One mile east of St. Mary's.

HUGH THOMSON, Box 556, ST. MARY'S, ONT.

Green Grove Shorthorns and Yorkshires
A few young bulls and sows, ready for service, to offer. Geo. D. Fletcher, Binkham P. O., Ont.
Erin Shipping Station, C. P. R.



MY LUCKY DAY

Mr. Thomas Wylie (Box 384), Galt, says:—"It was the luckiest day of my life when I struck PSYCHINE, for I truly believe I shouldn't be alive now but for that. "A neglected cold was the beginning of my trouble, and what seemed to be a simple ailment, soon developed into a serious and dangerous condition. I got so low that it was scarcely possible for me to walk around, and I lost so much flesh that I looked like a skeleton. I was just about ready to 'hand in my checks,' although only 20 years of age. The medicine the doctor gave me made me worse and I got disgusted. Then I struck PSYCHINE. "PSYCHINE did miracles for me. The first bottle gave me new life and courage, and in less than no time I began to put on flesh rapidly, and I felt I was on the high road to recovery. My appetite returned, and I 'ate like a hunter,' as the saying goes. My friends were surprised, and hardly knew me. In three months I was as strong and well as ever, and returned to work in the mill. I have not had a day's illness since. Nobody could wish for better health than I enjoy, and it is all owing to PSYCHINE. It should be in everybody's hands."

For Coughs, Colds, Loss of Appetite, Throat, Lung and Stomach Trouble, take Psychine. Druggists and Stores sell at 50c and \$1.00. Send to DR. T. A. SLOCUM, Limited, Spadina Avenue, Toronto, for a TRIAL FREE.

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Used and endorsed by 45 Agricultural Colleges. Write to me for information and Free Booklet.

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Canadian distributor for the Zenoleum Veterinary Preparations.

SHORTHORNS!

A few cows and heifers with calves at foot by Good Morning, imp. No bull to offer of breeding age. Office both stations.

SCOTT BROS., HIGHGATE, ONT.
M. C. Ry. P. M. Ry.

Glengow Shorthorns!

Benmore = 70470 = Red. Calved Jan. 25th, 1907. Sire Ben Lomond (imp.) = 45160 = Dam Danish Beauty (imp.) = 48740 = Benmore is a twin, but will be guaranteed, and will be exchanged for a female of approved pedigree Royal Clan at head of herd, and do another. Apply to:

WM. SMITH, COLUMBUS P. O., ONT.

Clover Dell Shorthorns
Having disposed of my recent offering of bulls, also several females, I have still young of both sexes for sale. Dual Purpose a Specialty. **L. A. WAKELY, BOLTON, ONT.** Bolton station on C. P. R. within 1/2 mile of farm.

Stoneleigh Shorthorns and Berkshires
For sale: Two choice yearling bulls—dairy-bred, and a few one and two year old heifers. Berkshires of both sexes. And eggs of Buff Orpingtons, Pekin ducks and Bronze turkeys. **E. Jeffs & Son, Bond Head P. O., Ont.**

QUESTIONS AND ANSWERS. Miscellaneous.

SALSIFY DUG IN SPRING.

Is salsify (vegetable oyster) fit to eat, having remained in the ground over winter? It had grown about 4 inches of top when we raised it. Kindly inform us if it is like parsnip, unfit for use when it has grown. **CONSTANT READER.**

Ans.—Salsify, or vegetable oyster, as it is sometimes called, is much like the parsnip in that it is improved by being left in the ground over winter for use in the spring. It is not quite so hardy as the parsnip, however, and is the better of a little covering on top, or protection of some kind to prevent it from thawing out during the winter when once it has been frozen. It is an erroneous idea that parsnips or salsify are unfit for use after they begin growing in the spring. The more they grow, however, the more nutriment of the root is used up in the production of stalks, and in this way the quality of the vegetable is reduced; but so far as the changing the character of the root and making it poisonous or unfit for food is concerned, no change of this kind takes place. **H. L. HUTT, O. A. C.**

SUPERPHOSPHATE WORKS NEAR BROCKVILLE.

A good many years ago, a firm manufactured superphosphate, I think either in Belleville or Brockville. Can you tell us, in "The Farmer's Advocate," who owns the mine at present, from which the phosphate rock was taken, or the number of the lot, con. and township in which the mine is situated? **W. J. C.**

Ans.—The report of the Geological Survey of Canada for 1874-5, page 307, says: "Superphosphate works at Brockville were started in 1869, but since then many additions have been made to them. The apatite employed is from the township of North Burgess, and is stated to contain an average of about 80 per cent. of phosphate of lime." On page 109, of the same report, it is said: "The only other location in which any work was in progress was that on lots 11 and 12, in the seventh concession of North Burgess. Here, on a property owned by A. Cowan, apatite was being raised on contract work by Gerald C. Brown, the greater bulk of which was for the supply of Mr. Cowan's superphosphate works at Elizabethtown, near Brockville."

Your correspondent would have to apply to the Registrar at Perth in order to learn who is the present owner of the lots referred to. **W. G. MILLER, Provincial Geologist.**

PREPARING FOR TENNIS COURT.

A plot of fairly light sandy soil, from which about a foot of the surface has been removed in the process of levelling, is to be prepared for use as a tennis court, to be ready next year, or earlier, if possible. Kindly give directions as to depth to which soil should be worked, amount of fertilizer (also kind) required, the best kind of seed to use so as to produce a good sod as soon as possible. The plot is about 90 x 50 feet, and has been exposed for about a year since top soil was removed. **J. A. A.**

Ans.—In the preparation of ground for a tennis court, or, in fact, a lawn of any kind, it is necessary where much levelling and grading has to be done to keep five or six inches of good surface soil on top to insure a luxuriant growth of grass. If the soil is not naturally rich, it may be improved by application of well-rotted manure or compost. This should be thoroughly incorporated with the soil by cultivating or forking in. Light, sandy soils, such as you mention, are often deficient in potash, and are benefited by a liberal application of wood ashes. The more deeply and thoroughly the soil is worked, and the more fertilizer incorporated with it, the better the growth of grass when it has been seeded down. The best kind of seed to use is a mixture of equal parts, by weight, of red-top, bluegrass, and white Dutch clover. This should be sown at the rate of about a pound to a square rod. Care should be taken to get an even distribution of seed, it should be well raked into the soil, and if the season is dry, it should be rolled to insure quick germination. **H. L. HUTT, O. A. C.**

7 Imported Scotch Shorthorn Bulls 7

Six imported bull calves from 9 to 14 months old, 3 reds and 3 roans. They are of such noted families as Clara, Jill, Roan Lady, Butterfly, Claret and Broadhooks. One imp. bull 2 years old, red; a most valuable sire. One bull 11 months old, roan, from imp. sire and dam; promising for a show bull. Two bulls 12 months old, from imp. sire and dam; suitable for pure-bred or grade herd. Also females all ages. Write for catalogue. Prices reasonable. Farm 1/4 mile from Burlington Junction station, G. T. R.

FRED. BARNETT, MANAGER.

J. F. MITCHELL, BURLINGTON, ONT.

Shorthorns and Shropshires SHORTHORN BULLS PRICED

Herd headed by Imp. Queen's Counsellor = 64218 = (96594). For sale: Three young bulls; also cows and heifers bred to Queen's Counsellor. The Shropshires are yearling rams and ewes, bred from imported Buttar ram.

H. L. STEAD, Wilton Grove, Ont.
London, G. T. R., 6 miles; Westminster, P. M. R., 1 mile. Long-distance phone.

Red, two years old, from a good imported cow, price \$100.
Roan, thirteen months old, extra good, short-legged calf from one of my best cows, \$100.
Red and White, thirteen months, out of Lady Madge, by Langford Eclipse, price \$75.

JOHN MILLER, BROUGHAM, ONTARIO.
CLAREMONT STATION, C. P. R.

SHORTHORN BULLS Herd-heading quality and breeding. Also good ones at farmers' prices. Females for sale. Write, or come and see. Farm adjoins town, **H. SMITH, EXETER, ONTARIO.**

Shorthorn Cattle AND LINCOLN SHEEP.

Females of all ages for sale of the thick-fleshed, low-down kind that have been raised naturally, neither stuffed nor starved. Twenty-five Lincoln ewes, bred to our best imported stud ram, also a few choice yearling rams. Prices very reasonable for quick sale.

J. T. GIBSON, DENFIELD, ONT.

A. Edward Meyer, P. O. Box 378, Guelph, Ontario.

Breeds SCOTCH SHORTHORNS Exclusively
Twelve of the most noted Scotch tribes have representatives in my herd. Herd bulls: Scottish Hero (imp.) = 65042 = (90065) 295765 A. H. B.; Gloster King = 68708 = 208804 A. H. B. Young stock for sale. Long-distance phone in house.

During the Busy Season If you need a Shorthorn bull we will ship one on approval, and if you are not suited you may ship him back. Write us for terms and conditions. Just two ready for service. Both Cruickshank Lavenders. **MAPLE SHADE FARM.** STATIONS: } **MYRTLE, C. P. R. BROOKLIN, G. T. R.** **JOHN DRYDEN & SON, BROOKLIN, ONT.** Long-distance telephone.

Scotch Shorthorns Canada's greatest living sire, **Mildred's Royal**, heads my herd. For sale are young bulls and heifers, show stuff and Toronto winners, out of Stamford, Lady Ythan, Claret, Emeline, Matchless and Belona dams. A visit will be appreciated. **GEO. GIER, Grand Valley P. O., Ont. Waldemar Sta., C. P. R.**

JOHN GARDHOUSE & SONS
Always have for sale a number of first-class **Short-horns, Shires and Lincolns**, of both sexes. Drop us a line, or better, come and see for yourself. **HIGHFIELD P. O., ONTARIO.** Weston Sta., G. T. R. & C. P. R. Long-distance phone in house.

We are offering **5 Good Young Bulls** at very reasonable prices in order to clear, also **2 VERY CHOICE JUNIOR YEARLINGS IN SHOW CONDITION.** We can sell some extra well bred cows and heifers (bred or with calves at foot) at prices which should interest intending purchasers. Our farms are quite close to Burlington Jct., G. T. R. Long-distance telephone. **W. G. Pettit & Sons, Freeman, Ontario.**

GEO. AMOS & SON, Moffat, Ontario.

For sale: Imp. Ben Lomond = 45160 = 80468, that grand stock bull, sire of first-prize calf herd at Toronto, 1908; and Augustus, a good Bruce Augusta bull calf; also females, various ages. Write, or come and see us. Farm 11 miles east of City of Guelph, on C. P. R.

SHORTHORNS

Nine bulls from 8 to 20 months old, reds and roans; 10 yearling heifers and a few cows. Will sell very cheap to make room in stables.

CLYDESDALES
One pair of bay mares and one dark brown, heavy draft and two spring colts. **JAMES McARTHUR, Gobles, Ontario.**

WHY NOT BUY A HIGH-CLASS SCOTCH SHORTHORN COW, Or a Heifer, Or a Bull, Or a Few Shropshire Ewes, Or a Few Cotswold Ewes, NOW, While You Can Buy Them Low?

I can offer you something in any of them that will make a start second to none. Write for what you want. **ROBERT MILLER, STOUFFVILLE, ONT.**

SPRING VALLEY SHORTHORNS

One 14 months' old imported bull, bred by A. M. Gordon. Good enough to head any herd. Five Canadian-bred bulls from 12 to 16 months. Will be priced very reasonable, as we do not want to run them over. **KYLE BROS., AYR, ONT.**

Greengill Shorthorns!

Our present offering consists of 10 young bulls, from 8 to 20 months. All nice reds and roans. A number of them from imp. sire and dam. Prices right. **R. Mitchell & Sons, Nelson P. O., Ont.** Burlington Jct. Sta.

VALLEY HOME SHORTHORNS AND BERKSHIRES

For sale: 6 grand young bulls from ten to eighteen months old, young cows with calves at foot, and ten one and two-year-old heifers. All our own breeding. Some are very choice show animals. Also young sows, and a fine boar 12 months old. **S. J. PEARSON, SON & CO., MEADOWVALE P. O. AND STATION, C.P.R.**

MR. A. I. HICKMAN, Court Lodge, Egerton, Kent, England,

EXPORTER OF PEDIGREE LIVE STOCK Of all descriptions. During the summer months the export of show and stud flocks of sheep will be a specialty. Who can do better for you than the man who lives on the spot? Mr. Hickman will be at the Bell Hotel, Gloucester, during the week of the Royal Show, and will be pleased to meet all foreign and colonial visitors there.

MILK-FEVER OUTFITS. Dehorners, Teat Syphons, Sitters, Dilators, etc. **Received only award World's Fairs, Chicago, St. Louis.** Write for illustrated catalogue. **Hausmann & Dunn Co., 392 So. Clark St., Chicago.**

WOOL

HIGH PRICES. ✱ ✱ ✱ **WRITE US.**
E. T. CARTER & CO.,
84 FRONT ST. E., TORONTO, CANADA

Brampton Jerseys

Canada's premier herd. Dairy quality. Bulls all ages for sale, from best dairy and show cows in Canada, and by best sires. Our herd is 175 strong.
B. H. BULL & SON, BRAMPTON, ONT.

Lump Jaw



The first remedy to cure Lump Jaw was 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 us for a free copy.

FLEMING BROS., Chemists,
75 Church St., Toronto, Ontario

FAIRVIEW HERD HOLSTEINS

The greatest A. R. O. herd of in northern New York. Headed by Pontiac Korndyke, the greatest sire of the breed, having five daughters whose seven-day records average 29 1/4 pounds each, and over 4.3% fat. Assisted by Rag Apple Korndyke, a son of Pontiac Korndyke, out of Pontiac Rag Apple, 31.62 pounds butter in 7 days, and 126.56 pounds in 30 days, at 4 years old. Cows and heifers in calf to the above two bulls for sale, also young bulls sired by them out of large-record cows. Write, or come and inspect our herd. **E. H. DOLLAR, Heuvelton, St. Lawrence Co., N. Y., near Prescott, Ont.**

WOODBINE STOCK FARM

Offers a few fine young Holstein bulls and bull calves, sired by Sir Mechthilde Fosch. Sire's dam holds world's largest two-day public test record, dam Ianthe Jewel Mechthilde, 27.65 lbs. butter in 7 days; average test, 4.46 per cent. fat; out of dams with superior breeding and quality. Shipping stations—Paris, G. T. R.; Agr. C. P. R. **A. KENNEDY, Agr. Ont.**

Centre and Hillview Holsteins

For sale: 5 choice bulls fit for service now, from dams of extra good backing. Their sires are Brookbank, Butter Baron and Bonheur Statesman. Their dams and sires' dams and grandams average over 24 lbs. butter test in 7 days.

P. D. EDE, Oxford Centre P. O., Woodstock Sta. Ont. Long-distance phone, Burgessville.

BUSINESS HOLSTEINS!

Over 60 head to select from. Milk yield from 60 to 85 lbs. a day, and from 35 to 47 lbs. a day for 2-yr.-olds. There are 10 2-yr.-old heifers, 8 1-yr.-olds, and a number of heifer calves. Bulls from 1-yr.-old down. Priced right. Truthfully described. **W. Higginson, Inkerman, Ont.**

MAPLE GLEN Holsteins

For sale: Only 1 bull, 11 months old, left; dam is sister to a 26-lb. tested cow. Any female in herd for sale, 7 with records 20 1/4 to 26 1/4 lb. official tests. An 8-yr.-old G. D. of Paul Beets De Kol, in calf to Oakland Sir Maida—her record 21.88 as a 5-yr.-old. Price \$400, or will dispose of herd en bloc, a great foundation privilege. **G. A. Gilroy, Glen Burg, Ont.** Long-distance phone connects with Brockville.

The Maples Holstein Herd!

RECORD-OF-MERIT COWS. Headed by Lord Wayne Mechthilde Calamity. Nothing for sale at present but choice bull calves from Record of Merit dams; also a few good cows at reasonable prices.

WALBURN RIVERS, Foiden's Corners, Ont.

Sunny Hill Farm No more Holsteins for sale at present. Eggs from choice White Rocks and Buff Orpingtons, one dollar per setting. **DAVID RIFE & SONS, Hespeler, Ontario.** Waterloo County, C. P. R. and G. T. R.

"I should think it would be a great relief at night to get home and away from this ceaseless asking of questions," remarked the stranger. The bureau of information man smiled a wan smile. "It isn't much relief," he replied. "I'm the father of eight children."

Do this with your children.

School children should be fed plentifully and frequently on Quaker Oats. It makes the best possible breakfast for anyone who is to work with either brain or muscle. It's easy to prove this in your own family. Increase the daily consumption of Quaker Oats and you'll see an almost immediate improvement in the health and energy of those who eat it.

Regular size packages for city trade, large size family packages for those who are not convenient to the store. The large package contains a piece of handsome china for the table.

Breakfast on Quaker Oats every day. Quaker Oats is made at Peterborough, Canada.

QUESTIONS AND ANSWERS. Miscellaneous.

IMPORTATION FOR EXHIBITION

Would Clydesdales registered in Canadian Stud Book be exempt from red tape in crossing the line for exhibition purposes, if they were registered in American Studbook? **R. B. P.**

Ans.—Animals imported into the United States for exhibition purposes are entitled to entry under bond for their exportation within six months from the date of importation. If valued at over \$100, no such animal will be admitted to entry, unless accompanied by a consular certificate fully describing the animal, and setting forth the value thereof.

POSSESSION OF FARM.

A rented a farm from B. B said he could rent it until he sold. B sold to C and did not notify A.

1. Can C, or another man appointed by C, forbid A from working on the place or using it for pasturage?
 2. If A won't stop after being forbidden to use place, can C collect damages?
 3. What can he collect for pasturage per month per head for cattle?
 4. If C can't stop A from using place, can he come on B for damages?
- N. B.**
- Ans.—1. Yes.
2. Yes.
3. There is no fixed rate. What he would be entitled to collect would be by way of damages, and the amount would be whatever the court or a jury might consider reasonable, having regard to all the circumstances.
4. Yes, assuming, of course, that the documents in the matter contain the provisions usual in such cases.

BORERS IN PEACH TREES—PLANTING BERRIES—BEST EGG-LAYERS.

1. Can borers in peach trees be killed? If so, what will do it, and what time of year should they be treated to prevent the borer from doing damage? What can be used to stop the young insect from entering the tree? Can a tree be saved that has them already in? Will whitewashing them the same as the apple tree do any good?
2. What time of year do you advise planting strawberries and raspberries, and what varieties are best for table use?
3. What breed of hens are most profitable for eggs? **J. A. G.**

Ans.—1. The only reliable means of getting rid of borers that attack peach trees is to grub them out with a sharp knife. Eggs are laid on the trunk of the tree, close to the ground, all through the summer. Some advise wrapping tar paper or banking with earth, but there is a danger of injuring the bark, and hence the health of the tree. Washes of various kinds have been tried, but most of them are dangerous, owing to the tender character of the bark. The only one that seems to be effective and safe is gas-tar, the smell of which keeps away the moth. A tree already attacked can be saved if not too seriously infested. Whitewash is of little use for borers, either in peach or apple trees.

2. Strawberries, as a rule, are set out in the spring during the month of May. Raspberries also are best planted about the same time, or about when the leaf buds are bursting. Outhbert is the best standard raspberry. Marlboro and Herbert also are recommended. Golden Queen is a popular yellow raspberry. There are so many varieties of strawberries, with different sorts suited to different localities, that it is hard to say which are the best. Splendid, Ruby, Warfield and Parson's Beauty are good standard sorts. Splendid for early and Ruby for late night soil you.

3. Some make best profits with one breed and some with another. Wyandottes, Plymouth Rocks and Orpingtons are recognized as good winter layers. Lechons and Minors are usually styled the best egg producers, but the tendency is for them to lay most in the summer, when eggs are cheapest. It does not depend so much on breed as on strain, individuality and management.

Holsteins

FOR SALE: COWS AND HEIFERS

All ages. Also bull and heifer calves, including daughter and granddaughters of Pieterje Hengerveld Count De Kol, whose TWO famous daughters made over 32 lbs. butter each in 7 days, and sire of the "world's champion milking cow," De Kol Creamline, which gave 119 lbs. in one day, over 10,000 lbs. in 100 days. Also for sale daughters of De Kol's 2nd Mutual Paul, sire of Maid Mutual De Kol, which gave over 31 lbs. butter in 7 days, also granddaughters of Hengerveld De Kol. Other leading breeds represented. Putnam station, near Ingersoll.

H. E. GEORGE,

CRAMPTON, ONTARIO.

Holsteins at Ridgedale Farm—Eight bull calves on hand for sale, up to eight months old, which I offer at low prices to quick buyers. Write for description and prices, or come and see them. **R. W. WALKER, Utica P. O., Ont.** Shipping stations: Myrtle, C. P. R., and Port Perry, G. T. R. Ontario Co.

Glenwood Stock Farm—Holsteins and Yorkshires. Holsteins all sold out. Have a few young Yorkshire sows, about 2 months old, for sale cheap. True to type and first-class. Bred from imported stock. **Thos. B. Carlaw & Son, Warkworth P. O., Ont.** Campbellford Station.

LAKEVIEW HOLSTEINS

We have for sale 4 young bulls ready for service, 2 of them by Brightest Canary, whose several nearest dams average 25 lbs., and whose B. F. test shows 4%; the other 2 equally as well bred. We have also for sale a few pure-bred females and a number of heavy-milking Holstein grades. **LAKEVIEW FARM, BRONTE, ONTARIO.** Long-distance phone. Write us for particulars. **W. D. Brecken, Manager.**

HOMEWOOD HOLSTEINS

For Sale: Only thrifty bull calves from 4% R. O. M. cows; some will make great herd headers and show animals. Write for prices and description. Station on the place.

MAPLE HILL HOLSTEIN - FRIESIANS

Special offering: Am now offering for first time my stock bull, Sir Mercedes Teake (7489), champion bull at Toronto and London, 1908. Can no longer use him to advantage, as I have twelve of his daughters in my herd.

M. L. & M. H. HALEY, Springford, Ont.

G. W. CLEMONS, ST. GEORGE, ONT.

HERE AGAIN!

With high-class HOLSTEINS for sale, of all ages, except bulls for service. CHEESE is HIGH. Why not invest AT ONCE? We sell at BARGAIN prices. Write or call, we're always home. Railway connections good.

BURNLEY POINT HOLSTEINS!

3 thrifty bull calves for sale, 8 months old. They are choice ones. Also 1 three-year-old bull.

Holsteins

Record of Merit stock. One bull 13 months old. A number of bull calves, also a few young cows and heifers for sale.

WM. BATTY, CLARKSON, ONTARIO

THOS. HARTLEY, DOWNSVIEW, ONT.



Stoneycroft Ayrshires

Choice young bulls and heifers of the very best breeding, combining show and dairy quality. Large Improved Yorkshire Pigs from imported sires and dams, now ready to ship. **Stoneycroft Stock Farm, Ste. Anne de Bellevue, Que.**

Ayrshires from a Prizewinning Herd—Have some nice bull and heifer calves for sale at reasonable prices. For particulars, etc., write to **WM. STEWART & SON, Campbellford Stn. Menie P. O., Ont.**

Prizewinning Ayrshires

FOR SALE: 5 High-class Bulls, from 6 to 24 months of age; 10 Cows and Heifers, from 6 months to 5 years of age. All bred from the deepest-milking strains. **A. Kennedy & Son, Vernon, Ontario.** Hillview Stock Farm. Winchester station, C. P. R.

AYRSHIRES AND YORKSHIRES!

Kindly send in your orders at once for imported stock. We can cable orders and have them shipped in May. Calves from imp. dams or from home-bred Record of Merit dams. Females any age. A few young pigs.

ALEX. HUME & CO., MENIE, ONTARIO.

HOARD'S STATION, G. T. R.

Phone in residence.



SPRINGBROOK AYRSHIRES are large producers of milk, testing high in butter-fat. Young stock for sale. Orders booked for calves of 1909, male and female. Prices right. Write or call on **W. F. STEPHEN, Box 163, Huntingdon, Que.**

Cattle Labels \$2 and fifty tags. Sheep Labels \$1.50 for fifty tags. With name and numbers. By return mail, prepaid. Write to day. Sample free. **F. G. JAMES, Bowmanville, Ont.**

BURNSIDE AYRSHIRES

are in such demand that I have decided to make another importation. I intend attending the great dispersion sale of the world-renowned Barcheskie Herd, belonging to Mr. And. Mitchell, Kirkcudbright, Scot., where some 100 of the choicest Ayrshires ever offered will be sold. Orders entrusted to me will be carefully attended to. Breeders, take advantage of this great sale, and replenish with a few good ones. Correspondence solicited and satisfaction guaranteed. Long-distance phone in house.

R. R. NESS,

HOWICK, QUE.



Fairview Shropshires

We now offer Excellent ewes, choice rams, and the best lots of lambs ever offered. All sired by our famous Chicago and St. Louis Grand champion rams, His Best and B. Sirdar.

J. & D. J. Campbell, Fairview Farm, Woodville, Ont.

IMPORTED HORNED DORSETS

I have for sale a few of both sexes, the best of last year's champion all round the circuit, Imp. Romulus 2nd. Canada's banner flock of Dorsets.

JAS. ROBERTSON & SONS, Milton P. O. and Sta., C. P. R. and G. T. R.

SOUTHDOWNS AND COLLIES.

Orders now solicited for especially-fitted sheep. Your choice of early lambs from imported and prizewinning Canadian-bred ewes, and by the sire of the Grand Champion wether at Chicago, 1907. Twenty shearings, the choice of last year's lamb crop, also for sale. Long-distance Telephone. **ROBT. McEWEN, Byron, Ont.** Ry. Stn., London, Ont.

Maple Villa Oxfords, Yorkshires

The demand for Oxford Down sheep and Yorkshires has been the best I ever had. Have still for sale shearing ewes and ewe lambs, and young sows sale in pig. These will certainly give satisfaction.

J. A. CERSWELL, BONDHEAD P. O., ONTARIO. Simcoe County.

CLAYFIELD Buy now of the **Champion Cots Stock Flock** of America, 1906. Flock headers, ranch rams, ewes of different FARM! ages. All of first-class quality, and prices reasonable. Write, or call on **J. C. ROSS, Box 61, Jarvis, Ont.**

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs. Present offering: Lambs of either sex. For prices, etc., write to **John Cousins & Sons, Buena Vista Farm, Harriston, Ont.**

Ashford Ram Show AND SALE, 1909.

The annual show and sale of REGISTERED KENT OR ROMNEY MARSH RAMS will take place at Ashford, Kent, England, on Thursday, September 23rd, and Friday, September 24th, 1909. The entry includes the first selection from the principal flocks of the breed, and will number 500 head of thoroughly typical and choicely-bred rams. Valuable challenge cups and prizes offered. Full particulars and catalogues, when ready, from

W. W. CHAPMAN, 4 Mowbray House, Norfolk St., Strand, London, W. C., England, who will supply any information required. Cables and telegrams: Sheepcote, London, England.

DR. WOOD'S NORWAY PINE SYRUP

Is A Remedy Without An Equal For COUGHS, COLDS, And All Affections Of The THROAT and LUNGS.

Coughs and Colds do not call for a minute recital of symptoms as they are known to everyone, but their dangers are not understood so well. All the most serious affections of the throat, the lungs and the bronchial tubes, are, in the beginning, but coughs and colds.

Too much stress cannot be laid upon the admonition to all persons affected by the insidious earlier stages of throat and lung disease, as failure to take hold at once will cause many years of suffering, and in the end that terrible scourge of "Consumption."

Dr. Wood's Norway Pine Syrup is not sold as a Cure for Consumption but for affections tributary to, and that result in, that disease. It combines all the lung healing virtues of the Norway pine tree with other absorbent, expectorant and soothing medicines of recognized worth, and is absolutely harmless, prompt and safe. So great has been the success of this wonderful remedy, it is only natural that numerous persons have tried to imitate it. Don't be humbugged into taking anything but "Dr. Wood's." Put up in a yellow wrapper; three pine trees the trade mark; price 25 cents.

MAPLE GROVE YORKSHIRES.

We now offer between 75 and 100 March pigs, sired by our Toronto champion boar, M. G. Champion—20102—, and M. G. Chester—24690—, a boar of great individuality. Pairs not related. Also choice sows for fall farrow. In short, pigs of all ages. Satisfaction guaranteed. Prices very reasonable. H. S. McDIARMID, Fingal, Ont. Shedden Station.

Morrison Tamworths, Shorthorns and Clydesdales. Tamworths from Toronto winners. Either sex. Any age. Sows bred and ready to breed. Pairs not akin. CHAS. CURRIE, Morrison, Ont. Schaw Sta., C. P. R.

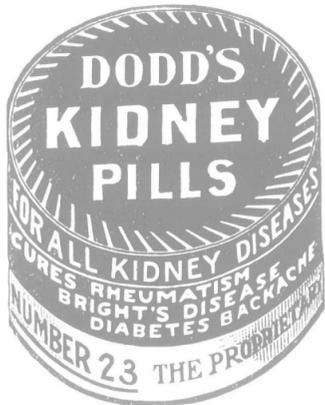
On a birthday before they were married she gave him a book entitled "A Perfect Gentleman." On a birthday after the marriage she gave him a book entitled "Wild Animals I Have Met."

Dr. C. H. Parkhurst, the eloquent New York clergyman, at a recent banquet, said of charity:

"Too many of us, perhaps, misinterpret the meaning of charity as the master misinterpreted the scriptural text.

"This master, a pillar of the Western church, entered in his journal:

"The Scripture ordains that if a man take away thy coat let him have thy cloak also." To-day, having caught the hostler stealing my potatoes, I have given him the sack."



GOSSIP.

CLYDESDALES FOR CANADA.

On May 15th, there were shipped from Glasgow, consigned to Alexander Ledingham, Lacombe, Alta., six well-bred Clydesdales, one stallion and five fillies. On May 29th, fifteen fillies and one stallion were shipped to Captain G. L. Watson, Clinton, B. C. These were also an exceptionally well-bred lot.

Thomas Hartley, Downsview, Ont., near Toronto, advertises for sale in this issue, young Holstein bulls, cows and heifers, bred from Record-of-Merit stock. Dairy-men may find in this offering the kind of cows that fill the "patent" pail more than once at a milking. The 13-months' bull offered is a son of Favorit Girl, who has just finished an official yearly record of 13,000 lbs. milk as a three-year-old. Her dam's yearly official record is 17,619 lbs. milk, containing 657 lbs. fat, equal to 8214 lbs. butter. His sire is Cornelia's Posch 2250, who was shown five years in succession at Toronto and London, winning first prize and sweepstakes wherever shown. All the calves in the herd are by this bull, and should be a safe proposition for investment.

BARCHESKIE AYRSHIRE SALE.

At Castle-Douglas, Scotland, on May 27th, the well-known Barcheskie herd of pedigreed Ayrshire cattle, belonging to Andrew Mitchell, Barcheskie, was dispersed. The sale was the most important that has taken place in Scotland for many years. Barcheskie-bred animals have long taken a foremost place in Britain and in Canada, the States, and Japan. Splendid weather prevailed, and there was a record attendance, buyers being present from all over Scotland, many parts of England, and from Canada and the States.

Three stud bulls were exposed, the highest price paid being 100 gs., for Auchenbrain Star, by Robert Ness, Howick, Quebec. Eighty-nine cows were exposed, bringing an average of 23½ gs. Mr. Ness again was top bidder, at 72 gs., for Culcaigrie Bonnie Jean. Three-year-old heifers were a grand lot, and made up to 37 gs., paid by Mr. Ness, who was a most extensive buyer during the day. The bidding for some of the lots was exceedingly spirited, and in nearly every instance satisfactory prices were obtained in the older classes, and, indeed, all over the sale was a record one, the well-known buyers vying with each other in their efforts to secure members of the famous herd. Two-year-old heifers, of which there were 53, were a most attractive lot, and here again Mr. Ness secured the pick, paying 62 gs. for Orange Blossom III., 44 gs. for Barcheskie White Beauty, and 42 gs. for Barcheskie Cora. Of one-year-old heifers there were 38, and two of these each made 36 gs., Mr. Ness securing Barcheskie Lily XIII.

GRAPE GRANGE ABERDEEN-ANGUS.

Grape Grange Stock Farm, the property of Rev. C. H. Marsh, of Lindsay, Ont., is situated in the County of Grey, alongside the village of Clarksburg, one mile from Thornbury Station, on the Allandale-Meaford branch of the G. T. R. The Grape Grange herd of Aberdeen-Angus cattle is an old-established herd, with a representation of individual excellence and truthness to type of this great beef breed second to none in the country. One of the many high-class breeding cows in the herd is Elmyms Favorite 16544, winner of third prize as a calf at the World's Fair, Chicago, 1893, and first at Toronto, London, Ottawa, Kingston, etc., since. For the last six years at the head of the herd was the splendid stock bull, Elm Park Master 51010, for whom was paid \$225 as a yearling, money well spent, owing to his superiority as a sire. On hand for sale are five young bulls, two of them rising two years of age, the other three about six months of age, all sired by the stock bull, one of them out of the great cow above mentioned, Elmyms Favorite, two of the others being grandsons of hers. There are also for sale several heifers by the same sire. Parties wanting foundation stock of this great winning beef breed should look after these, as no fancy prices are asked. Address all communications to the manager, Andrew Dunsmore, Grape Grange Farm, Clarksburg, Ont.

SEA GREEN & PURPLE SLATE ROOFS NEVER WEAR OUT

SEA GREEN AND PURPLE SLATE is nature's own product—not man made. Quarried from solid rock—split into convenient form for laying, and then in its natural state ready for the roof. SOLID ROCK CAN NOT WEAR OUT. It can't burn, rust, warp, crack, tear, or decay. That's why Sea Green or Purple Slate Roofs never wear out and never require painting and repairing like all other roofing. Sea Green & Purple Slate Roofs are suitable for any building, new or old. Give perfect protection. Reduce insurance rates because spark and fire-proof. Afford clean cistern water. Not affected by heat or cold. First cost—only a trifle more than short lived roofing. Settle your roof question for all time. Don't spend more money for poor roofing. Write to us for our free book "BOOPS"—it will save you money. Give name of your local roofer. Write today. AMERICAN SEA GREEN SLATE CO., Box 3 Granville, N. Y.

MONKLAND YORKSHIRES

are the easily-fed, quick-maturing kind. The sort the farmers want. All ages for sale. 100 sows bred now. JAMES WILSON & SONS, FERGUS, ONTARIO.

Willowdale Berkshires!

Won the leading honors at Toronto this fall. For sale are both sexes and all ages, from imp. stock on both sides. Show things a specialty. Everything guaranteed as represented. J. J. WILSON, MILTON, ONT., P. O. AND STATION. C. P. R. AND G. T. R.

OHIO IMPROVED CHESTER WHITES.—Largest strains. Oldest-established registered herd in Canada. Young sows in farrow. Choice pigs 6 weeks to 6 months old. Pairs furnished not akin. Express charges prepaid. Pedigrees and safe delivery guaranteed. E. D. GEORGE Putnam, Ont.

Pine Grove Yorkshires

At the late Guelph Winter Show we won decidedly the best of it in the bacon classes. Our Yorkshires are noted for superior excellence. Both sexes and all ages for sale. J. Featherstone & Son, Streetsville, Ont.

NEWCASTLE TAMWORTHS, SHORTHORNS AND CLYDESDALES.

Present offering: 3 Shorthorn cows with heifer calf at foot, 3-4 and 5 months old respectively, and bred again; a choice lot of Tamworth boars and sows from 6 weeks to 5 months old, also a few really good sows bred during April and May. A. A. COLWILL, NEWCASTLE, ONT.

SIX (6) CHOICE BOARS

Ready for service, at \$25 apiece for quick sale. A few pigs ready to wean. Several good young sows to spare, all sired by imported Knowle King David. A. C. Hallman, Breslau, Ont.

SUNNYMOUNT BERKSHIRES

Highest standard of type and quality. For sale: Sows of all ages, and 4 yearling boars. A grand, good lot. Also younger ones. Pairs not akin. JOHN McLEOD, C.P.R. & G.T.R. Milton P.O., Ont.

DUROC-JERSEY SWINE

Imported and home-bred. Sows ready to breed. Boars fit for service, and younger ones either sex. Also Embden geese. MAC CAMPBELL & SONS, HARWICH, ONT.

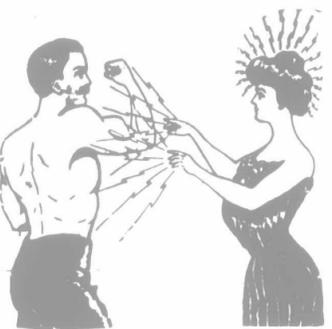
PINE GROVE BERKSHIRES.

Sows bred and ready to breed. Nice things, three and four months old. W. W. BROWNRIDGE, Milton, C. P. R. Ashgrove, Ont. Georgetown, G. T. R.

Hilton Stock Farm

Present offering: 6 yearling heifers and several younger ones. All very choice. Of Tamworths, pigs of all ages and both sexes, pairs not akin. R. O. MORROW & SON, Hilton, Ont. Brighton Tel. and Stn.

DON'T YOU WANT TO BE STRONG P



To feel the glow of new-born life in your blood and nerves, to feel the bubbling spirit of youth again? Don't you want to have a strong heart, courage, nerves of steel, self-confidence, strength, ambition, energy, grit and endurance? Don't you want to be rid of the "come-and-go" pains, the Rheumatism, Dyspepsia, Varicocoele, Weak Back, and the many other troubles that make life miserable? Then try

Dr. McLaughlin's Electric Belt

It gives lasting strength. Its cures are permanent, forever. Its touch is the touch of magnetism; it creates in a weakened body new life, strength, energy, courage, happiness and long life. It is Nature's great Restorer, applied gently while you sleep. Try it: you weak, debilitated man; you poor, weary and disheartened woman; feel the life-blood warming your heart, the fire in your blood and the steel in your nerves. Let it cure you.

If you are sceptical, all I ask is reasonable security for the price of the Belt, and

WHEN YOU ARE CURED, PAY ME.

The best argument which can be offered in praise of a curative remedy is the word of one who has tried it and says "It cured me." Here is one of thousands, and the evidence of others is on file at my office, for all who are interested:

Dear Sir,—I take much pleasure in saying that I am satisfied in every way with the good qualities of your Belt. It will do all you claim it to do, provided "the patient does his share, and uses it properly as directed." I know in my case it has proved a grand success. I have not worn it now for some time, but it is as good, and the current is as strong, as ever. Anything you wish to say in my behalf regarding the good qualities and curative powers of your Belt, I am ready to "back it" up at any time. W. A. GRAHAM, Box No. 19, Bobcaygeon, Ont.

One thing every man ought to know is this: Your body is a machine. It is run by the steam in your blood and nerves. When you begin to break down in any way you are out of steam. That's just what I want to give you back. You will never know what a grand power electricity is until you feel its genial, glowing warmth penetrating every vital part of your body from my Electric Belt.

FREE BOOK.—Cut out this coupon now and mail it. I'll send this book without delay, absolutely free. Call if you can. Consultation free.

DR. M. S. McLAUGHLIN, 112 Yonge St., Toronto, Can.

Dear Sir,—Please forward me one of your Books, as advertised.

NAME _____

ADDRESS _____

Office Hours—9 a.m. to 6 p.m. Wed. and Sat. until 8:30 p.m. Write plainly.



Paint That Preserves Farm Buildings

PURE PAINT is a sure preservative whether it covers buildings or vehicles or implements or anything else. If you use paint because it is cheap you will just as surely pay dear for it in the end as you would if you fed your stock with a mixture of corn and pumpkin seed.

Paint to preserve buildings must be made up of the right raw materials and mixed with the right skill and machinery to make it durable enough to withstand all severe weather conditions and variation of climate.

Any paint may look well but the only test is **time**. Yes, the old steady sun and the hammering storms will prove that common paint don't preserve.

Next time you're in town ask your dealer for

Martin-Senour Paint

If he don't sell it drop us a postal and we will send you color cards and prices of one or more of the many good paint things we have ready for your use. Let us tell you all about them in our beautiful booklet "The Home Beautiful." Free upon request. Write to-day.

MARTIN-SENOUR CO., Ltd.
MONTREAL.



"She Is My Daisy" One of Lauder's Best

Then there is "The Wedding Of Lauchie McGraw" and "Mister John Mackay", which were seldom sung by Mr. Lauder during his recent Canadian tour. But these songs are simply immense—and, of course, sung as only Harry Lauder can sing them.

We have seven new Lauder Disc Records—each one a delight to all who enjoy this artist's inimitable style.

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- X 52310—The Safest Of The Family
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THE BERLINER GRAM-O-PHONE CO.
of Canada Limited, Montreal.

67

HAVE YOU EVER REALIZED THE RESULTS OF "ADVOCATE" ADS ?

TRADE TOPIC.

A MODERN CANADIAN MANUFACTURING ESTABLISHMENT.

Of the large manufacturing plants established in Canada there has recently come to our notice one which is worthy of more than a passing comment, not only on account of the trade and capital which this plant brings to us, but on account of the value of the product which it will turn out, and the excellent reputation and standing of the manufacturers themselves.

We have reference to the large new factory opened a short time since at Sherbrooke, Que., by E. & T. Fairbanks & Co., who are undoubtedly the widest and most favorably known scale manufacturers in the world.

While the Fairbanks Scale was originally designed as a weighing machine, it is now also used to determine the number, volume, strength, quality and quantity of many articles of commerce. It computes percentage, determines values, and translates the standards of one country into those of another. One may weigh in pounds and read in bushels, a fact worth remembering, when it is considered that the great West of Canada produces immense quantities of wheat and grain. Coal may be kept in storage or on a scale which will weigh the amounts dumped in or drawn out, and at all times indicate the quantity remaining in the bin. Without scales, our mining industry would be seriously hampered. There is a constant increasing demand for modified forms of scales for new industries, and for special sizes, to fit difficult and restricted locations. Many of the processes in the industrial world depend upon the weighing machine to proportion ingredients, to facilitate the handling of materials, and to test the accuracy of products.

The demand for this labor-saving machinery is to-day greater than ever before, and we are particularly gratified that Canada is now placed in a position where it can be truthfully said that we are manufacturing here the highest-grade scales made in the world. There was a time when all weighing was done by means of beams, or steelyards, but this method was found to be too slow, and the inventive genius of Thaddeus Fairbanks brought out the Fairbanks Platform Scale in the year 1831. The resulting economy in time and labor has proved of increasing value in every industry. Hundreds of modifications from the original size and style have come into daily use, and there are few weighing requirements for which specially-adapted scales have not been designed. Fairbanks scales have been adopted by the Governments of the world as standards, and their accuracy is never questioned. They are also used almost exclusively by railroads, and wherever accuracy in weight and durability of service is essential. It may be said, therefore, that a large part of the world's traffic passes over Fairbanks scales, and they are accepted as a fair arbiter between buyer and seller.

This reputation has not been cheaply earned, but is due to a constant and unremitting effort to make good scales, utilizing the best products, sparing no money in the effort to maintain the highest standard of design, material and workmanship.

The Fairbanks scale of to-day embodies in its construction—first, the experience of more than three-fourths of a century of constant effort toward the improvement of scales. Second, the employment of the best skill, including engineers to design, and workmen to execute, together with the highest grade of material necessary to bring out a scale of quality. Third, the use of intricate and special machinery, which secures exact uniformity and unflinching accuracy.

The buildings making up the Fairbanks scale factory are situated in the center of the town of Sherbrooke, at a point where the plant is well served by both the Grand Trunk and Canadian Pacific Railways. They are of modern construction, and consist first of a large iron and brass foundry, with annex providing the storage house for metals and foundry accessories. The castings are of large capacity, and embody all the latest ideas in charging and pouring. The core room, adjoin- ing the foundry, is

equipped with Millett core-ovens for baking sand. The coke is elevated by means of a bucket-conveyor from alongside of the railroad track, where it is dumped from the cars, and this eliminates all unnecessary handling.

The sand required for moulding is carried up in the same elevator, and handled from the elevator by means of spouts. Travelling cranes and all modern machines and appliances are employed wherever required.

Adjoining the factory is a large machine shop, also cleaning-room for cleaning the castings. Next to the machine shop is a building known as the paint shop, where the finishing is done to all Fairbanks scales. Beside the paint shop is the sealing and packing department, a long building, about 40 feet in width, where the various parts of the scales are assembled, tested, sealed, and finally packed for shipment from the depot at the end of the packing-room. South of the assembling and sealing room is the wood-working department.

The buildings throughout are built with monolithic and reinforced concrete foundations, which are carried up to the first-floor level, where the walls are continued in red brick, set in lime-cement mortar. The floors are of 2 x 4 inch spruce, on edge, and 1-inch hardwood flooring on top, with heavy timber beams and columns, the construction being known as slow-burning, or mill construction. Each department is divided from the other by means of brick walls, with tinned standard automatic fire doors. The arrangement of the departments is such that the raw materials come in at one end, pass through the factory, and go out the other end finished, with all unnecessary lifting and handling eliminated.

The room of the shipping department is 30 feet wide by nearly 100 feet long, with a 10-foot platform, with canopy covering the same, running the full length of the building. Alongside this platform are located the tracks of the Canadian Pacific Railway, running over a 100-ton, latest pattern Fairbanks Track Scale, so that all raw materials entering the works, and finished material leaving the same, can be weighed in the cars before leaving the company's yard. The spur, or siding from the main line, enters the property on the south side of the buildings, which serves as a lumber yard. The latest weighing devices are also employed for weighing the charges for the foundry furnaces and for other purposes about the works.

The motive power for operating these works is electricity, which is supplied by the Sherbrooke Electric Power Co. Electric lights are also used from the same company.

Other departments, which it is unnecessary to describe in detail, are the excellent tool rooms contained in the galleries of the machine shop, the blacksmith and forge shops, and the drafting department.

The work of construction was started in April of last year, and completed in the fall.

The commerce of the world turns upon a pivot edge. In every country on the globe, in all branches of trade, in every line of business, Fairbanks scales are the recognized standard of weight.

"A Maine man, notorious for his 'nearness,'" says a New Englander, "one day went into a meat shop in Portland and inquired the price of a certain soup bone."

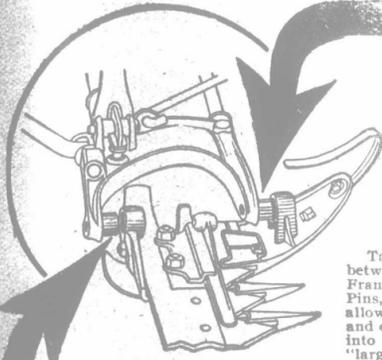
"The proprietor of the shop, himself a generous fellow, said, in answer to a question from the old man, 'Oh, I'll give you that.'"

"The old man, who is hard of hearing, put a hand to his ear, as though he had but faintly caught the butcher's reply. 'Can't you take something off that?' he asked, querulously.

"Yes," said he, "call it 10 cents." "Whereupon the old man went away with the comfortable sense of having driven a good bargain."

At one time both Montague Matthews and Matthew Montague were members of the British House of Commons. Mr. Matthews was a big, powerful giant of a man. Mr. Montague was thin and emaciated. The Speaker frequently confused the two.

"I can't understand it," said Montague Matthews. "There's as much difference between us as there is between a horse chestnut and a chestnut horse."



A Strong, Stay-Tight Connection Where Other Mowers are Weak

Seventy years' experience, plus a disposition to use the very best materials when it might seem more profitable to cheapen things, is why Frost & Wood Implements excel from the "Quality" standpoint.

Take, for instance, the connection between the Cutter Bar and Main Frame of a Mower. Others use Small Pins, that wear quickly, thereby allowing connection to work loose, and eventually "bang" the machine into a blacksmith shop. We use "large" Bearings for our "stay-tight" connection (see illustration). They

fit accurately and there is no opportunity for wear, because Cutter Bar has no chance to work loose from Main Frame. No time lost on the field—no bills to foot.

Another example of Frost & Wood "Quality" is the Pitman Connection of Forged Steel and "the Ball and Socket Joint"—strongest, firmest connection on the market.

Roller Bearings, with heavy boxes to maintain them in perfect position, make the No. 8 run easier than others. Every connection is neat and accurate. The "Internal Gear" cuts out the necessity of a "flying start"—knives commence cutting with first forward step of horses.

The No. 8 Mower and its companion, the Tiger Rake, are on the top-most rung of the "Quality" ladder.

THE FROST & WOOD CO., Limited
Smith's Falls, Canada

Ask for Book F 5



FROST & WOOD No. 8 MOWER

Fumigate As You Plough

The time to kill Moths, Slugs, Ants, Flies, Beetles, Lice, Midges, Caterpillars and other destructive insects—is, before they get on the Trees and Vines. Kill them in the ground. Fumigate the soil with

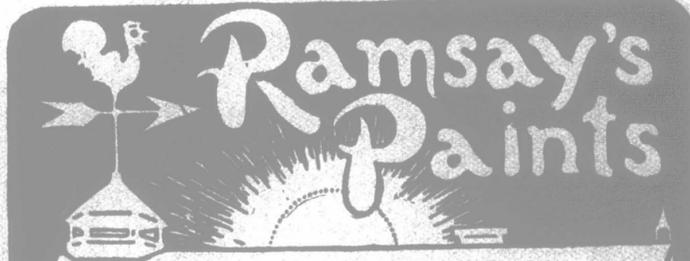
APTERITE

and you kill all the insects which live, or winter, in the ground.

APTERITE is a wonderful destroyer of pests and germs in the soil—and insures big crops of sound fruits and vegetables.

FREE The eradication of Plant Pests sent free if you tell us your principal crops and mention this paper. For sale by druggists and dealers generally or direct from

WIL COOPER & NEPHEWS - TORONTO



Dependable paint—that's Ramsay's. You know just what you are getting when you buy Ramsay's Paints—the Canadian standard. Used for 67 years by house painters and home owners. Every can fully guaranteed by a firm that has been making reliable paints since 1842. 60 colors—ready to use—for everything you want to paint.

Get a color card at your dealer's and write us for booklet showing how some men have made their homes beautiful with Ramsay's Paints.

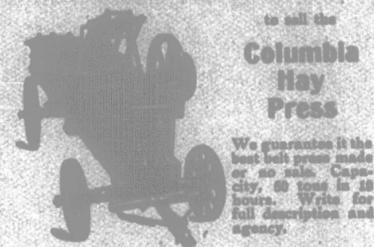
A. RAMSAY & SON CO. - MONTREAL
Paint Makers since 1842.

LAND FOR SETTLEMENT!

Lands are offered for settlement in some cases FREE, in others at 50 CENTS per acre, in various districts in NORTHERN ONTARIO. Write for information as to terms, homestead regulations, special railway rates, etc.

HON. JAMES S. DUFF, Minister of Agriculture, Donald Sutherland, Director of Colonization, Toronto.

100 Men Wanted



to sell the **Columbia Hay Press**

We guarantee it the best hay press made or so sale. Capacity, 40 tons in 24 hours. Write for full description and agency.

Columbia Hay Press Co., KINGSVILLE, Ont.

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THE HAYWARD WINDMILL CO., LTD., LONDON, CANADA.

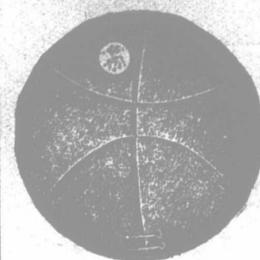
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A new improved design of windmill. Mechanically correct. A marvel of simplicity and strength. If interested at all in windmills, send name and address for free catalogue.

Factory: 663 Bathurst St. London, Ont.

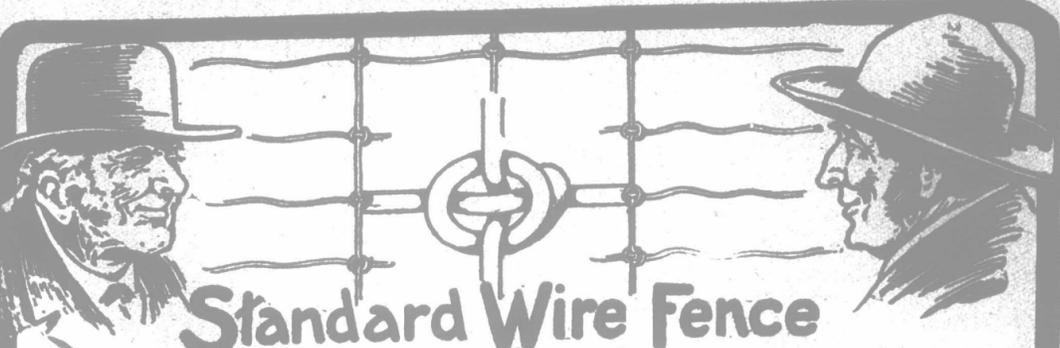
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This "Favorite" Football given free for selling \$3.75 worth of our fast-selling, gold-plated Collar Buttons or our Picture Post Cards, giving views of Canada, England and other countries. Collar Buttons sell at 10c. for set of 4. Post Cards, 6 for 10c. Send your name and address and we will mail you whichever you wish to sell. Write to-day. A p. 25

card will do. **THE RELIABLE PREMIUM CO.,** Dept. X Waterloo, Ont.



Standard Wire Fence

No trouble with cattle breaking through and destroying crops. No fear of fences being down after an ordinary storm.

There are no soft wires—no weak spots in the "STANDARD."

"Standard" Wire Fence is all No. 9 Hard Steel Wire, that has the strength and lasting qualities which every farmer wants.

All wires are well galvanized. That means no rust and long wear—and the crimp in the wires allows for contraction and expansion.

Then there's the "Tie That Binds"—the greatest little invention of recent years.

This tie hooks on the running wire and locks smooth on both sides. Being a long oval loop, it permits of a long bend in the line wires.

This tie does not injure the running and upright wires, yet holds the wires absolutely secure at the point of crossing.

Get the true facts about wire fences. Write for our book and sample lock.

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PEASE "ECONOMY" FURNACE

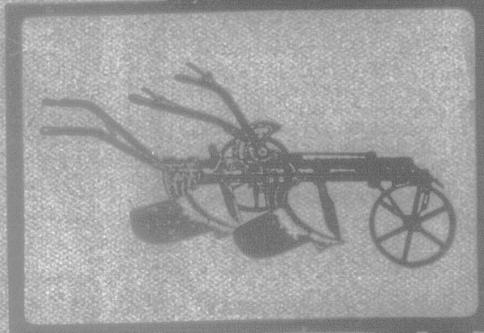
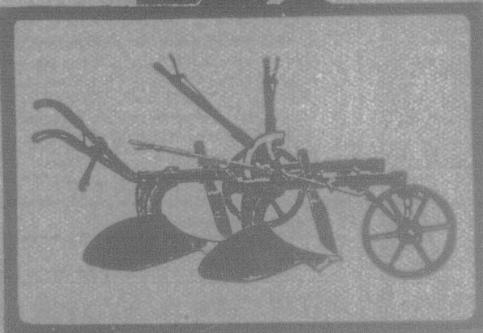
LESS COAL MORE HEAT

Manufactured by Pease Foundry Co., Ltd., Toronto, Winnipeg

In Darwin's youth, it is said, when entomology attracted him most, he was searching in an old tree-trunk for a somewhat rare beetle. He found one, and just as he grasped it a second of the same species appeared. Both the naturalist's hands were occupied, but he could not let slip the chance of so good a capture. So he put the first beetle in his mouth and triumphantly seized the other.

The Cockshutt concern neither could—nor would—stay long in business if the Cockshutt name, upon any farm-implement, meant ever so little less than real and utmost insurance of quality, of service, of practical value for the farmer who buys, and relies upon, that implement. This is every honest manufacturer's ideal. It is an ideal realized, we believe, in the Cockshutt product. And, that it is, may wisely guide your choice when next you buy farm equipment.

Two-furrow, three-horse plowing is the modern method for any farm of from sixty to three hundred acres. It saves time, money, and horseflesh when these count most. One of these two plows is the one that will save most on such farms. Read about them now, and inquire about them presently.



Maple Leaf Gang Plow

Kid Kangaroo Gang Plow

Three horses and one man, with this plow, will get more and better work done in a day than four horses with two men using ordinary one-furrow walking plows. That saves a man's wages, and sets a horse free for other work.

Cannot be Equalled On Light Soils

Draws barely a fourth harder on loamy or sandy soils than a one-furrow plow, and can be handled so much easier there is no comparison. Wheels always under driver's control; patent straightener device handily corrects crooked furrows; unskilled men can do perfect plowing with it.

So designed that it utilizes horse-power to the utmost without neckweight on the horses. Dust-proof wheels, so neither dust nor grit can work into the axle-bearings, which assures long life and good work for this machine. Frame of heavy I-beam steel, extra-strong. Bottoms adjusted for depth by handy levers, and simply and quickly set for any width from 7 to 10 inches. Ask more about it, please.

Built for Strength and Light Draft

Public and repeated official tests (in Great Britain and elsewhere) have proven this the lightest-draft, two-furrow plow built. Even in heavy, sticky clay soils it puts no more strain on three horses than does an ordinary single-furrow walking plow. Users of the Kid Kangaroo aver that it is no harder to guide than a common one-furrow walking plow—yet it does far more work in a day. Readily adjusted for width and depth, and, once set, won't alter of itself. When fitted with our new straightener device, crooked furrows can be readily and accurately corrected.

Easy to Guide And to Adjust

Like every Cockshutt Implement, this world-famous plow is built with a large surplus of strength, and heavily-braced at every part that takes a strain. Light-draft is designed into it. Boards are special formula soft-centre crucible steel tempered hard as glass. Every action of the plow is under the driver's perfect control at all times.

The Cockshutt Line of Implements includes more than 120 styles of plows, for every soil and every purpose, as well as seeders, disc and drag harrows, weeders, cultivators, etc., of which we will gladly send you full details upon request

Send for illustrated catalog before you buy any farm-implement

Thirty years' practical knowledge built into every implement.

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