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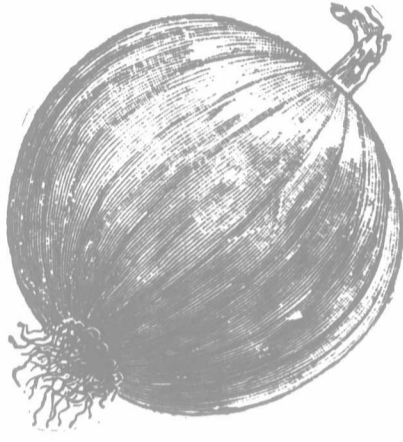
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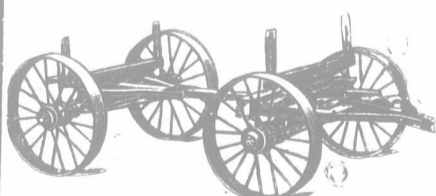
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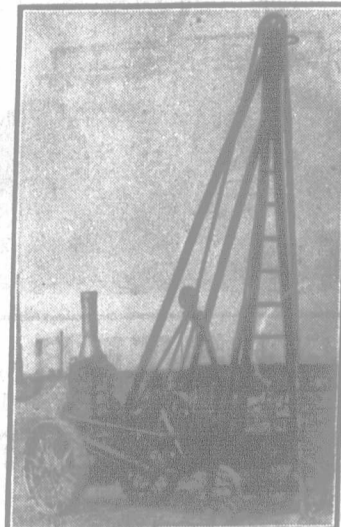


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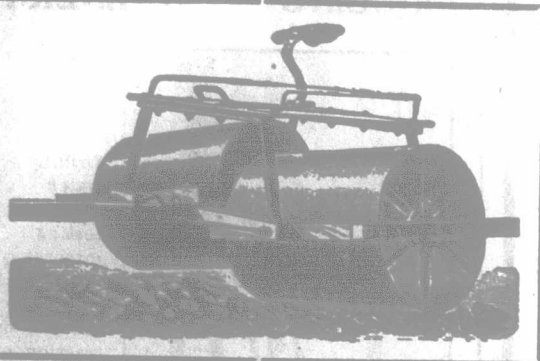
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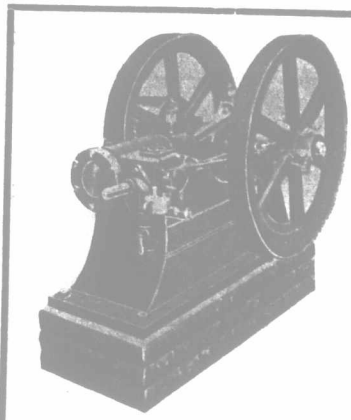
Farmers

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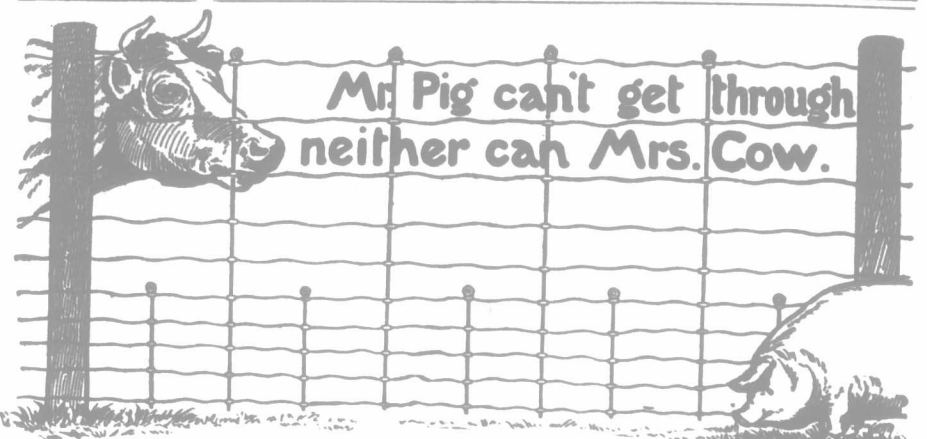
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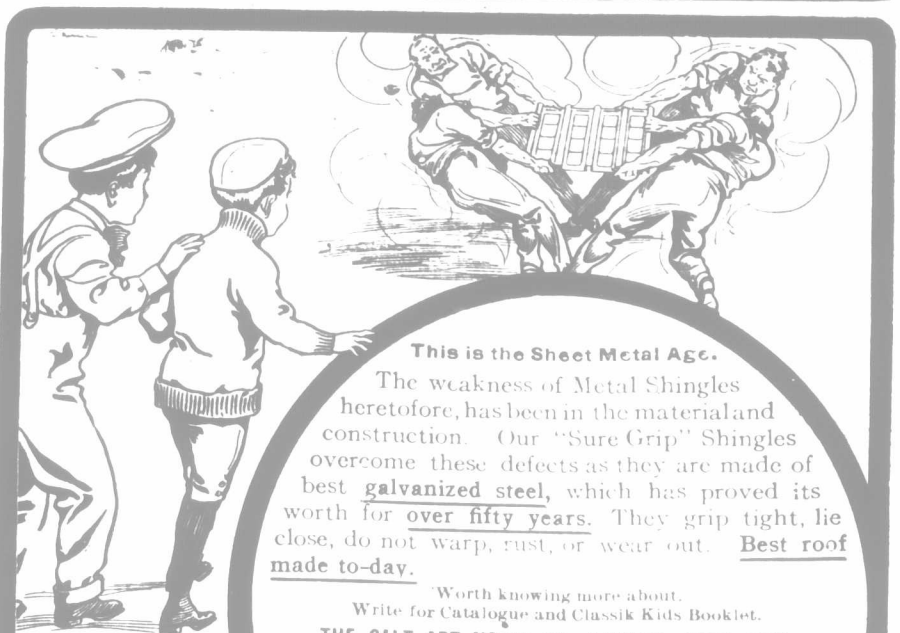
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Vol. XLI.

LONDON, ONT., AND WINNIPEG, MAN., MARCH 29, 1906.

No. 705

EDITORIAL.

The Horse-breeding Industry in Canada.

The great demand and prevailing high prices for horses, consequent upon the rapid settlement of the hitherto unoccupied agricultural lands of the Dominion, the rapid growth of our cities and towns, and also owing to the excellent export trade, has served to direct the attention of farmers more definitely to the scarcity of the supply, and to the question of the need and possible profit of engaging more extensively in the breeding and raising of the classes of horses most sought for at present and likely to continue in demand.

The recent series of letters from practical farmers and breeders, discussing this question, in "The Farmer's Advocate," will, it is hoped, serve to throw light on the subject, and anticipates, to some extent, the intention of the Minister of Agriculture for Ontario, Hon. Mr. Monteith, to ask the Legislature to sanction an appropriation for the expense of a commission to investigate the horse-breeding business in the Province, with a view to evolving a policy for his department for the encouragement of the industry on the most desirable lines. In the breeding and rearing of horses all classes of farmers are more or less interested, and there will doubtless be general approval of any reasonable expenditure of public funds in promoting this important industry, which means so much to so large a proportion of the people of the Province. A preliminary matter in connection with such an investigation is the method of enquiry most likely to elicit the necessary information and indicate the most desirable plan of campaign for the encouragement of horse-breeding on intelligent lines. Whether this object may be best accomplished by the appointment of a royal commission of enquiry, similar to that of the Ontario Government of some twenty years ago, whether simply by a departmental enquiry from well-informed farmers in all the representative horse-breeding districts, or whether by a commission working on the lines of the Dominion Tariff Commission, visiting the principal centers, and publicly inviting farmers and breeders to present their views upon the subject, is open to discussion. We are disposed to favor the last-named method as affording opportunity for the widest range of expression of opinion, at a minimum of expense, to those interested, and most likely to secure a consensus of opinion of the largest number of those immediately interested.

The question of the types of horses most desirable and suitable for farm use and the home and foreign trade, has been intelligently discussed in these columns, and the weight of opinion appears to be that the two principal and most profitable classes for the Ontario farmers to raise are the heavy-draft and the heavy-harness or carriage types, for both of which there is an active demand, and both of which may be used to advantage on the farm, the former for home work and for sale for city-dray use, and the latter for general purposes, including farm work on the lighter soils, hauling medium-weight loads on the roads, and meeting the demand for high-class carriage horses, always in demand for city purposes, and selling at profitable prices.

One of the advantages claimed for the heavy-draft class is that they may be safely worked, with care, at two years old, and made to more than pay for their keep until they arrive at the best selling age. Another is that, if, from accidental or other causes, they develop slight blemishes, they are yet useful on the farm, and will sell fairly well, and, in the case of mares, if these blemishes be not congenital or hereditary, they may still be used for breeding purposes. These

reasons, together with the fact that good heavy horses are always in demand at fairly paying prices, would seem to practically settle the question that, for the majority of general farmers, and the general class of mares in the country, the heavy-draft sire is most desirable to use. A considerable proportion of farmers have a fancy for the lighter types of horses, and, with the exercise of good judgment in selection and breeding, make it profitable to raise that class, and these men may, with reasonable safety, invest in and rear the high-class carriage and saddle types, which are always admired, and for which there is generally a profitable trade. For the production of this class, the Hackney sire is at present the most generally popular, being, as a rule, sound, attractive, enduring, of good disposition and prepotent. The Thoroughbred has yet many faithful friends, and, crossed upon strong grade mares, frequently produces a good type of carriage or saddle horse, selling for the top price, but the sire in this class, as in all, should be carefully selected and mated.

As to the best methods to be adopted for encouragement of the breeding of more and better horses, it may be worth considering whether special Government aid to Agricultural Societies, or groups of Societies, towards prizes for pure-bred stallions at spring shows, would not serve to stir up interest and afford opportunities for the selection of sires. The local spring stallion shows in years gone by, we believe, were very useful in this respect, and were probably abandoned in most cases because the income from gate receipts was not sufficient to cover the prize-list and other expenses. These spring fairs are still continued in some districts, and are appreciated by farmers generally. If, in connection with spring shows, the Scottish system of district societies hiring sires for the season could be adopted, it would appear to be well worth a trial, as the system has grown in favor in the Old Land; so much so that the services of a sire are, in some instances, engaged a year or two in advance, competition for securing the best sires being exceedingly keen. In case hiring is not found practicable here, the system of forming a local company, society or syndicate for the purchase of a sire to stand or travel in the district under suitable regulations should, if well managed, work out with reasonable satisfaction.

Failing in the adoption of any co-operative scheme, the encouragement of private enterprise in introducing first-class sires, whether by a Government or a Society bonus, or by private patronage by the payment of remunerative service fees, should commend itself to all farmers interested in raising horse stock. The men who risk their money in the importation and keeping of high-class sires for the use of the public, are certainly deserving of more encouragement than they generally receive. A horse is perishable property, and hence liable to drop out before he has paid for his cost. Suitable managers are scarce, and demand high wages; the competition of cheap horses held at low service fees cut into the revenue of a good horse severely, and few men make big profits from the ownership of a stallion. These facts doubtless account for so few first-class horses being imported or held for service, and any reasonable means that may be suggested for improving the situation should be carefully considered, with an open mind to the general good. The plan adopted by the council of the old Agriculture and Arts Association, some thirty years ago, of duplicating or triplicating, as they did, the first-prize money, if won by an imported stallion or male animal in any class that had not previously been exhibited here, had a good effect in encouraging the importation of first-class animals and in improving the stock of the country. Could not this

or some similar scheme be devised to bring out the best of sires, which are none too good for the prospect lying before Canadian breeders at this juncture. One thing certain is that there is urgent need of a vigorous forward movement for the improvement of our horse stock to meet the assured demand for both the home and the export trade. The settlement of the millions of acres of our new farm lands, and the building of so many new railways, will surely require horses to the full number that Canadian farmers can produce for many years. And it should never be forgotten that it costs no more to raise the class that sell for the highest price than to rear the inferior class that are not wanted, and must be sold at much lower figures.

Let Us Husband Our Natural Wealth.

In another column is an article signed "Reader," under the heading, "The Pick of the Earth for Canada." "Reader's" idea, in substance, is that wholesale encouragement of immigration is injudicious, that only the very best settlers should be sought for Canada, and, as an automatic means of discrimination, he would discontinue the policy of free-land grants, so as to exclude the thriftless pauper classes, which not only lower our standard of citizenship, but occupy for a longer or shorter time, lands, the increment in value of which should accrue to the public revenue. We are fully in sympathy with our correspondent's plea that the best people of the earth are none too good for Canadian citizenship. Incidentally, an important point is touched in referring to those immigrants who decide to try their fortunes in Eastern Canada.

In whose interest is this wholesale booming of immigration? Ostensibly that of the country and of the Western settlers; really, it is mostly in the interest and to the immense gain of speculating land corporations, railroad companies and other capitalists who desire a speedy return from investments based on the hope of rapid Western development. Likewise it seems to be in the immediate interest of Eastern manufacturers, who desire a market in that country. Undesignedly, it is also in the interest of American manufacturers, who are getting a good share of that marvellously expanding Western trade. All these classes desire to see the country settled fast. They want land to boom, oceans of wheat to be raised, great volumes of freight to be moved, and money to be spent in the country to open it up. They do not care what class of people settle there. They do not associate with them. They do not care for the future of that country, nor of the Dominion as a whole. Their aim is immediate profit to themselves.

What is the mania costing the country? How much good is it doing the East? How is it going to redound upon the West? Is it in the interests of the future of Canada as a whole? To historians it will seem as though Canada were afraid if she did not secure settlers at this particular juncture she would be forever unpopulated. The fact is Canada possesses about the last great area well suited to Caucasian inhabitation, and her ultimate settlement is as certain as the diurnal revolution of the earth. "You can't check Manitoba," was a prophetic utterance regarding which we have been amazingly sceptical, though a truer prediction never was uttered, and it applies not only to Manitoba, but to the whole West—to all Canada, in fact. It would be only a question of time—and not a long time, either—till our West were densely populated, though we did nothing but wait. Our boasted enterprise in settling the country reminds the economist, in its

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THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

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WINNIPEG, MAN.

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LONDON, CANADA.

shortsightedness and in its effects, of the action of a profligate son who inherits a vast and increasingly valuable estate, intended to be handed down to his heirs, but who sells it piecemeal for a song, in order that he himself may enjoy a flow of easy money. The result is annually smaller revenue, annually larger sales of the estate, and finally pauperism!

But, it will be objected, the prosperity of a nation depends upon a large population. Does it? True, a very sparsely settled country labors under some handicaps in a business way. It endures expensive transportation, for instance, has small markets for the products of its industries, and all that. Settlement is a splendid thing in a new country like Canada, provided the settlers are of the right class, and the settlement is secured without mortgaging the future. But what have we been doing? Booming immigration of all kinds, rapidly increasing Western production of farm products, then suffering congested traffic, then hastily building more railroads, giving away the rights of way which in future will represent enormously valuable franchises, and often bonuses besides, building these railroads so fast that Canadian industries, farmers and laborers derive only a portion of the benefits of construction, making it necessary for us to spend public money and privately-controlled national wealth in buying some of the wherewithal from foreign countries. Anticipating the advent of railroads, more immigrants come, and before them, usually, the land companies, who buy valuable lands, secure settlers, and sell to them at tremendous profits. Whence come the profits of the land companies, to say nothing of the money they spend in securing settlers? From the land, the people's heritage, every dollar is derived. Every dollar is a mortgage on posterity—a sacrifice of Canada's wealth to enrich land speculators, one of the

worst class of sharks that the economist knows. Meanwhile, the present is robbing the future, and who will discharge the obligations, in the shape of national debt, that have been incurred to open up that country?

What, then, should be our immigration policy? Have we acted unwisely in fostering settlement? He would be rash who would go so far as that. Our great West had to be discovered, proved and advertised in the world. Necessarily it cost something to do that, necessarily we had to persuade early immigrants of its value, necessarily we had to develop the West, else it would have fallen prey to the encroachment of the American Republic. Then, when we got pioneers out there, we owed something to them: in the way of transportation facilities and settlement. We were obliged to spend something in that country, to sacrifice something, in order to make it of any value to the present generation, to hold it even. But the tide of population is now flowing Canada-ward; the means that were necessary to attract population in the early days are not necessary now. The West is going ahead, and will go ahead in spite of fate. Why, then, continue giving lands away? Why should the country offer free-grant lands to introduce settlement and augment the value of privately-held lands contiguous thereto? Why not share in the fruits of settlement of these lands which, by right, the public should still own? Is it not time to cease booming immigration and commence a policy of vigorous discrimination? Is it not time we think of



Hon Nelson Monteith.

Minister of Agriculture for Ontario.

the future? The true policy henceforth will be one of conservatism, to husband the natural wealth of soil fertility, minerals, water power, with its potentialities in electrical energy, and guard jealously the endowment nature has committed to our trust. Let sanity succeed impulse. Let us see to it that we and our posterity reap a share of the priceless natural wealth, instead of squandering it in unprofitably hasty development, and sacrificing it to the rapacity of the capitalist.

Quoting at some length from our recent editorial, "Moderate Tariff a Necessary Evil," The News, Toronto, refers to it as "a singularly sane and strong article." "The Farmer's Advocate" stands on its own feet and utters its own convictions, pandering to no one, not even the constituency it serves. For this reason, approval from a rational, independent paper like The News, is especially gratifying.

Not what the world is towards us, but what we are to ourselves, decides our destiny, shapes our lives, measures our success, and makes our happiness.

Bird's-eye View of Agriculture in the Ontario Parliament Building.

Upon a commanding elevation in Queen's Park, in the City of Toronto, stands a \$1,300,000 brown stone legislative mill, known as the Ontario Parliament Building. As though to challenge the scrutiny of daylight, it fronts the meridian sun, but, like other busy mills, motes and beams float betimes in its atmosphere. Without them it would hardly be a real human mill. The pilgrim in quest of the sights or the historic, will be most impressed with the majestic walls, the statues on the lawn—Queen Victoria, of Heaven-blest memory; Sir John Macdonald, Hon. Geo. Brown, Sir Oliver Mowat—and the portraits of statesmen and warriors, past or present, accumulating along the corridors; but the man in search of his grist will be more interested in the millers and what they grind out, in the living men and their documents.

While familiarity can never, never breed contempt, it may by and bye tarnish the halo with which the uninitiated must always invest this noble building and the proceedings of the Legislative Assembly. The debates do not always comport with the dignity of the Chamber; the stately tread of the Sergeant-at-Arms, and his big gilt mace, placed on the table when the House sits, and solemnly removed when it goes into committee or adjourns and the Speaker leaves the chair; or the reverential invocation with which the Clerk opens the day's proceedings; for, in half an hour afterwards an Honorable Member on one side will be boisterously telling another opposite that "if there are not enough rascals in the Government army, the Opposition party can supply them." On the one hand there is often in evidence an excessive levity of expression in regard to conduct that should not be so regarded, and an undue tendency to cynicism on the other. Of the old-fashioned Parliamentary oratory, we may not need nor look for much these days; but the tone of the debates, while none the worse for being enlivened with sallies of wit and humor, should never be permitted to fall below good Parliamentary standards or the spirit of the opening prayer. One may smile at the imposing dignity of the Honorable Speaker, in black robes, who dons his cocked hat when he puts a motion and removes it every time he sits down, while the Clerk repeats the formula, and the Assistant, with clock-like regularity, records it. But when one considers the multitude of Bills which interested individuals and corporations, or statute tinkers, might railroad into law, we need not grumble that ample time is taken by sending them to committee to be threshed out, and in order that through the Press they may be thoroughly ventilated ere the "three readings" are given. There is the concurrent hazard of desirable measures being strangled by the pressure of organized interests in the "Lobby," but publicity is the great safeguard of the people, and we have a clean and vigilant press in Canada.

The grist of legislation is for the General Public, and, in a great agricultural Province like Ontario, it is very appropriately made of special concern to farmers. Like other mills, the 5,000,000-odd dollars ground through for current expenditure, in the estimates the other day, do not all go to the customers who provide the grain. There is Toll, more or less, for the miller and to lubricate the machinery, to which objection will not be raised so long as kept within reasonable limits and the grist is right. And there will be more in the Supplementary Sheet one of these days, because when the estimates see daylight, watchful eyes at the Capital and throughout the constituencies detect serious omissions here and there, of which His Majesty's mails pour in notice, and delegations from Dan to Beersheba point out to the ninety-eight M. P.'s, more especially to the Honorable Ministers and their Deputies, that, unless provided, the wheels of progress and good government will cease to revolve. To the impatient deputationist, this mill, like the mills of the gods, seems to grind slowly, but "The Farmer's Advocate" surmises that the taxpayer in the townships has a conviction that there is plenty of "power on" in the Spending Department, and it won't hurt to keep on the brakes.

There are above twenty-five farmers in the Legislature. A few others do some farming on the side, for the prestige of it, but they are town men in other professions. Now, if party lines be not too tightly drawn, a fine contingent like that, imbued with the spirit of progress, and keeping themselves thoroughly informed regarding all our agricultural institutions, should see that agriculture receives a fair show in proportion to its magnitude and importance. The legislators will do well to keep this department clear of "politics" and the rule of "patronage committees." Some \$500,000 out of the \$5,000,000 goes to agriculture, and there are some fifteen branches of public service. Education and Public Institutions receive the largest appropriations, or considerably over \$1,000,000 each. The theory upon which

most of the \$500,000 is granted is that it is "educational." With a full Treasury, it may be easier to get through grants designed to aid the farmer than to enact legislation that will assess the corporations for the benefit of the Provincial revenues proportionately with the farmer, or prevent transportation or other companies from levying unduly upon the farmer, or the business public generally, and enriching themselves. In the latter direction, we believe that our legislators probably need the most united and strenuous backing by the people, regardless of party lines. This is a severer test of a legislator than his ability to get offices and subsidies, even for agricultural purposes. What we need most is an independent electorate that will back up legislators who do the square thing for the people, or will vote them out if they do not.

The agricultural estimates for the year ending Dec. 31st, 1906, were as follows, compared with 1905:

	1905.	1906.
Agricultural Societies, etc.....	\$87,910	\$95,020
Live Stock	20,000	23,686
Farmers' Institutes	21,000	26,812
Bureau of Industries	5,500	5,500
Dairies	32,000	53,200
Fruit, Vegetables, Honey and Insects	17,700	17,800
Miscellaneous	20,450	26,500
Agricultural College—		
Salaries and Expenses.....	89,373	97,683
Macdonald Institute	30,200	33,600
Forestry	3,500	3,500
Animal Husbandry, Farm and Experimental Feeding.....	14,945	15,100
Field Experiments	7,845	8,290
Experimental Dairy	16,027	16,392
Dairy School	9,895	9,640
Poultry	2,960	3,835
Horticulture	7,988	8,898
Mechanical Dept.	950	950
	\$388,243	\$446,406
[Note.—1905 Supply Bill, revenue, \$48,700.]	\$339,543	estimated

At the head of the agricultural interests in the House is the Hon. Nelson Monteith, a Canadian farmer out-and-out, of good farming stock, who learned to guide the plow in Perth—not a bad county to come from, for a good many reasons, one being that it sent to the Provincial Legislature that big-hearted friend of the dairyman, Hon. Thos. Ballantyne, who once sat in the Speaker's chair. Mr. Monteith does not say so much as many private members of the House—in that he is characteristic of farmers as a class—and he burns no red fire for the galleries, but already you will learn that he has become one of the best-esteemed members of the Government. He graduated through municipal life and the Agricultural College, and served a term as Farmers' Institute speaker. For four years he was a private member of the House, and has already put in one year as Minister. Familiar with the inside workings of his Department, he has kept outside as much as possible among the people, agricultural organizations and exhibitions, in order to be in close touch with what they are doing. Of Irish extraction, he is developing the caution of a Scot, with a rare fund of good temper. Conscientious and frank, he has the happy faculty in the House of disarming criticism by an open, receptive attitude towards suggestions which is as naive as the carnation worn in his buttonhole on special occasions. Briefly put, his theory is that, in these days there must be progress on the farm, if agriculture is to keep up with the band-wagon and the drift of many rich agricultural districts into pasture is to be stayed.

In the administration of the affairs of the Department, Hon. Mr. Monteith is fortunate in his staff of official associates, who, like himself, have no fear of being fossilized or Oslerized for some years to come (the Minister is 43 years old).

Mr. Chas. C. James, born at Napanee, in 1863, has been fifteen years Deputy-Minister of Agriculture, and Secretary of the Bureau of Industries, which collects and classifies all the crop and other statistics, a system deservedly national in its repute. He is the Minister's closest adviser, and no more capable and sagacious officer ever trod in shoe-leather. From 1886 to 1891 he was Professor of Chemistry at the Ontario Agricultural College, the alchemy of which he thoroughly understands, and he has been analyzing other things ever since. In touch with the people, Mr. James has kept himself democratically free from those self-centering and benumbing influences which are the bane of officialdom.

Mr. Thos. Southworth, Director of Colonization and Forestry, was born and reared on a farm in Leeds County, and was appointed Clerk of Forestry in May, 1895, and Director of Colonization in 1899. In both directions he has performed valuable public service. Latterly, Dr. Judson F. Clark, who is in the Department of Agriculture pending the evolution of the Government's general forestry policy, for which he will deservedly be retained, has been doing effective educational work as Provincial Forester. What Ontario agriculture needs badly is, first of all, more good men on its vacant lands and as farm workers, and, secondly, more good roads. The latter problem, by the way, Mr. A. W. Campbell, of the Public Works Department, is wrestling with. As yet even Old Ontario is neither half-populated nor half-worked, and New Ontario and the Northwest are steadily drawing the people away, almost as fast as they come in. Besides those from the United States, the over-seas immigration into Ontario last year was some 35,000, and some 40 per cent. of these went onto the land, about 5,000 being sent out direct as farm laborers, the Government paying some \$7,000 in railroad fares from Toronto for that purpose. Just how many finally remained in the Province, it is hard to estimate. The influx this year will likely be greater than last, as the Salvation Army and Church Army are both bringing out large contingents. The desirable tendency now is towards yearly engagements on the farm, and the erection of farm cottages for

ly to the Secretaryship, and also that of the Provincial Poultry Show and the Winter Fairs at Guelph and Ottawa. In April, 1905, he was made Director of the Live-stock Branch, as defined by the New Minister of Agriculture. The efficient discharge of these multiplied and onerous duties has shown his capabilities as an officer, while his methodical and unostentatious work has won appreciation in the Department.

The Superintendent of Farmers' Institutes, Mr. Geo. A. Putnam, B. S. A., was born on an Elgin County farm in 1870, and while private secretary to Dr. James Mills, then President, he resolutely took up a complete course at the O. A. C., and graduated. Mr. Putnam was appointed Superintendent of Institutes in Feb., 1904, a position he has since filled with uniform success, developing the work steadily in several important directions.

A comparatively new line of work undertaken in the Department is that of Superintendent of Agricultural Societies, to which Mr. H. B. Cowan, born in Montreal in 1877, was appointed in April, 1904. Since then he has labored for the improvement of the fall fairs along educational lines, extending the expert-judge system, eliminating the sporting element and reforming the Agriculture and Arts Act, besides acting as Secretary of the Provincial Horticultural Show.

"Money makes the mare go," and the Accountant of the Agricultural Department, and special adviser on such topics as spraying and nursery fumigation, is Mr. Percy W. Hodgetts, born at Collingwood, in July, 1878, and also a graduate of the Ontario Agricultural College. For a year he was Assistant to the Professor of Horticulture, and, in September, 1902, was appointed to the Staff of the Department of Agriculture. That he has been entrusted with the duty of supervising all the accounts of the Department of Agriculture before passing to the eagle-eye of the Government Auditor, is a tribute to his technical and financial ability.

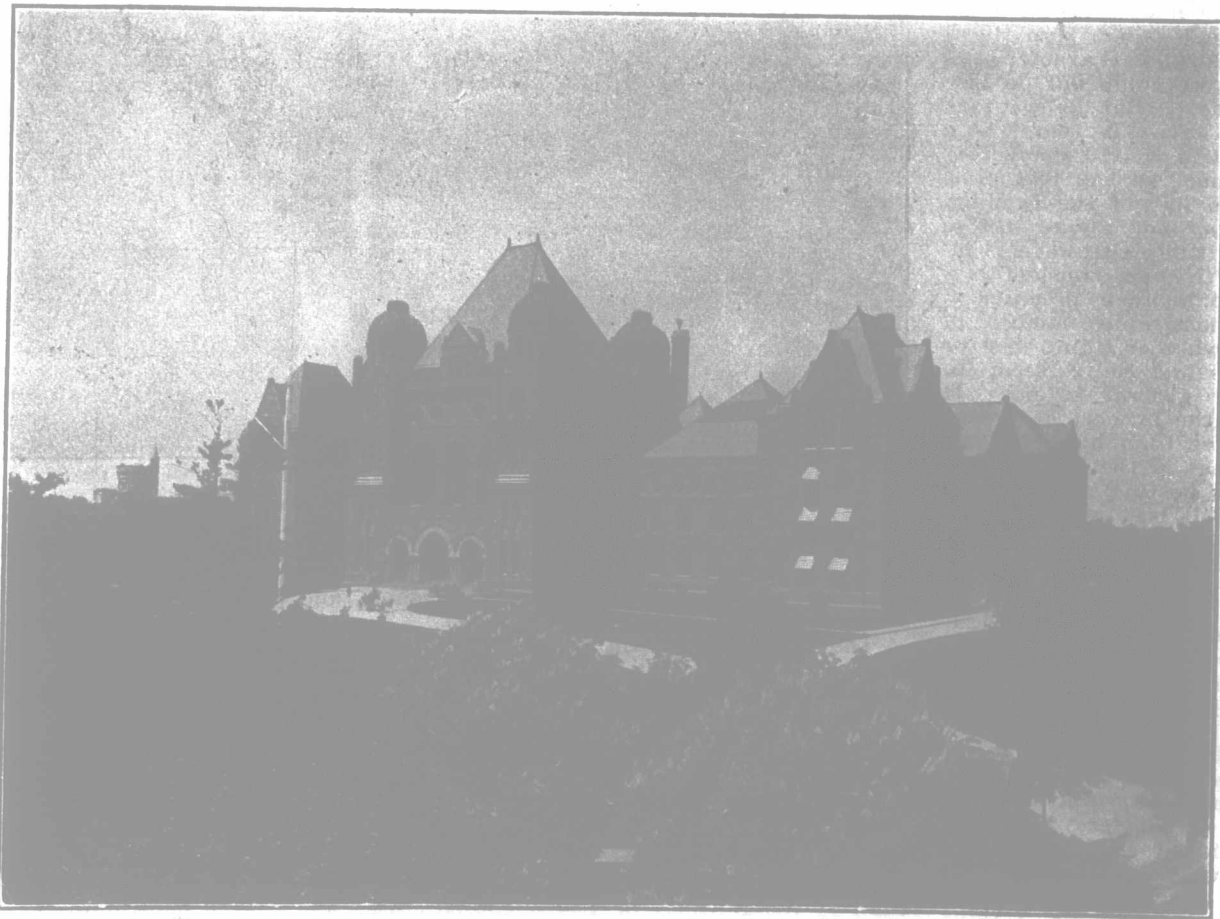
The Factory-inspection Branch, in which four men and two women are engaged as inspectors, an exceedingly useful and necessary branch of the Government service, is under the beneficent aegis of the Department of Agriculture, though for what particular reason we are not aware, except that it was a good safe place to attach it on general principles, and the Minister of Agriculture probably stood sponsor for the original Bill creating the Branch.

The foregoing sketch will give the reader a bird's-eye view of our great legislative mill, and the relation in which it stands to agriculture in the Province of Ontario.

Name the Farm.

The idea in the above heading was suggested to us a fortnight since by a subscriber who said he was thinking of putting up at the front entrance to the farm a board on which was painted conspicuously the name of his farm, under this his own name, and in smaller letters beneath, Lot 10, Concession 6. At the lower right-hand corner a horse was to be painted, and at the lower left-hand corner a picture of a steer, to indicate his line of farming. Between these was to be a blackboard, on which to chalk up whatever he might have on hand to sell. His scheme combines some excellent ideas. Naming the farm is a good one; posting up the name of farm and owner is another, and the addition of concession and lot number is desirable for the benefit of strangers to the locality. The bulletin board is a form of advertising that costs nothing, and brings considerable business to those who follow it. If our friend's suggestion were to be generally adopted it would be a great convenience to the public at large, while benefiting farmers financially, and giving a touch of individuality to the community, as well as proving a source of pride and pleasure to the family.

H. A. Fowler, Melboro, P.Q.: "The premium compass and reading glass I received are very nice."



The Ontario Parliament Buildings, Toronto.

men with families. Farmers are encouraged to engage men with families, and the policy of the Department is to direct all immigrants to the country. By making as good selections as possible from the newcomers, and prompt distribution to applicants for help, Mr. Southworth is doing all in his power to relieve the situation. From our knowledge of the Province, we are satisfied that there is room for a continuation of a judicious colonization policy beginning in the Old Country.

The Live-stock Branch, which, in a Province like Ontario, with breeding interests of great magnitude and value, deserve special attention, is in charge of Mr. A. P. Westervelt, born on a farm in the unpronounceable Chinguacousy Township, Peel County, in 1873. In 1895 he was appointed Clerk of the Superintendent of Farmers' Institutes, then Assistant Secretary to the Live-stock Associations (Cattle, Sheep and Swine), and final-

HORSES.

A bold, proud outlook from a head well set on a strong, high neck, counts for more in a stallion than mere appearance. It means vim, vitality and "bottom" in the stock he leaves.

Thoroughbred stallions are the longest lived of the entire males of any breed of horses. This is undoubtedly traceable to the fact that they are never loaded up with fat to improve their appearance, and receive plenty of hard, steady work.

If there is no time to oil harness in the summer months, when the sun can dry it in, give it a good cleaning and oiling now. Oiling harness is like giving a boy a bath—it should be done once a year whether it needs it or not.

Some Scotchmen realized that it was necessary to draw attention to size and substance in their favorite draft breed, hence the Brydon trophy. Three-year-olds have to be at least 16.3 hands, and aged horses 17 hands, and must pass the vets. as sound.

How Can We Get the Farm Horse?

Editor "The Farmer's Advocate":

Your discussion on the subject of the farmer's horse-breeding policy is surely timely, and I hope to see a liberal contribution from the experience of horse-breeders and horse-owners. Not being specially interested in horses, I have waited for some horse-breeder to set the ball rolling in this discussion.

I quite agree with you that we have no breed of horses which, as a breed, exhibit the characteristics which, to my mind, belong to the ideal farm horse. In this part of the country the Clydesdale is the most commonly used, and, while there are many excellent specimens of the breed and its crosses, and while, as a rule, they are highly intelligent, docile, strong, and free from disease, as a breed they are too sluggish in temperament, too unwieldy in body, and have too much "feathering" on the legs for an ideal farm horse. If these undesirable characteristics could be eliminated, I think we could not do better than stick to the Clyde. But as we take things as we find them, I have for years been rather inclined to pin my faith to the Percheron; but if, as is claimed by some, he has bad feet, that would quickly rule him out of the running. I had not observed and was not aware before that this was the case, if it is. However, individuals of the breed seem to differ considerably, which would lead one to doubt their prepotency, or at least suspect an undesirable number of strains in the breed. But whether from this or some other cause, the Clyde and Shire seem to outstrip the Percheron in general favor. It would seem from this that the farmer has been breeding more for the market than his own particular needs, which doubtless is the best policy, as he can depend on usually getting more surely in the open market what will best suit his particular needs, as, according to my observation, among the multitude of breeds and their crosses one can generally find what he is looking for, though the specimen may have no particular breeding. The ideal farm horse is liable to "turn up" in almost any of the general-purpose or draft breeds; and yet, if one should attempt to produce this type deliberately by breeding, he would probably be disappointed. As to what breed one should use in the attempt, if the Percheron be ruled out, I would be inclined to try the Coachers, and, in this connection, what is the matter with the Cleveland Bay? It is heavier than the French Coach, and has sufficient speed for either wagon or carriage; but, further than this, I cannot say that I know much about the breed. Of all the light breeds at present available, I think the product of the Coachers would bring the readiest sale, but if I were breeding horses for the market I would choose a heavy breed like the Clydesdale, for reasons which cannot be mentioned here. The principal reason, however, is that they are most likely to increase in demand, while the light breeds, especially the light drivers, will be displaced. Whether we can add to the number of our present breeds profitably, is not an easy question to answer. It seems to me a risky undertaking to attempt to originate a breed of strictly farm horses; at best, it could only be an approximation. The ideal horse for one farmer is not the ideal for another. Circumstances alter cases too much in this particular, and, as I said before, I think it better for him to take his chances in the open market, where he is reasonably sure to get what he wants, from light to heavy, if he will pay the price.

Perth Co., Ont.

J. H. BURNS.

What is the American "strenuous life" but a headlong rush for the grave?

A Two-class Horse-breeding Policy.

Editor "The Farmer's Advocate":

The questions published in your issue of Feb. 15th, re horse-breeding, open a very wide field for discussion, a field in which probably no two men will quite agree, and for this reason I think every farmer reader of "The Farmer's Advocate" may expect to profit from the discussion which should follow their publication. It is a subject in which I am very much interested, and so, though comparatively young in the business, I would like to give some of my ideas along this line.

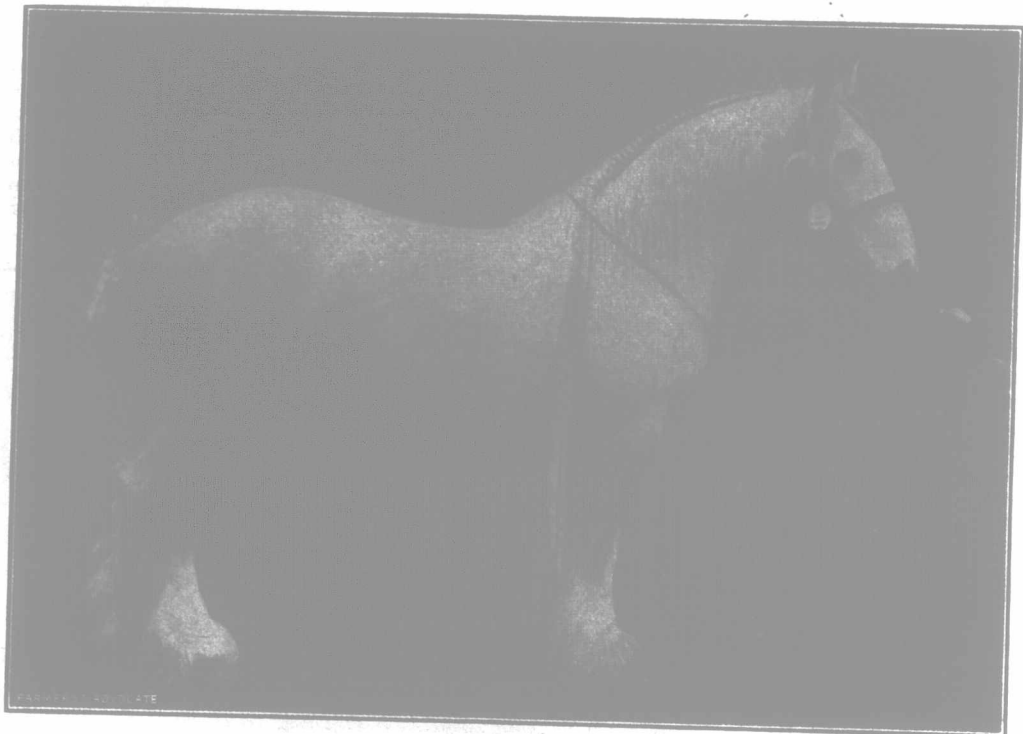
I have no hesitation in saying that the farmer who intends having horse-breeding as one of his side-lines, should breed just as nearly as possible to the market requirements, and then if he should be so strangely fortunate as to produce only animals which he considered "too good for a farmer to keep," he will have little difficulty in procuring useful farm horses which the dealers will not touch. It is not these serviceable workers, belonging to no particular class, which are in such keen demand, but the first-class animal of some decided type. I can, however, see no necessity for the progressive farmer selling a valuable animal which suits his needs just because it also suits some other fellow's. I heartily agree with an elderly farmer's wife whom I heard tell a buyer who was tempting her husband with a big price for one of his horses, "I can just ride behind as good a horse as you, Fred, and I'm going to do it; go on home, John." Then, let the farmer breed for the market, and if he does not have enough misfits to supply his own needs, let him use some of the good ones; they will require more careful handling, but will do the work equally

from 2½ to 3 years old, and we find that, if well fed and not overworked, these colts are benefited rather than injured by the work. They also become well used to harness, and, after seeding, will do the summer driving, while the older horses are busy on the farm. Then, if you wish to sell your colt in the fall, he is thoroughly broken, and will sell much more readily than if unbroken.

On most farms in this part of Ontario will be found at least one team of what might be called heavy horses—horses weighing from 1,450 to 1,700 pounds—also a team of what are frequently spoken of as drivers—that is, a second team, which may vary anywhere from a stout road team to a pair weighing 2,500 pounds. Then, my idea of the farmer's breeding policy is, breed your heavy mares to a Clydesdale, as this is the most popular draft breed in Canada, and gets, I believe, the best draft horse, both for the farmer's use and for the market or city trade; and also breed your light mares, but do not try to get a farm or delivery horse by mating them with a draft stallion, but breed either for a carriage horse by mating with a Hackney, or for a saddle horse by mating with the Thoroughbred.

Undoubtedly the Hackney is the most popular of the light breeds in the Dominion to-day, and, I believe, justly so; but I also believe the Thoroughbred ought to be much more popular than he is. One of the most common classes of brood mares on Ontario farms to-day is a solidly built general-purpose mare, weighing from 1,250 to 1,450 pounds, and many of them with considerable hair or feather on their legs. Such animals, when kept regularly trimmed, are very presentable driving horses, and are frequently used for this purpose. This class of mares is usually bred to a light horse, and too frequently to a Hackney.

The result of this cross is almost certain to be disappointing. The progeny often has first-class action or possesses some other valuable characteristics, but usually has enough irregularities to make a poor market animal. On the other hand, if a man has a mare suitable for crossing with a Hackney stallion, he is the horse deserving the preference, because he is the type of light horse in greatest demand to-day. The question, then, is: What type of mare is suitable for mating with a Hackney horse? My answer is, any medium-sized, clean-limbed



Shire Mare, Sussex Bluegown 40352.

Champion mare at London, England, Shire Show, 1906.

well, and will develop better horsemanship, and also give more pleasure to the driver.

The second question asked, what breed of horses will, when mated with the general run of mares, get the largest proportion of useful farm horses, struck me as being somewhat in opposition to the first, for if a farmer were breeding with the sole object of getting useful farm horses, I should say, from my knowledge of the general run of mares, use the French or German Coach horse; but, on the other hand, I would not recommend this horse, because I think chances would be much poorer for getting a marketable animal than by the Hackney or Thoroughbred cross, and the marketable animal is what the farmer should aim at.

The line of breeding which farmers should adopt most extensively is largely influenced by varying circumstances. For instance, if the breeder is not a lover of horses, and breeds them just as he would hoe roots, purely for the money there is in them, let him by all means confine himself to heavy horses, for he will never expend the trouble and care necessary to make a success of raising light ones. On the other hand, if a man has that inherent love for a horse, I see no reason why he should not raise the lighter ones, which are much more interesting and equally profitable. Some heavy-horse men may dispute that they are equally profitable, but any regular observer of market prices, as given in "The Farmer's Advocate," will have noticed that prices for drafters and carriage horses run about the same, each, of course, having ups and downs. Then, while the draft colt is earning his keep on the farm, the light colt is earning his both on the road and on the farm. Every spring we work light colts during seeding time which are

mare, and particularly if she has one or more crosses of Thoroughbred blood, or possesses some good roadster breeding.

Another question which grows out of the above is: How shall we mate these general-purpose mares? Many of the heavier ones, if bred to a heavy Clydesdale stallion, would produce stock perfectly suited for heavy farm work, or for light dray work in the cities, and this class is always in demand, and commands a good price when matured; and where such animals can be produced, they are quite the most satisfactory, because, in breeding these mares to any light horse, we are much more liable to meet with misfits of various sorts. Then, if we wish to breed them light, there are two alternatives—either accept the cry so frequently heard from road-horsemen to-day, and "breed to the Standard-bred with high action"; or, breed to the Thoroughbred. The get of either horse, when well trained, finds ready sale at a profitable figure, but developing either the speed in a road horse or the saddle gaits in the get of a Thoroughbred, is a difficult task, and requires more time than the average farmer can afford to expend. Of these two crosses, I would recommend the Thoroughbred, for several reasons. They are, as a rule, larger, and undoubtedly will stand more farm work, and usually just as much road work, and when the time comes for marketing, the saddle horse will be the easier to dispose of at a satisfactory price, because there is a constant demand for saddle and combination horses, which is almost entirely supplied by the farmers, while the road horse comes more into competition with the produce of the large breeders, who have purer blood to work on, and also spend more time and money developing speed, etc., than the farmer can afford to do.

The above opinions, Mr. Editor, have not been formed since Feb. 15th, but are the result of the observations and experience of several years, and, I hope, will benefit some of your readers.
Halton Co., Ont. PERCY E. REED.

Shire versus Clyde.

Editor "The Farmer's Advocate":
In "The Farmer's Advocate" of June 13th, 1905, page 1022, will be found a short note from the writer, re the improvement of the Clydesdales. The Editor, in a note thereto, confesses blissful ignorance on the point raised by your humble servant in a former communication, viz., as to whether, in the so-termed Clydesdale improvement, alien blood was introduced, and a doubt is thrown out as to my being able to support my assertion that alien blood was used. I still claim that my statement is true, and will add that it was used lavishly, and also am bold enough to state that that alien blood was Shire.

To substantiate what I have now and previously written, I enclose a letter which appeared in the Mail newspaper, of Toronto, some few years since, from the friend of a gentleman who officiated as a judge in heavy-draft horses at Chicago Show more than once, and therefore one on whom reliance may be placed; in fact, a man of truth and honor. I refer to Mr. Charles I. Douglas, whom every horseman in Ontario has no doubt heard of, and who was looked up to as a man fearless of offending others when the truth was in question. I hope you will find space to publish this letter in a prominent place, as many Canadians are bull-dozed with the idea that, in order to get perfection in heavy-draft horses, they must have the Clyde. If this letter of Mr. Douglas' is not evidence enough, I have more of the same kind in store, and from quite a different source, but this must suffice for the time being.

Am pleased to say one of our leading importers of Clydesdales is now importing Shires, and have been told that the best horse in his stable to-day is a Shire.
Wellington Co., Ont. DAVID MESSENGER.

[Ed. Note.—We give below the part of Mr. Douglas' letter referring to the question at issue.]

"During the past five years I have had but little opportunity of coming into contact with the breeders of draft horses in Canada, having spent the greater part of the time in England. I find that in almost every instance the ignorance displayed by Canadian breeders in connection with the English draft horses is simply extraordinary. The prevailing idea seems to be that the much-sought-after qualities, viz., bone and hair, are only to be got from the Clydesdale, and someone has evidently taken the trouble to impress on breeders that the English Shire horse is devoid of both these qualities.

"Without asking any simple statement of mine to be believed, I prefer to state a few facts which can be easily verified by persons choosing to take the trouble. Let anyone visit the principal shows in England and Scotland, and compare the leading Clydesdales of to-day with such horses as Mr. Gilby's Spark, Lord Ellesmere's Exchange, Lincolnshire Lad II., Carnock Enterprise, Somersham Sampson, Bar None, Beauchieff, and many others. I think, after such an inspection, the visitor would come to the conclusion that for size, bone, hair and substance, the Clydesdales would be distanced.

"But let us take a glance at the so-called leading Clydesdales, and see if they do not inherit English blood to a great extent. Take, for instance, 'Prince of Wales'—and who among Clydesdale men has not heard of him as a representative Clydesdale horse—if they will take the trouble to look up his pedigree, they will find at least four Shire crosses in him. Then take St. Lawrence, Mr. Riddell's first-prize horse at the Glasgow show, who had, I believe, five English crosses. Then again, Mr. Drew's Prince of Avondale, first-prize three-year-old at Glasgow, with an equal number of registered English crosses. Lord Lyon, who probably got as many prizewinners as any stallion in Scotland, is full of English blood. After saying so much for stallions, let us turn to Mr. Drew's old roan mare, Queen, who for years has shown up and down all over Scotland, and this season, though well up in years, is still to the front, also beating Clydesdale mare of every age and class. Queen was bred by Mr. Chappell, in Derbyshire, and is Shire bred to the backbone.

"Mr. Drew, than whom no more intelligent and unprejudiced breeder lives, is rapidly gathering around him a large following, and propositions have been made to amalgamate the Clydesdale and English studbooks; and I believe advantages in the breeding of good horses would be the result. The studbook in Scotland is damaging Clydesdales greatly, as far as size and substance are concerned, and to-day it is an impossibility to find a Clydesdale of the same class as used to be imported to Canada and the States. Everybody is agreed that draft horses in Canada are not increasing in size, and 1,400 pounds is about the weight of the ordinary run; but to attain the English standard, an active, useful gelding, weighing at least 1,800 pounds, seems hopeless.
C. I. DOUGLAS."

A Veteran Horse-breeder's View.

Editor "The Farmer's Advocate":

I am very much pleased to see the interest you are taking in the horse-breeders' welfare. Regarding lighter breeds for the farm, and how to get them, I think the most likely way would be to select nice, tidy, active mares of from 1,000 to 1,400 pounds, and mate them with Clyde or Shire stallions of small size, as they are generally more active and handsome than the large-sized ones. The progeny ought to answer very well, be good workers, and fairly profitable. But if you are far from market, and the soil of your locality is light, you may get fair results by mating with a large Hackney, or you might secure good results by using a large, short-legged Thoroughbred. Owing to his intelligence, the progeny would naturally require careful training; they like kindness, but will fight ill-usage to the last. But the most popular and most profitable horse for the farmer to raise for sale is the heavy-draft class, for general use on our soils, and with heavy implements and dry cultivation in early fall. By careful mating, we can raise colts up to 1,600 pounds that will pay for their keep in work after they are 2½ years old until market maturity. But confine them strictly to the Clydesdale or Shire, or, better still, a combination of the two. As early horse history proves, they originated from the same fountain-head, although of different type, but are now coming nearer the same standard as to quality. From my experience and observation, I would advise by no means to use any of the other breeds with your draft horses. No doubt some of the other breeds are grand animals when kept pure in their own country, but their crosses are no success here. As to the question

where would our fancy drivers come from? I claim a Coach horse bred to a road mare will leave a horse weighing 1,200; that is as heavy as will be got from the Clyde, and the Coacher will sell a good deal quicker, for he will have the necessary style and action. I believe a light horse that does not weigh 1,100 lbs. is no good to a farmer, but a good Coach horse should weigh 1,300 lbs.
Wentworth Co., Ont. ONTARIO FARMER.

A Day with a Veterinary Dentist.

Editor "The Farmer's Advocate":

In keeping with your oft-repeated advice to the farmer to look well after his horses' teeth, permit a few observations on the work of a veterinary dentist in the winter of 1905, in a small village in the County of Middlesex, Ont. The lapse of time since the work was done only serves to prove the effectiveness of the work referred to, and emphasizes your advice.

The operator announced, his coming to our village a few days prior thereto, and the offer of free examination assured a goodly number of cases. For two and a half days he was kept busy, and left to fill his next appointment with work on hand.

A large number of cases dealt with were four-year-old colts whose temporary molars had not been shed, or who had grown those abnormal prongs known as "wolf teeth." These cases, as well as those of older animals with unevenly-ground teeth, were easily treated, by extracting in the former cases, and filing and dressing in the latter.

We noticed a few cases which claimed special treatment, and to these we refer specifically:

1. A horse four years old, and in unthrifty condition. The examination showed the first upper molars growing from the outside inward, and hindering the remainder of the molars from grinding the food. The outside of each was about three-eighths of an inch longer than the other teeth behind these. The treatment was simple, being to cut off the projecting portion of these teeth and file to a good grinding surface.
2. A horse about 12 years of age, very unthrifty. Examination showed a molar tooth on lower jaw split and decayed. The tooth had evidently caused the horse much pain, and was no doubt the cause of its unthriftiness. The tooth was removed. In both cases the horses began to gain in condition a short time after, and thus gave evidence of the propriety of the treatment.
3. A mare 14 years of age, also, with a running sore on the right lower jaw, and pronounced by a V.S. as due to an injury externally. This mare was in very bad condition; in fact, starving to death. After an examination, the dentist pronounced the trouble as due to an ulcerated tooth, and, after throwing the mare, extracted the tooth. To show that the abscess was due to the tooth, he inserted a probe into the cavity from which the tooth was extracted, and passed it outward through the hole from which the abscess discharged. The mare could have been bought for five dollars before she was operated upon, and the owner would have thought himself that much richer could he have got it. In the month of June the writer saw the same mare, in the best of condition, and this after having done her share of the spring work on a hundred-acre farm where only two other horses were kept.

These cases only forcibly emphasize and illustrate what may be the real cause of unthriftiness and disease in horses that would be sound in health if their teeth were only given proper attention.
Middlesex Co., Ont. SPEC.



Shire Stallion, Present King II. 19948.

Champion Stallion, London, England, Shire Horse Show, 1906.

of the farmer producing horses for his own use or for market, we would decidedly say for the market, as, with the most careful mating, you will have misfits enough for your own use. The question, what breed of horses, when mated with the general run of mares of this country, produces the largest proportion of useful farm horses, is answered in earlier part of this paper. As to what light breed of horses, as a class, will bring largest prices, I should say the Thoroughbred. The answer to the question, what breed of heavy horses will bring best general results, I should say Clydesdales are the most numerous and most popular. As to encouraging additional breeds, I would answer, confine yourself carefully and give attention to improving the breeds we have.
Huron Co., Ont. BREEDER.

Heavy Mares to Heavy Horses and Light Mares to Coach Horses.

Editor "The Farmer's Advocate":

I notice in the March 8th number a New Brunswick view on the horse-breeding question. This man mentioned breeding light mares with heavy horses with good success. I claim he is wrong, for he will get nothing but a pony Clyde. For instance: I know a man who bred a light mare to a Coach horse, and got a team that sold for five hundred dollars when horses were cheap, and afterwards bred same mare to a Clyde horse, and got a pair of pony Clydes which he sold for one hundred dollars each.

I believe in breeding heavy mares to heavy horses, and light mares to Coach horses. I don't believe in farmers raising trotting horses. They are no good to a farmer, for they are not heavy enough for farm work. If every farmer bred his light mares to heavy horses,

[The above article illustrates forcibly the widespread suffering and loss there is among horses and the wisdom of having the teeth regularly looked after. Some of these travelling dentists do a vast amount of good; others are incompetent, and no more to be trusted than any quack. At one time a visiting "horse dentist" buncoed a number of medical men in London, Ont. He went to each, and discovered a good many whose teeth, he averred, required filling. In the incisors of four- and five-year-olds is a natural cavity. This, he gravely assured the owner, should be attended to. Several of them "bit," and paid a handsome fee for filling cavities which would have disappeared naturally in the course of a year or

two. The best plan for anyone with an unthrifty horse is to have his teeth examined by an experienced veterinarian.—Editor.]

LIVE STOCK.

Humanity and Profit Coincide.

Editor "The Farmer's Advocate":

At the close of a perusal of the February 22nd copy of "The Farmer's Advocate," my eye fell on a selection of poetry which so truthfully pictures the sufferings of the noble, God-given dumb animals, supposedly cared for by the hand of one of his ideal creations. As the storm rages without (real), I am truly thankful that I cannot conscientiously take these words to myself, and so impressed with these thoughts, I feel it a duty to express my thoughts on this one important subject of shelter for the dumb animals, which are placed in human hands for a purpose. We see so much of this neglect on the part of mankind. To-night, amidst a raging blizzard, even in the variable climates of Central Illinois, there are hundreds of dumb brutes without a shelter, and even without a wind-break. Some are owned by men of means, some by men of mean principle, and some by men of small means, who, perhaps, are sleeping in a warm house, in comfortable beds, while the dumb brutes they are supposed to care for are standing, with heads down, backs arched, shivering, starving. Why? Because this inhuman man has failed to provide a shelter, or perhaps for a desire to own larger herds than some neighbor, or calculating, perhaps, the dollars which he hopes to realize from the large number of animals. This reminds us of the condition of the rich man who would take down his barns and build larger, and more vividly impresses us with the awful ultimatum, "This night shalt thy soul be required of thee." In a measure, so with the man who fails to provide shelter and food for his stock. He not only loses his cattle by freezing and starving, as we sometimes read of the thousands of animals which die in one severe blizzard, but, should they survive the ravages of the wintry storms, does he think he has been fortunate in doing this well? As the final destination of a steer is the block, how many dollars is he losing? How much time is he losing in this management? Six months' grass which has been supplied free, and which has put on the cheapest beef, is now being literally blown away by the fierce winter blast. In these days of intensive agriculture the areas of the vast ranges are rapidly being reduced by the rapidly-increasing population, as the center of population gradually moves, or has moved, westward. The citizen seeks larger facilities, larger investments, not only in land, but in manufactures and other avenues of commerce. These must be carried on largely by human hands, and these must be fed on the substantial, life-giving necessities, one of which is beef.

Nor has this "Westward Ho!" movement failed in its humanitarian mission. We find today men are realizing that, to get the greatest profit in the shortest time, he must give better care, he must improve his herds, and look closer to the apparently small things which in time amount to greater things. These we see in improvement of the various breeds of cattle which roam the yet vast ranges. The feeder goes to Western markets to buy his feeders, brings them home to his feed-lots which are provided with barns filled with hay, strawstacks, and cribs of corn, his fields rank with cultivated grasses, and, by and by we begin to see the effects of good shelter, feed and care. But, on the other hand, let us take the native-born, well-bred calf which has always known shelter from storms, has had plenty to eat (not necessarily being pampered), and we find him maintaining a hundred pounds to the month in weight, and sometimes more, until he is one year old, and still capable of assuming larger proportions, gradually growing and fattening, until we find him, at the age of sixteen to twenty-four months, topping the market in his class; while the starved, unsheltered, neglected animal must be fed six months to one year beyond this age, and then fails to fulfill his mission. We note, too, the grand improvement in the breeding of recorded stock, whence comes the grand prizewinners, showing the handiwork of men of broad minds, of push and energy, and a desire to educate our sons who are the coming men of America.

Do you suppose for a moment this ideal animal could have developed such size, such form and symmetry, by standing on the prairies, in the bare stock fields or lots, half-fed, shivering and exposed? Assuredly not. Then, let us awake to the fact that, if we expect to increase our wealth, to improve our farms, to educate mankind, we must look closer to the shelter and feed of our farm animals.

Ill., U. S. A.

C. W. DOLLAHAN.

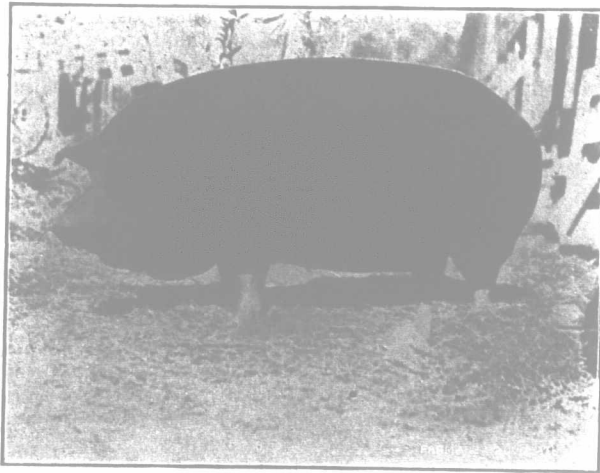
A Study of Breeds of Swine.

DUROC-JERSEY.

The American Duroc-Jerseys are apparently the outcome of the union of two classes of swine—the Durocs of medium size and bone, bred for many years in Saratoga County, New York, and the Jersey Reds, larger in size and coarser in bone, bred in New Jersey for the last sixty years. The origin and early development of this breed is not apparently well known. As with nearly all the American breeds of swine, the improvers of the Duroc-Jerseys have been farmers in certain neighborhoods who sought to improve the pork-producing qualities of the animals they fed. The history of the amalgamation of the two original branches of the breed does not appear to have been clearly written.

Two leading associations, viz., the American Duroc-Jersey Swine-breeders' Association, and the National Duroc-Jersey Record Association, have been organized in the interests of the breed in the United States. The former of these was organized in 1889, and the latter in 1890. The two associations named have recorded over 50,000 animals. They are recorded from more than half the States, and from most of the Provinces of Canada. A record of the breed is maintained under the National Record Board at Ottawa, of which Mr. J. W. Nimmo is at present Registrar.

As to their leading characteristics, it may be



Two-year-old Duroc-Jersey Sow.

said that, though not quite equal to the Poland-Chinas in size, they bear some resemblance to them in form, though differing from them radically in color, which in the Duroc-Jersey is solid cherry red. Having strong bone, and well-placed legs and good constitution, they are well adapted to sections where good rustling qualities are important; where heavy corn feeding is the rule, they are very suitable. Their grazing qualities are good, and their early-maturing qualities are equal to most of the medium-sized breeds. In prolificacy, they stand relatively high among the American breeds, and the young pigs are fairly hardy.

The standard calls for a head small in proportion to body, wide between the eyes, face slightly dished (about half-way between a Poland-China and a Berkshire); ears medium size, pointing forward and downward, and slightly outward; neck short, thick and deep; shoulders moderately broad; back and loin medium in width, straight or slightly arching; sides very deep, medium length between shoulders and hams, and full down to line of belly; ribs long, and sprung in proportion to width of shoulders and hams; belly and flanks straight and full, and carrying well out to line of sides; legs medium in size and length, strong, well set apart; pasterns short and strong; tail medium large at base, nicely tapering, and rather bushy at point; hair moderately thick, fine and straight; size large for age and condition. Boars two years old should weigh 600 pounds; sows, same age, 500 pounds; boars and sows six months old, 150 pounds. Disposition very quiet, easily handled or driven.

A Quartette.

William B. De Coste, Antigonishe Co., N. S.: "I highly recommend 'The Farmer's Advocate.' We take several papers, but this one we read first."

A. L. Currah, Oxford Co., Ont.: "The Farmer's Advocate's Knife is a very useful one, and a beauty, too."

Mrs. Jas. D. Walker, Perth Co., Ont.: "Many thanks for the Knife. Our boy is delighted with it."

M. R. Dunlap, Kent Co., Ont.: "The Farmer's Advocate is a very welcome visitor at our home."

Keep on "Sawing Wood."

Editor "The Farmer's Advocate":

I have been reading with a good deal of interest the letters in "The Farmer's Advocate" from farmers, packers, professors and everybody about hogs. There seems to be many farmers going at the hog business as they go at everything else. When hogs are high in price they buy up sows, put up expensive hogpens, and start in in big style; then by the time they get nicely started the price slumps away down below the cost of production. Of course they are disappointed and disgusted; they kill off their sows, write letters to the papers, make a noise and raise Cain generally. There are, however, others who when they go into a thing keep right on sawing wood until they are satisfied the thing is right or wrong. It is a little bit singular that those farmers who start into a thing and stick to it seem to come out all right, no matter what they go at.

Since this controversy commenced, I have been looking over my yearbooks to see how we have been doing in this same hog business. We did not go into the hog business as most of your correspondents did, wholesale; just kept three sows for the last seven years, and kept a careful account of what they did. Our sows had two litters per year each; they had an average of 11 pigs at a birth; but only raised 8; they generally raised 9 or 10, but once in a while we had a small bunch, 3 or 4, and once only 2. Those lapses occurred generally from having the sows too fat.

The average price we got for our hogs, live weight, averaging them by loads, was: In 1899, \$4.02; 1900, \$5.33; 1901, \$6.46; 1902, \$6.02; 1903, \$5.50; 1904, \$4.75; 1905, \$5.87. The highest price we got for a load was in 1901, \$7.20; the lowest in 1899, \$3.80, when the average price was \$4.02. In 1905 it was \$5.87, but if we take into consideration the cost of production, one year was about as good as the other. We have always to buy more or less grain (we can't get millfeed in this county), so after we use up what we raise ourselves, we have to depend on buying from our neighbors, so in 1899 we bought peas for 55 cents and barley for 40 cents per bushel; in 1905 we paid 75 cents for peas and 60 cents for barley. Evidently there is no great fortune in the pig business. All I can say for them is that along with a good bunch of cows they have kept the pot boiling and done something besides. Of course we don't feed grain all the time; the sows run out all summer, and the little ones as soon as they get big enough that we can keep them from running all over the place. We feed pulped mangels and turnips when we have them, but our pigs don't think very much of turnips; then there is apples in the fall, whey from the cheese factory in summer, and more or less skim milk in winter.

The best sow we had in those seven years was a half-breed from a pure-bred Yorkshire sow and a pure-bred Berkshire boar. We had a Chester White sow for two years that had 15 pigs at a birth twice, and never fewer than 13, but she never raised more than 10, and that only once. Her pigs were so small it was difficult to get them started. We had a pure Berkshire sow for one year, but her litters were too small. The best of our sows have been pure Yorkshire or Yorkshire grades. We have always used a pure-bred hog, Yorkshire or Tamworth. We have had better and stronger litters with cross than with pure-breeds. We have always had credit for taking No. 1 hogs to market. This paying the same price for all kinds of hogs is neither sensible nor honest. I, however, don't take any stock in this foolish talk about starting in to raise thick, fat hogs so as by some means to get even with the packers.

JOHN PEIRSON.

Bruce Co., Ont.

Go Moderately into the Hog Business, and Stay in.

In your issue of February 22nd, I notice a letter from J. R. H., Wentworth Co., under the heading, "Farmers and Bacon Hogs." He says it is useless for the farmers to try or expect to get anything like a uniform price for hogs. While this is true to a large extent, yet I believe that some improvement might be made in that direction, and that prices could be much more uniform than they have been. He admits that we would be in a "sorry plight" should the packers or capitalists withdraw their money, but he does not agree with Hon. Mr. Monteith, "that it is up to the farmers to keep the factories running." I would ask, if not the farmers, who are the people who are under obligations to keep the factories running? The only possible way for our hogs to reach the British or other markets is through the packing houses, and I think it stands us in hand to meet the packers half way, by providing a liberal and uniform supply of suitable hogs to keep the packing-houses running at their full capacity. It is only by so doing that we can expect to keep up our bacon trade. We may sit still and grumble about market conditions, etc., until Denmark and other countries capture the whole British bacon trade, to our great sorrow and loss. I am thoroughly in accord with the idea that we should have some discrimination as to quality, and that the man who produces the proper type and weight of hog should be encouraged by some slight advance in price. But even if we cannot secure that, we are wise, I think, to cater to the tastes and demands of the buyers and consumers of our products. I believe we are under obligation to supply the packing-houses, because, as I have said, they are the channel through which our finished product must go, as our finished product is the raw material that must keep these

factories running. The only way to increase our bacon trade is to keep these factories running at their full capacity, and set the idle ones going. It is, to my mind, the rushing in headlong at high-tide in prices, and dropping out when prices drop, that has much to do with the rise and fall of the markets. What we need to do is for every farmer, as far as possible, to go (moderately, shall I say) in the hog business, and go in to stay. We are practically obliged to stay in the dairy and beef business, because it is not easy to drop out and in, and the man who stays by his job through a depression is there ready to receive the reward of his faithfulness when the advance comes. We certainly should, as J. R. H. says, keep a regular account of receipts and expenses, and by careful attention to the details, by intelligent selection and breeding, and by persistently endeavoring to meet the requirements of the packers and the markets, we shall be able to secure and hold our proper place in the British markets. It appears to me that now is our opportune time to make a united and determined effort to obtain and to retain a still better position in that market. I have some fears that the very remunerative prices of the past season and the present outlook may induce many to go too heavily into the business now. There is not the slightest danger of overproduction, if we increase our output gradually, and stay persistently in the business. Like J. R. H., I believe the hog is a money-maker if properly managed, and that the fault or failure to do so is the man's and not the hog's. J. G. FOSTER.
Ontario Co., Ont.

What is Wrong with the Hog Business?

Editor "The Farmer's Advocate":
I take much pleasure in reading your valuable paper, which is becoming better every week. The reason, I think, is because you are getting practice instead of theory. Amongst other things, there has been a lot of articles lately on the hog question, on which I would like to give you a few facts which I have learned from experience. To my mind, after reading the articles from packers and farmers, the whole trouble is the fact that too many farmers run in and out of the business. When they think hogs will be dear they go in strong, and then when they are going to come down they sell off their sows. My plan is this: Just make a study how many brood sows can I keep on my farm; that is, to feed all their progeny, and stay right with it. I formerly farmed two hundred acres, and I kept four brood sows. I do not figure on buying shorts or other feed; in fact, this is the first season in fourteen years that I have bought any grain to feed. Of course, our oats were not as good last year as usual. For the last two years I have been farming only one hundred acres. I keep two brood sows. Now, to my mind, there is no kind of stock you can go along with more regularly than hogs, if you take proper care of them, though, of course, you will meet with losses in anything. My average has been from eight to nine living pigs per litter. For two years in succession I kept account of total cost of feed, and I put it at 4 1/2 cents per pound. I see an article in "The Farmer's Advocate" claiming that the difference between the total cost of the hog and what you get for him was all your profit; but, to my mind, if you grow the hog and all you feed him on the farm, with the exception of a few expenses, he is all profit. In this section of the country we are very heavily engaged in dairying, and from what I can learn, farmers sending milk to a cheese factory in summer, and to a creamery in winter, and keeping as many hogs as can be fed, are doing well, and I do not know of any other line of farming in Western Ontario that is paying better.

I will give you a few hints on my system. As to breeds, I do not believe all the good qualities are in any one breed; I have tried them all. It costs very little to change a brood sow. I believe you can produce the ideal bacon hog as cheaply as any of them. Of course, you can feed a short hog the cheapest, but you have got to be more careful, or he will go off his feed. What I dislike to see is one sitting back in the corner and not taking any breakfast; I would rather hear him squeal for his food. I like my sows to farrow in January and July. Be careful how you feed sows in winter. Feed ensilage, roots, and a small quantity of grain, give plenty of exercise, and feed a small amount of salt. Have your pigs eating well before weaning. Feed oats ground fine and steamed for first month, mixed with whey or milk; then, as they grow older, feed more strong grain. I think I can feed more cheaply in house all the year round, but, of course, they need some exercise. I have lately kept the Improved Yorkshires, as they seem to stand heavy feeding, with little exercise, better than the short hog.
FARMER FROM ELMA.

I send you enclosed my renewal to your paper, also two new subscribers, for which you will send your paper for the year 1906. I have taken your paper for a number of years, and am well pleased with it; more so since it became a weekly.
Renew Co., Ont. J. T. ANDREWS.

Interesting Experiment in Feeding Cross-bred Bacon Hogs.

Editor "The Farmer's Advocate":
As requested, we have got the cost of Essex grades figured out, and also sale of same, which I trust will be satisfactory to you. You will observe that the pigs were weaned at six weeks old, which is younger than we generally wean them, the reason being that we lost an Essex sow with a litter of ten at three weeks old, by eating too much corn at the cutting-box when filling our silo. We put the young pigs on the sow that had the cross-breeds, and she raised them well. This experiment has convinced me that by crossing our finer breed of sows with a pure-bred Yorkshire boar, you will get pigs that can be put on market at eight months old by feeding them cheaply, say on grass in summer or roots in winter. Those pigs did not get many roots, on account of feeding so much milk and house slops, as I wanted them up to the weights for the Ottawa Show in March. When they were getting nothing but milk and grass in October, and on into November, they kept plump and fleshy, while the Yorkshires got lanky and thin looking; the cross-breeds would not have stood two more weeks heavy feeding, as they would have got too fat. As it was, I had to order a halt in grain feeding the last ten days; one of them was a little too rich when dressed, and that was what put the first-prize pen alive back to third dressed.
Experiment with six pigs out of a litter of eleven, the produce of an Essex pure-bred sow, and sired by a pure-bred Yorkshire boar: Farrowed Sept. 3rd, 1905; weaned October 14th, 1905. Those six pigs got 20 quarts of milk per day from the separator when warm for one month, to Nov. 15th. From Nov. 15th, same quantity of milk, and from 6 lbs. to 10 lbs. chopped oats at noon, with buttermilk and dish-washing swill, until 15th December, 240 lbs.; the same quantity of separator milk was fed morning and night, with buttermilk and dish-washings at noon, throughout the test, with water added, from Dec. 15th to Jan. 15th, 10 to 20 lbs.; oat and barley chop per day, 450 lbs.; 15th Jan. to Feb. 1st, average 30 lbs. per day, 450 lbs.; Feb. 1st, half peas, other half barley and oats, from 30 lbs. per day to 70 lbs. per day, total 1,500 lbs.; total grain consumed:

2,640 lbs., at \$1.10 per cwt.....	\$29 04
2,760 lbs. separator milk, at 1c. per qt....	27 60
3 pairs pigs, value \$5 per pair.....	15 00
	\$71 64

These pigs were fed for the Ottawa Fat-stock Show, March 5-9. They weighed 1,185 lbs. alive, (at 7c. market price, \$82.95) without feed that morning; they dressed 930 lbs. (payable at the Ottawa Fair); the first-prize pair at \$9.60, the other at \$9.50—\$90.74; and the three heaviest took first prize alive, the three lightest fourth prize. When slaughtered the three lightest took first prize dressed, and the three heaviest took third prize dressed. If the three lightest, that took first prize dressed, had been thirty pounds heavier, they would have beat my pen of three pure-breeds, that were first in the pure-bred class, and sweepstakes over all breeds or grades. It will be observed that these pigs cost about six cents per pound live weight, as nearly half of their cost is charged for the skim milk they were fed, and they had to be forced the last month to get the required weight for show purposes. It will also be noticed that if they had been sold alive at market price, which was seven cents that week in Toronto, they would have realized \$82.95; or if they had been sold in Toronto at \$8.75 per cwt. dressed, they would have brought \$81.37, while they were sold in Ottawa for \$90.74.

We also conducted an experiment with a bunch of pure-bred Yorkshires, which cost fifty cents per head more to obtain the same results.
The cross-breeds kept the lead when on light feeding; the pure-bred Yorkshires gained much faster when more heavily fed, although they had two weeks more time than the cross-breeds to get the same weight.
Peel Co., Ont. JOSEPH FEATHERSTON & SON.

Hog Pasture.

Sufficient good pasture is always necessary to successful swine-raising. Small pasture-lots are not profitable unless enough in number to change from one to another to allow regrowing. But the cost of fence generally overbalances the profit. It is generally claimed that one acre of a good stand of red clover will pasture ten hogs during the season, but my experience shows that this is not a safe rule to follow, for much depends upon the season. Red clover stands at the head of hog pastures, except where alfalfa will grow. But it takes nearly two years for alfalfa to become well established, and when established, it should remain for several years, thus interfering with crop rotation that is so desirable in feeding the soil or keeping up its fertility.
The time to prepare for hog pasture is a year before it will be needed, especially if seeding to clover to be retained for two or three years, for two reasons: First, if the first season should prove to be wet, the tramping by pigs would probably destroy the plant. The writer once sowed a field to winter rye in the fall. The next spring the rye was gone over with a slant-tooth harrow, and it was seeded with ten quarts of red

clover to the acre, and given two more harrowings. On May 15th I turned in fifteen sows with their pigs, 120 all told. The season was favorable, and the rye furnished abundant pasture, and there was a fine stand of clover. But it was necessary to change pasture in August, or the hogs would have destroyed the clover. As it was, I had the finest clover pasture for two years. But in another instance the season was wet, and the tramping of the hogs destroyed the clover. In this case we should not have pastured the rye, but harvested it instead, as there was a good stand of clover soon after seeding. One must put on his thinking cap under such conditions. Timothy makes a poor hog pasture. The oat stubble will give the most pasture for the present season, if sown to Dwarf Essex rape. If sown broadcast, use five pounds to the acre. If you can divide the field with a low, movable wire hog fence, so as to give the rape, when partly eaten down, a chance to regrow, it will be better. Don't turn hogs into rape until it is ten to twelve inches high. You may, as an experiment, sow four quarts of clover to the acre with the rape; but do not sow rape until there seems to be no danger of hard frosts. Kentucky blue grass furnishes a desirable pasture for sows and their litters in April, May and part of June, and also in the fall months, if parts of the farm that are not cultivated, such as timber-lots or creek-bottoms, are seeded with it. But to get quick and temporary pasture, rye and oats, or oats and barley, sown together, answers well. One acre will pasture 30 fall pigs for several days.

When there is no longer danger of killing frost, sow a couple of acres of Dwarf Essex rape. By May 25th they will pasture 30 fall pigs and some sows with their litters, especially if one has movable wire fence, so as to change pasture and allow regrowing. The use of such fences has brought about the possibility of great economy and profit, and they will last, with reasonable care, half a man's lifetime.

In regard to artichokes, prepare the land as for potatoes, mark the rows 3 feet apart, and 3 inches deep at least; drop the bulbs two feet apart, cover, and cultivate as for potatoes. In October turn hogs in, or dig them yourself; but they will throw out roots in every direction, filling the ground with small bulbs. They will not winter-kill. The next year the artichokes will grow as thickly as ragweeds. If hogs harvest them, the land should be smoothed over as soon as they are taken out, and then cultivated as before. All successive crops will be of small tubers, and to exterminate them will take several years. The writer's experience with them moves him to advise going slow in the planting of artichokes. I have known them to become as much of a pest as what are known as wild artichokes.
Fulton Co., N. Y. J. P. FLETCHER.

THE FARM.

Crucial Points in Road Construction.

Editor "The Farmer's Advocate":
Regarding the roads of the Province, I am glad to know that you desire to keep the question before your readers. Railways, lake and ocean shipping are doing much for the Province, but there is no public work of more importance than the construction of good country roads. They are costly, they require skill to build, and constant care to maintain. Without good roads agricultural progress is impossible.

The past season has been exceptionally injurious to the roads of the Province. Ordinarily, the roads during the winter are frozen continuously, and are protected by snow for a considerable period. The extremely mild weather, with alternate conditions of frost, thaw and slush, have worked havoc with the roads, and from every quarter come complaints of their exceedingly bad condition. Earth roads are, in many districts, almost impassable, and gravel and stone roads have been greatly cut up.

Such a winter as the past one must always be a severe test on even the best of macadam and gravel roads. It will always permit a good deal of surface rutting and cutting. Where the injury goes deeper than this it ordinarily proclaims the need of better drainage.

Drainage is the first essential of a good road. Wherever water stands on or under the roads the frost will do its work of heaving and softening. If there were no water in the road, the frost would have no effect, and there would be no "breaking-up" process in time of thaw.

The need of surface drainage is understood by all, but on very few of the country roads is it provided in a reasonable manner. Drains are dug, it is true, by the roadside, but they are seldom graded to a proper outlet. A drain without an outlet is useless. There should be no hollows and pockets in the drain to hold water, but it should have a continuous fall to a natural water-course. In grading the roads and in making the drains, look, in the first place, for the drainage outlets. When these are determined, grade the knolls and hollows so that there will be a constant fall to

them. The fall need not be uniform, but uniformity should be aimed at to a reasonable degree, and in this way a good fall for drainage will be assured.

A part of drainage is the crowning of the road. The roadway should be well rounded, so that the water will run freely to the side drains, and will not lie in the wheel tracks. On country roads, a fall of an inch to the foot from center to side is little enough, and more on a newly-graded road is desirable. The constant tendency of roads is to settle and spread to a flat surface. The roads with a high crown are the most durable.

But surface drainage is not all. Tile drainage is an absolute necessity to most roads to protect them during the spring break-up, and in mild winters of alternate freezing and thawing. Tile underdrains lower the water-line underneath the roads. The effect of tile on a road is similar to its effect on farm lands, in causing them to dry quickly in the spring. By keeping the water out of the body of the road by this means, the bad effect of frost is reduced to a minimum, and boggy places, quagmires and pitch-holes are done away with. A tile drain along the roadway under the open drain, three feet below the surface, is the best location, and one such drain will do nearly all that tile drainage can accomplish.

Municipalities in which statute labor is depended on to maintain the roads will this year be at a disadvantage in making the necessary repairs. Statute labor will not be available before the month of June, whereas repair should be commenced as soon as the frost is out of the roads. Earth roads should be levelled off with a scraper; gravel and broken-stone roads should have the edges of metal drawn into the wheel tracks with a grader, and new material added wherever needed to restore the crown. If this work is done early in the season, while the earth is moist, it will pack down quickly, and the roads will be good all summer. But if left until the earth becomes baked and hardened, rough roads will be the result for the greater part of the summer.

It is to be hoped the coming season will be an energetic one so far as road improvement is concerned. Statute labor has, in the past, served a good purpose, but everywhere there is evidence that it should retire in favor of a plan better adapted to present conditions. It is not enough, however, to abolish statute labor. In its place there must be put a system that will be operated with energy and intelligence. Whatever the details of the new system may be, they should be such as will enable the township to profit by the growing experience of those in charge of the work. The number of road commissioners should be reduced to the least possible number, and these kept permanently in office. The idea that "anyone can build a road," is a fallacy that has cost the Province of Ontario hundred of thousands of dollars—and still we have bad roads. Anyone and everyone have been making the roads of Ontario for a century. The present condition of the roads is ample proof that the work should be put into new hands. One efficient commissioner can readily take charge of from 50 to 150 miles of road, appointing foremen as required. This is the only way to secure uniformity, economy, and the efficient management of all details.

A. W. CAMPBELL,
Com. of Highways.

Sowing Clover on Fall Wheat.

Editor "The Farmer's Advocate":

Seeing recently a letter in your valuable paper about sowing clover too early, written by John Lawson, Middlesex Co., Ont., and your editorial note asking others to give us the benefit of their observations on this point, I may say that, having had a good deal of experience in sowing clover seed on fall wheat in the spring, I must agree that Mr. Lawson is correct. I have sown in March when a covering of snow was on the ground, have sown in mud, and have sown as late as the 20th of April, and failed to get a catch. Some years ago I had a conversation with an old settler in this county who told me to not sow my clover seed on fall wheat till the last week of April or the first week of May, whether the season was early or late, nor how large a top the wheat had. And then, when I sowed the seed, to put a heavy set of harrows on the field, and drive my horses at a good sharp gait, giving it one stroke of the harrows, and if the ground was hard, two strokes. This plan I adopted some years ago, and it has been successful with me ever since. Last year I seeded a field of wheat in this manner on the last days of April, when the ground was almost fully covered with wheat. And when the big iron harrows drawn by three horses went over that field, one would really think the wheat was ruined. I rolled it right after the harrowing. The average yield per acre was 44 bushels, and a better catch of clover I never saw grow. In September one could have mowed it for hay. I have now given you my theory and practice.

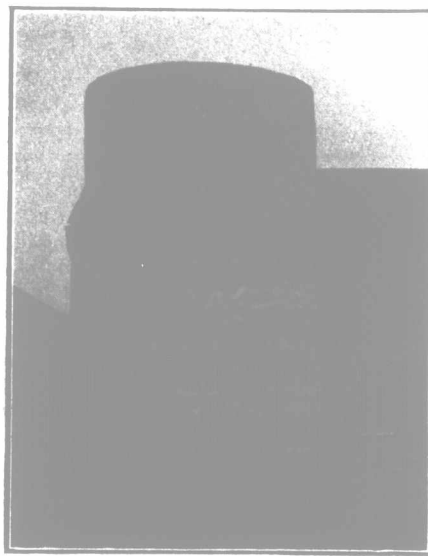
W. H. O'BRIEN,
Northumberland Co., Ont.

How a Round Cement Silo was Built.

Editor "The Farmer's Advocate":

The accompanying half-tone shows our concrete silo, 31 feet high and 14 feet in diameter, costing \$140, not including the expense of hauling gravel and cement. In this case it required 28 loads of gravel and 27½ barrels of cement. Portland cement was used, being mixed with the gravel in the proportion of 1 of cement to 12 of gravel for the lower 10 feet of the silo, and in the proportion of 1 of cement to 10 of gravel for the remainder. The proportion of gravel was lessened slightly as the silo neared completion, and the top six inches was made in the proportion of 1 of cement to 2 of fine gravel. In this way a very hard top was obtained, to withstand the action of frost, etc. The reason for making the concrete stronger (to contain more cement) as we came nearer the top, was that the wall decreased in thickness all the way up. The base was laid 12 inches in thickness, which brought the wall to the ground line, a height of 2½ feet. It was then narrowed to 10 inches. Steel rings were used—four in number, two for inside of wall, and two for the outside. The inside rings remained the same size all the way up. In that way the inside of the wall was made perpendicular; while the outside rings were made so that they could be made smaller at the top circumference, and in that way the wall became less in size all the way up, until, at the top, it measures 6½ inches in thickness.

The reason for having two sets of rings was to enable the filling of two rings a day (5 feet), and also to protect the green wall when the rings



H. S. McDiarmid's Round Cement Silo.

were being raised. When one set of rings was filled, the lower set were placed directly on top of the filled set and were filled, then the lower set was placed again on top. This was repeated until the silo was completed. Wooden spread sticks were used, made the length of the thickness of the wall, being made shorter each raise of the rings. It is necessary to have good substantial scaffolding right around the outside of silo site. In our case five poles were used, which, when put in the ground, stretched higher up than the top of the silo. To two of the tallest of these poles, and at a convenient place, was spiked a plank, about 8 or 10 feet higher up than the top of silo. To the middle of this plank was fastened a hay-fork pulley, and, by means of a hay-fork rope, the wheelbarrow loads of concrete were lifted the required height by a horse. Two wheelbarrows were used, so as to keep operations going, the one being filled below while the other was being emptied on the scaffold. The concrete was mixed as dry as possible. In every 2½ feet of wall above ground were placed three strands of No. 6 straight wire, or one every 10 inches. The ends of each strand were brought together, hooked, and doubled back in the concrete. Care was always taken to keep these strands in the center of the wall. There were three windows or openings placed in the side of silo next the barn, where the silage is taken out. These windows are 2 feet wide by 3 feet high, and, if rightly placed, we consider are sufficient for a 31-foot silo. On each side of these openings in the wall we placed iron rods, projecting one foot above and one foot below the opening. To these rods we fastened the wires, and doubled them back in the concrete. These rods and wires, we believe, are a great source of strength to our silo wall, to resist the crushing pressure to which it is

subjected. When a silo built in this way is complete, it should be well plastered on the inside, at least, and preferably on both sides, with fine sand and cement, 2 to 1. A drain should be put in to run under the floor to the center of the silo. The floor should be made of concrete, two inches being thick enough, and should slant to the drain in the center. We have no roof on our silo, although we have placed eight bolts in the top surface of the wall in case we should decide to put on a roof. This winter a roof has not been needed, but then there has been very little snow to trouble this winter.

To those intending to build silos we would say, build a concrete one, locate it in a place close to your feed-room, so that, if possible, you can pitch the silage out of the silo into it; get good clean gravel and good cement; be sure to pound the concrete well in the wall; make the concrete rather dry; oversee the placing of the wires in the wall; if you would get a good handy scaffold-builder it would facilitate the work greatly, because it takes a long time to rig up a scaffold; raise your scaffold 10 feet at a time, so that you can fill two rings above the scaffold and two below it in the one raising. Add to these suggestions a few minor details, and you should have no trouble about building a good permanent silo.

We believe the silo almost an essential to successful stock-raising. We feed silage to all classes of live stock, and, during our limited experience, are well satisfied with results.

Elgin Co., Ont.

H. S. McDIARMID.

Agricultural Suicide.

Editor "The Farmer's Advocate":

I have seen some discussion in "The Farmer's Advocate" lately regarding the management of farmyard manure, and it seems to me it will bear a good deal of thought. We may have our opinions and prejudices, but, after all, the best teacher is experience, especially if our experience is corroborated by the results of accurate experiments carried on at our Experimental Farms. The fact that the manure pile loses both in weight and quality by fermentation or "heating," cannot be too forcibly impressed upon our farmers. It is enough to make one nervous to see a large pile of manure with the smoke rising from it, and I have wondered if the owner realized that this valuable piece of property was really burning up. On practically level land, containing a fairly large amount of vegetable matter, I would prefer spreading the manure on the land as soon as it is taken from the stable, even when the ground is frozen; but my experience is that, in the Maritime Provinces, where the land is quite rolling, and where the winters are not so steady as in Ontario, there is considerable loss in applying manure on fall-plowed land for a root crop. When the mercury goes up to 40 or 45 degrees for twelve hours, and is followed by heavy rain, there is certainly quite a heavy loss by washing. My plan is to take the manure directly from the stable to the field, and pile it in large, square piles, not less than five feet high. The manure from the horse stable is not, under any circumstances, allowed to be taken to these piles, as it will ferment and cause the whole pile to heat, but it is spread on the surface, preferably on a grain stubble that has been seeded to clover. The manure that is put on the piles is spread over a space four or six feet square every day, so as to give it a chance to freeze solid; and when a large pile of manure is frozen solid it will not thaw out much before the middle of May, and consequently loses nothing by fermentation.

I prefer piling the manure on the land that is to be in roots, and spreading it in the spring with a manure spreader, as it can be done better than by hand, and is more easily incorporated with the soil. I have never tried a manure cellar, but I do not think I want a manure cellar under my milking cows, and I consider the plan of throwing the manure under the eaves and leaving it there all summer, to be applied in the fall, nothing short of agricultural suicide.

C. H. BLACK,
Cumberland Co., N. S.

Rotation of Crops.

Editor "The Farmer's Advocate":

The rotation we are practicing, and find very good under our conditions, is a four-year rotation, as follows: First year, clover, cut for hay; then the earliest cut portion is cut again for seed, and the remainder is pastured during the late summer and autumn months. Second year, oats and timothy; generally about two-thirds oats, or perhaps all oats, according to amount of hay required. Third year, hoed crops—corn, turnips, mangels, etc.—on the previous year oat ground, and peas on the timothy sod. Fourth year, winter wheat on the previous year pea ground, barley on the root ground, all seeded to a mixture of clover and timothy. Have a rolling field seeded to permanent pasture for cows and working horses, and young stock are pastured on a low-lying pasture farm.

Since Co., Ont.

A. W. P.

The Pick of the Earth for Canada.

Editor "The Farmer's Advocate": Although I have seen a number of articles in your paper on Canadian immigration, I think that a great deal more may still be said on that subject.

With such vast tracts of untilled land in the West, the Canadian Government is seeking a means whereby to settle that part of the Dominion, and to accomplish this end is encouraging immigration to Canada from Great Britain, Europe, the United States, and other countries.

Most of these prospective farmers take train for Winnipeg and the West as soon as they arrive in Canada; but some come to Toronto, from which place they scatter over the whole Province of Ontario.

Besides, what kind of citizens will great numbers of the immigrants (from Eastern Europe especially) make? The riff-raff of all those half-civilized countries come to Canada, and when they get here they are given 160 acres of the finest land, which they hold till they get full possession of it, and then sell out, in order to make a little money.

If this land were sold to immigrants instead of given to them, only those who have some money could buy it, and people with a small amount of capital, who buy land, are the kind who make good farmers and citizens; because, if they invest their small capital in land, they apparently want to keep it.

Assessment Law and Farm Property.

We have read with interest, as well as with profit, a good many discussions which have been appearing of late in "The Farmer's Advocate," notably that on the hog question, from both the packers' and the producers' points of view; also the exemption of wood-lots from taxation, taxing bachelors, etc.

which would go a long way to solve the question of how to interest the boys in the farm, and also make the rural districts of this country much more attractive and prosperous. Since commencing this letter I understand or have learned that the taxation of real estate values is to be one of the features of Campbell-Bannerman's platform in Great Britain, and with our Assessment Act under revision at Toronto, I think our legislators might with profit give this question a thorough investigation, with a view to the exemption of buildings from taxation.

Fertilizers and Their Place in Agriculture

Under natural conditions a forest or prairie soil increases rather than decreases in fertility. The elements taken from the soil are returned to it on the decay of the plants, or on the death of the animals which feed on the plants; thus the surface soil becomes rich in organic matter and in ash constituents, which have been collected from the subsoil and left in organic combination at the surface.

As soon as the land is cultivated, oxidation of this organic matter commences, the amount of water percolating down through the soil is increased, and along with it the plant food which has been rendered soluble. Furthermore, the vegetable and animal products of the land are consumed off the soil on which it was grown.

Some soils are naturally rich in the elements of plant food, and when the crops are so rotated as to economize this natural wealth of fertilizing constituents, it may be a long time before the soil needs any artificial manures; but if the soil is naturally poor, and if special crops of like nature have to be grown year after year, it may soon need some special manuring to replace those constituents constantly removed in the plants.

It must be confessed that it is well-nigh impossible to give a definite answer to this question. To intelligently and economically use fertilizers, it is essential that the farmer understand the needs of his soil. He must be acquainted with the special characteristics of the crops he is growing, their power of gathering the essential plant food constituents from the soil, whether the object is to produce an immature plant for early market, and artificial growth demanded, or whether maturity is required when the development must be normal in all directions.

As a rule, fertilizers should be looked upon as adjuncts to farmyard and green manures, and should be applied to make up some deficiency in the soil, or to supply some constituent specially needed by the crop to be grown; consequently, in general farm practice, one element may be all that is required, as, for instance, nitrogen for cereals and mangels, potassium for legumes, and phosphorus for turnips.

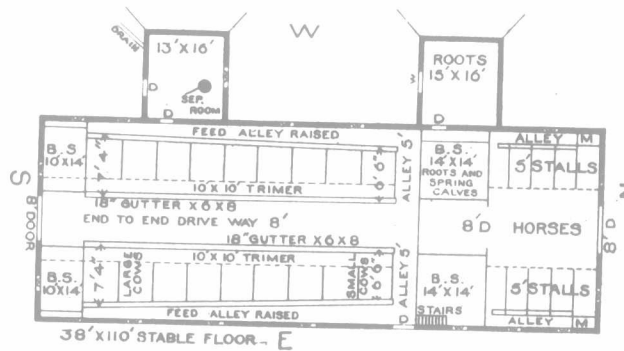
Among the ordinary farm crops, the ones most likely to give remunerative returns are those which require a great deal of labor in their cultivation. If a maximum crop of mangels or turnips is not less than if there is only half a crop, and, frequently, if all the other conditions are right, a dressing of one or two hundred pounds of nitrate of soda to the former, and two to four hundred of superphosphate to the latter, will make a wonderful difference in the crop.

With reference to the crops of the market gardener and fruit-grower, who may not have an abundance of farmyard manure, it is more essential that he use what is termed a mixed fertilizer; that is, one which contains the three most important constituents of plant food for "quality" in many of his crops, produced by a vigorous and continuous growth.

Space will not allow a detailed discussion of the special characteristics of the fertilizers for the various crops of the market gardener, but, in general, it may be stated quality depends upon, or is measured by, both appearance and palatability; and that palatability is determined by succulence and sweetness of the vegetable, or its freedom from bitterness, stringiness, and other undesirable characteristics which frequently exist, and which can be largely eliminated by providing an

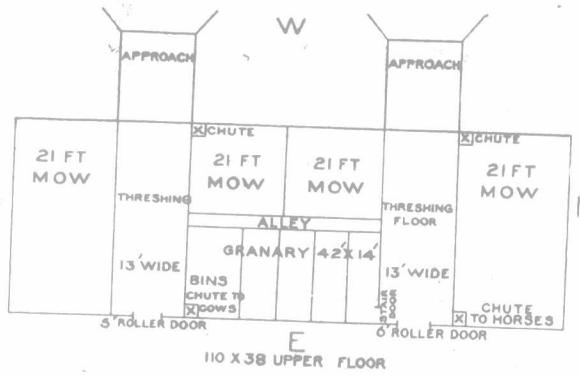
R. Caskey's Barn.

The accompanying plans show a 110 ft. by 38 ft. barn, built by J. S. Alvea and L. Wallbridge for R. Caskey, Hastings Co., Ont. Basement walls and floors are of Portland cement; frame of



Basement Plan of R. Caskey's Barn, Hastings Co., Ont.

sawed timber, hemlock and pine, using 2 x 10-in. plank for joist, laid crosswise of the building, supported by two 10 x 10 trimmers running over each row of stalls, and studded with 4 x 8 cedar posts between each stall. The side posts are 18 feet, with self-supporting hip-roof, covered with



Upper-floor plan of R. Caskey's Barn, Hastings Co., Ont.

corrugated iron sheets. Feed mangers are run on slant to accommodate long or short cows; can be varied to suit herd. The 4 x 8 studs form back post of stalls. SUBSCRIBER.

Alfalfa Requires Drainage and Lime.

A leaflet, embodying some suggestions relative to alfalfa-growing in Ohio, states that the alfalfa area in that State, though not large, is quite rapidly increasing. Drainage, natural or artificial, is the first essential in its successful culture. While alfalfa will stand an overflow of several days' duration at certain seasons of the year, it will not thrive where the water-level is close to the surface, or where the water does not drain off readily.

A Necessity.

Have taken your paper for two years. Like it well. As a farmer, I could not afford to do without it. THOMAS BONSFIELD. Wentworth Co., Ont.

abundance of food for a continuous and rapid development of the plant. Any delay in the growth of a radish or of lettuce is largely responsible for the sharp taste and pungent flavor of the former, and the bitterness and toughened fibre of the latter. A reasonable excess of all the essential fertilizer constituents is required for all garden crops, and where succulency is specially nitrogen may predominate.

There are now on the market a great number of brands of complete fertilizers which are specially recommended for certain crops which may or may not suit the conditions, and the tendency is for the farmer to buy these mixtures according to name, without sufficient knowledge regarding the nature and value of the component parts. As they understand more fully the true principles of fertilization, the tendency in the purchase of fertilizers will undoubtedly be towards the procuring of fertilizing materials containing a single constituent—as nitrate of soda, muriate of potash, superphosphate, etc.—to supply the needs of certain soils or crops; or to buy high-grade special mixtures made from materials of the last type, rather than "standard brands"; or, possibly, to buy materials of a known quality and prepare their own mixtures.

Space will not allow of a full discussion of the meaning of high-grade and low-grade fertilizers and high-grade and low-grade mixtures, but it may be briefly stated that any material containing a high percentage of one or more of the essential fertilizing constituents in a form available to plants is termed high-grade. For instance, a mixture may be made from high-grade materials, as:

Nitrate of soda, 500 pounds; furnishing 80 pounds of N.
Superphosphate, 1,100 pounds; furnishing 180 pounds of available P₂O₅.

Muriate of potash, 400 pounds; furnishing 200 pounds of potash.

With a guaranteed composition of—

Nitrogen	4 per cent.
Phosphoric acid (available).....	9 per cent.
Potash	10 per cent.

This is a high-grade product, both in respect to quality of plant food and concentration; but if it is diluted with, say, half its weight of make-weight substances, thus reducing the percentage amount of the fertilizing constituents by one-half, it will be a low-grade mixture in so far as concentration is concerned. Again, we may have a mixture made from materials which do not contain their constituents in such available or desirable form, as:

Tankage, 600 pounds; furnishing 30 pounds nitrogen.
90 lbs. phosphoric acid.

Kainite, 400 pounds; furnishing 50 pounds potash.

Make-weight, 1,000 pounds.

With a guaranteed composition of—

Nitrogen	1.5 per cent.
Phosphoric acid	4.5 per cent.
Potash	2.5 per cent.

The second formula illustrates a low-grade fertilizer, in the sense that it contains the poorer forms of the constituents, and furnishes a comparatively small amount of plant food. It would require more than two and one-half tons of this mixture to furnish as much total plant food as would be contained in one ton of the first, besides the disadvantage of the lower quality of the constituents.

The Government of Canada has done what it can to protect the farmer against a dishonest manufacturer or agent, for years ago it enacted a law, whereby every manufacturer or importer of fertilizers shall, before offering them for sale, transmit to the Minister of Inland Revenue a sample of the fertilizer, together with a statement setting forth the nature of the materials which enter into its composition, and the manufacturer's certificate of analysis of such fertilizer. This sample is submitted to the chief analyst for analysis, and is preserved by the Department for the purpose of comparison with any samples of the fertilizers of that brand which may be collected during the next 12 months. If the fertilizer is put up in packages, every package shall have the certificate of analysis placed upon or attached to it; if it is sold in bulk, such certificate shall be produced and a copy given to every purchaser. Every certificate shall also contain a statement of the nature of the materials entering into the composition of the fertilizer. In this way the Government compels the seller to stamp the percentage composition on his goods, and seeks to see to it that the goods are kept up to standard.

However, laws alone cannot fully protect the farmer. He must not only know whether the materials used in the fertilizer are of good quality, but he must also be able to determine from the analysis whether there is a proper relation between the guaranteed composition and the selling price. Two brands of fertilizers may be made up from the same kind and quality of materials; one is guaranteed to contain:

Nitrogen	1 per cent.
Phosphoric acid	6 per cent.
Potash	1 per cent.

and is offered at \$20 per ton; a second is guaranteed to contain:

Nitrogen	4 per cent.
Phosphoric acid	8 per cent.
Potash	2 per cent.

and sells at \$22 per ton. A farmer unacquainted with the value of the guarantee might be inclined to purchase the fertilizer which could be got for the least money. If, however, we value the nitrogen at 15 cents, and the potash and phosphoric acid at 5 cents per pound, which is about the current market price, we find that the first fertilizer would be worth \$10 per ton and the second \$22 per ton.

It may often occur that home mixtures of fertilizers can be made which will better meet the requirement of the particular soils and crops under cultivation than any mixture that can be procured on the market. Reliable authorities have estimated that the charges of the manufacturers and dealers are, on the average, \$8.50 per ton. It is evident that this, together with the extra freight on and cost of handling the make-weight substances commonly added, would leave a fair margin to pay for labor involved in making the mixture at home. The offal from our pork-packing houses, if properly ground, could well be used as the basis of many of such mixtures. As it is, practically all of this valuable fertilizer is shipped out of the country, where it is ground, mixed with other substances, rebagged, and much of it finds its way back into this country under the name of many special brands of fertilizers.

From the few points mentioned in connection with the subject of fertilizers, it is evident that a man must have an intimate knowledge of the requirements of his soil and crops and the various kinds of fertilizers on the markets before he can hope to use commercial fertilizers economically. They have a place in agriculture, but it is as an adjunct, and should only be used after every care has been taken to get the best results from the farmyard manure, and in conjunction with the most thorough cultivation.



Making Railroad in Queen's County, N. S.

Note the headyoke on oxen, and a strap around forehead, commonly used in the Maritime Provinces, particularly Nova Scotia. Those who have tried both ways say the headyoke enables the oxen to pull bigger loads than the neckyoke, and work with more comfort.

Legume Inoculation Not Yet a Practical Success.

"Commercial Cultures for Legumes not Reliable," is the title of a recent bulletin from the New York Agricultural Experiment Station, at Geneva. "Extended and careful tests in five different laboratories, using many packages of inoculating material, prepared at different times, kept under favorable conditions, all comparatively fresh, and used in accordance with the directions, prove that such packages are worthless for practical inoculation. This must not be ascribed to dishonesty on the part of the company preparing it, for the package from the Department of Agriculture at Washington gave no better growth than the commercial packages. The trouble lies in the method itself. The legume-inoculating bacteria, dried on cotton and exposed for a time to the ordinary changes of temperature and humidity, die or lose vitality, so that they do not develop satisfactorily when used as indicated by the directions. . . . These experiments, with their surprising and disappointing results, do not condemn inoculation. They merely show how and why many recent attempts to inoculate legumes have failed. Inoculation, as such, has not come into question at all, as it cannot be considered inoculation unless living and vigorous bacteria are brought into contact with the plant to be inoculated. The use of dried-cotton cultures has been, in most cases, only an unsuccessful attempt to inoculate. There can be no doubt that the introduction of bacteria where lacking, and under proper conditions for their growth, will benefit legumes; but it is certain that the commercial packages of cotton, as distributed in 1905, are not reliable agencies to secure such inoculation."

Another magazine boomed fad consigned to the limbo of impracticability. Moral—When you see an agricultural idea lauded sky-high in literary magazines, be on your guard, and keep a gun loaded for the faker.

Money in Potato Culture.

Editor "The Farmer's Advocate":

In recent years the prices for potatoes have been advancing, owing to varied causes, until the average price for the past ten years is such as should create a desire to realize upon this crop. Properly managed, there is no crop, if we bar small fruits, which can be made at present prices to bring in such a large revenue per acre as the potato field. Apart from the general rise in values for farm products, there have been special causes at work to enhance the price of potatoes. To give my method of combating the enemies to the successful culture of potatoes is the object of this article.

The practice so commonly followed of selecting for seed from year to year those tubers that were worthless for sale, has resulted in loss of vitality in all of the older varieties, except in individual cases, where special care has been taken; thus we hear neighbors talk of changing seed to secure larger crops, and, as a rule, the "seed" exchanged should have been used to produce bacon. But because seed is used that is on the decline, we who grow potatoes on the good soil of Ontario can show no better average than 116 bushels per acre for 1904, and during recent years the average for Ontario has frequently fallen below 100 bushels per acre.

Our first word, then, is against poor seed. Next, we would say that too little attention has been paid to the chemical condition of the soil planted to potatoes. Last fall I was interested to notice in Algoma and in Manitoulin Island the beautiful crops of potatoes. They were of nice size, and when cooked were worth eating—dry, sparkling with starch, and fine flavored. The fact that the land was of recent breaking, having its balance of fertility still undisturbed, explains the difference between these and the soggy, dull-colored and tasteless potatoes sampled on the hotel tables in older Ontario last winter. Study the needs of the soil, that it may supply the needs of crop.

Then potato blight has added its influence in favor of decreased yields. Inherent weakness always leaves the subject of attack more susceptible to disease, so the blight found yearly an easier prey in the poor potato endeavoring to grow from unwisely-selected seed and on land which felt the need of potash.

From these three evils there is a way of escape, for they are evils largely under the control of the grower.

Last year I would not have inserted the word largely; until next year, at least, you will allow me to use that word. Since I undertook to produce potatoes for the money that was in them, we have selected as seed average-sized tubers, of a shape typical of the variety. These have been cut as nearly as may be to one or two eyes to the cutting, which leaves on good-sized potatoes a liberal allowance of flesh to the support of the young plant. It is its base of supply and its reserve force; from the flesh it gets its start in life. Give the young plant a good start. I do not say definitely that cutting is best. Land plaster is sprinkled over the cuttings to preserve the flesh until the young plant is ready to draw upon it; the chittings are then dropped in the furrow, 3½ to 4 inches deep, and 14 inches apart, and covered with the plow. The plow cuts about 10 inches, cuttings are dropped every third furrow. The planting is done about May 24th; late varieties only are used. Up to date of planting, soil is kept worked weakly, and when field is planted it is also plowed; frequent harrowing follows, and thorough cultivation throughout season as long as cultivator can be got through the vines. To provide the requisite plant food, fall-plowed clover sod and 12 tons per acre barnyard manure give good results. We have used a special chemical fertilizer, made up to my order, to suit potatoes. This gave splendid results, and paid well. It was twice as rich in potash as ordinary superphosphate, and, as a lover of potatoes might say, it was about twice as cheap. It is made up as follows: 400 lbs. of muriate of potash and 1,600 lbs. superphosphate of lime to the ton. The muriate of potash analyzes 52% K₂O, and the superphosphate, 15% available P₂O₅ phosphoric acid. The mixture will, therefore, show an analysis of 10.4 K₂O and 12% available P₂O₅. Since most soils on stock farms are sufficiently rich in nitrogen, and since nitrogen is the most expensive to purchase in the form of commercial fertilizer, its absence from the combination reduces the cost until, rich as this fertilizer is in the required elements, its cost is only \$24.00 per ton.

I commenced to spray on June 30th, and sprayed six times, at no definite period, except that two weeks was not allowed to pass without an application being made. In preparing the mixture, I use 6 pounds copper sulphate, CuSO₄, to 40 gallons water. My work, owing to a faulty horse-power machine, was not suffi-

ciently thorough, and blight did get started late in the season; but while the work was carried on at considerable expense, and resulted in a measure of disappointment to me, I never saw the line so clearly drawn between sprayed and unsprayed as this year. This is why I ask for more time before committing myself to being able to control blight in all years and under every varying condition of weather. As to results, I may say that we can show an average crop return of almost three times that for the Province. The extra cost to us was slightly more for seed, because of its greater value; \$10 for commercial fertilizer, cost of application included; \$3 to \$4 for bluestone. For an additional outlay of, say, \$20, an additional income of \$120 per acre.

In conclusion, let me say that I believe there is an opportunity right here awaiting the horticulturists of Canada. Let these men produce disease-resisting, prolific varieties, after the fashion of "What's Wanted" or "Royal Kidneys," which latter variety produced twenty to thirty-five tubers at each root, all finely shaped and free from disease." I quote "The Farmer and Stock-breeder," of October 16th, 1905. An issue of the same paper gave a county average of 445 bushels per acre. Ontario potato culture beckons scientific research. We need better varieties, and he who introduces them will be as deserving as the man who can make two blades of grass grow where one grew before. Grenville Co., Ont. G. H. HUTTON.

A Three-year Rotation.

No plan of farming will give so good results as a systematic rotation of crops, and nothing else will give so good returns for the labor spent on the farm. It may be a three, four or five-year rotation—whichever is best adapted to the circumstances—but let it be carefully followed from year to year.

On this farm we practice a three-year rotation, as follows: First year, clover; second year, corn and roots; third year, grain. Each time the clover sod is plowed for corn and roots, a dressing of manure of from ten to twelve loads per acre is applied, preferably after plowing, and worked in with a disk harrow.

We plow the sod late in the fall for corn, and apply manure during the winter. For roots, we like to get it plowed as soon as possible after harvest, and harrow it occasionally during the fall. This gives a good seed-bed for mangels early in the spring. Our work land consists of about sixty acres, divided into three fields of twenty-two acres each. Our average yield is about two thousand bushels of oats and barley, mixed, per field; about seventy loads of clover hay per field; from two hundred and seventy-five to three hundred tons of ensilage, and from four to five thousand bushels of mangels per field.

We had a very striking illustration of the value of a rotation on the farm last year, it being the first year the farm was equally divided. In enlarging the fields we were forced to make a break in our regular rotation on some parts of them. These plots came into our grain field. On one plot we were forced to sow grain two years in succession; on another, grain on clover sod. The difference could be easily seen in the grain, and was particularly noticeable in the young clover plants. I do not think, judging from their appearance in the fall, that we will have more than one-half the usual yield on these plots this year. We cut all our straw for bedding, and think it pays well. It occupies less space in the barn, goes further, absorbs more liquid manure, and is much nicer for working into the surface of the ground with the manure. LORNE FOSTER. Ontario Co., Ont.

Clover Seeding.

Editor "The Farmer's Advocate": As I have been like the sponge in the past, always absorbing from "The Farmer's Advocate" and giving out nothing, I have decided to reform and give any little bit of experience I am certain of for the benefit of my brother farmers. Now this late seeding of clover I have practiced for at least fifteen years, and have had not one failure. My father favored the early seeding, often walking through mud to perform it, and it was rare indeed for us to get a good catch. One year our fall wheat land was very rough, and we wished to level it with the harrows, and on that account delayed the seeding until it was dry enough to harrow. We harrowed, stopping other seeding work to do it, sowed the clover and timothy seed, and then rolled, and what a catch! We had to cut high to keep the butts of the sheaves from being a mass of green. We took the hint, and have never missed a seeding since. Sometimes when the soil is hard we harrow and sow, and then harrow again and roll, and we are certain of a catch; besides, it is a great help to the wheat, and makes the field much nicer to run the binder over. Trusting this will be of benefit to someone. D. A. S. Middlesex Co., Ont.

Mr. Hills, B. C.: "Received reading glass and harmonica to-day; please accept thanks. Your paper is highly appreciated, and hope to be able to forward more new subscribers soon."

Huron County Seeding.

Spring wheat is not much grown in this section; the only spring wheat that gives any satisfaction is Wild Goose, and it is not as good as the fall wheat. In oats, the best varieties are Newmarket, New Waverly and Ligowo. The Ligowo is a good oat for feeding, but not so good for the mill—that is, for oatmeal—as it has a thick hull. In barley, Oederbrucker and Mandscheuri are the best varieties grown here. I had the two-rowed Duck Bill, which did well, but a test proved the Mandscheuri best. I got them from the Experimental Farm, Guelph. Peas are not grown much here, as the bug destroys them. Cob corn is grown but little here. Fodder corn is principally grown, but I grow Compton's Early, which has given good satisfaction. In mangels, Mammoth Long Red, or Gatepost, gives the best satisfaction. Turnips, Purple-top Swede, Carrots, White Intermediate. Potatoes, Carman No. 1, Burbandy Seeding and Uncle Sam give best results. We sow of wheat, 2 bushels per acre; barley, 2 bushels; oats, 2 bushels; mangels, 4 pounds; carrots, 3 pounds; turnips, 3 pounds. This amount of seed per acre may not suit everyone, but I find it sufficient. DAVID PROUSE.

Seed Varieties for Middlesex County.

We find it a matter of great importance what kind of grain we sow from year to year, more especially as to the yield per acre. We have always been interested in the experiments of the Ontario Experimental Union, and the most of its conclusions suit this part of the Province. We do not find it profitable to sow spring wheat; Goose wheat is the only variety that will remunerate the farmer. The Banner and Siberian oat have given us the best results; the Siberian is doing better just now than the Banner. We generally sow a mixture of two bushels of oats to one of barley, and always get a larger yield than by sowing separately. We sow the Mandscheuri barley; of course it ripens somewhat earlier than the oats, but there is no loss in harvesting them, as the barley does not drop off. We usually sow 2½ bushels to the acre. Peas are doing better lately, as we are not having any bugs. We like to grow some each year, as they are good feed, and leave the land in a good state for fall wheat. Canadian Beauty is a good variety. We have been growing corn for ensilage for fifteen years, and would not like to be without it during the winter months, as we can feed our stock a great deal cheaper with ensilage than without it. We find Red Cob ensilage and Improved Leaming the best varieties; prefer the Leaming, if we get it matured before the frost strikes it. We have not grown any turnips for some time; we like mangels better; I think they do better with us. We grow the Yellow Intermediate and Long Red. We have not grown any sugar beets, but a number of the farmers have grown them here with profit. There is a great deal of work in growing, harvesting and shipping if you are not convenient to a railway station. In seeding down our land we can always get a good catch by sowing on the fall wheat early in the spring—say the latter part of March or beginning of April—or seeding with barley; but not so good when sowed with a mixture of barley and oats. Six pounds of red clover, two of alsike and two of timothy gives a very good seeding. We think lucerne is very good feed, if it is cut before it is too far advanced, just when the blossom appears. I like it better for summer feeding, but do not think it will take the place of red clover for hay. W. H. TAYLOR. Middlesex Co., Ont.

Wellington County Seeding.

There is very little spring wheat sown here, except Goose; 7 pks. to 2 bush. per acre. Oats—Siberian, Banner and New Zealand; about 2 bush. per acre. Barley—Mandscheuri, two-rowed and common six-rowed; 2 bush. per acre. Peas—Blue, Golden Vine and Lakefield White; 2 to 3 bush. per acre. Corn—Only grown for fodder. Mangels—Large Yellow Intermediate, Globe and Long Red; 4 to 6 lbs. per acre. Turnips—Evan's Ontario, Purple-top and Hall's Westbury; 1 to 2 lbs. per acre. Carrots—The Half-long White; 1½ lbs. per acre. Potatoes—Pearl of Savoy; Rural New Yorker, Empire State and Leamington. For mixed grains, Mandscheuri barley and Daubeneys oats work well together; black barley is frequently used for mixing. Oats and goose wheat are often used, and give good satisfaction. New Zealand oats ripen with the wheat. I think there is a larger yield of mixed grain, but think it is not wise to use this grain for seed again. I have not tried seeding clover and grasses with mixed grain. Peas and oats, oats and vetches, corn, lucerne or alfalfa answer well for soiling. Timothy and red clover are principally used for seeding down; 5 lbs. of timothy, 7 lbs. of red clover, and sometimes about 2 or 3 lbs. of alsike. I do not think alfalfa is displacing corn or clover, but is used along with it, as the alfalfa is mostly used before corn is ready. JAMES BOWMAN. Wellington Co., Ont.

THE DAIRY.

An Experience in Keeping Daily Records.

Editor "The Farmer's Advocate":

My dairy herd is composed mostly of grade Shorthorns, with a few grade Jerseys, and I will add here that the most promising heifer in the lot is from a cross between a grade Jersey cow and a Shorthorn bull of dairy strain. However, it is not altogether from choice, but largely of necessity, that my herd is so constituted, nine-tenths of the cattle in this locality being Shorthorns and Shorthorn grades. Consequently, I have plenty of that class to choose from, and any cow that does not do well at the pail is fattened and sold for beef. At present there are twelve cows in my herd.

For some years I have tried to learn the value of each cow by weighing the milk occasionally and separating and churning the cream of individual cows by itself, but it was only in October last that I commenced to keep daily records of each cow, using the blank forms sent free by the Agriculturist at the Experimental Farm at Ottawa. More recently I have purchased a Babcock tester, and have tested those cows that are now giving milk, and will test the others as soon as they come in, and will test regularly at least once a month. The milk can be weighed and marked down in one minute or less per cow. The summing up for the month can be done in five minutes per cow. I use a four-bottle tester, and can test the milk of four cows in half an hour. I feel confident that the dairymen can, by keeping daily milk records, secure more milk from his cows, as he thereby learns the effect of weather conditions on the milk flow, the effect produced by different kinds of food, the effect of temperature in the cow barn, and frequency of watering. For instance, during the latter half of November, although the cows were housed and fed at night, and allowed to graze in the daytime when the weather was reasonably fine, they shrank their milk considerably, while during December and January, when housed all the time, and fed ensilage as a substitute for grass, the milk flow increased, excepting those cows that were nearly at the end of their lactation period.

I am convinced that it will pay any dairymen in dollars and cents to keep a daily record and test each cow for butter-fat. I can make it more plain by giving a case in point. One cow I had only tested by weighing her milk occasionally, and as she was only a fair milker, I supposed her to be about an average cow. Having now tested her for butter-fat, I find her to be a first-class cow, her milk testing 5 per cent. fat. Her dam is a large milker, of only moderate richness. Another cow, a fairly good milker, I find gives poor milk, testing only 3 per cent. fat. Now, I valued these two about alike, whereas the first one is worth two of the other for the dairymen. Keeping records also greatly increases one's interest in the work, and greater care is taken of both milk and cows. MOSES PIERCE. Middlesex Co., Ont.

To Avoid Saturday-night Cheesemaking.

Editor "The Farmer's Advocate":

The objectionable features of Saturday-night cheesemaking are the extra long hours the men have to put in on that night and Sunday morning, following, as it does, at the end of a hard week's work. The work through the week is hard, and we feel that when Saturday night comes our week's work should be done, or at least the Saturday night's work should be made as light as possible. We have not made cheese on Sunday at our factory for the past 9 years. We take in milk on Saturday night and run it through the separator, and hold the cream over till the following Tuesday, when it is churned. By this method we have finished our work by 9.30 p. m., or, at the latest, 10 p. m., and have no Sunday work whatever. The patrons get their butter every week, which they consider a great advantage. This plan could be followed by every factory that has a butter plant, and would give general satisfaction. The returns from the butter, as compared with cheese, are a little in favor of the cheese. The milk made into butter from Saturday night's net, and in cheese, for the three summer months, June, July and August, the average would be about \$8.00 per 1,000 pounds. Our patrons do not consider the difference anything, compared with the advantage of getting their butter fresh every week. The patrons here take good care of their Sunday morning's milk. It is cooled to a temperature of 60 degrees, by placing it in a tank of cold water immediately after milking. If the patrons would take the same care of every night's milk as they do of Sunday morning's, the milk delivered to the factories would be perfect. Middlesex Co., Ont. S. E. FACEY. Proprietor Harrietsville Cheese Factory.

Retention of the Placenta.

Editor "The Farmer's Advocate":

I have read with interest an article by Mr. George Rice, entitled "Contagious Abortion," in which he also dealt with the subject of retention by cows of the afterbirth, and to his contention I make objection. While conscious that Mr. Rice has had a far broader experience in the management of stock than I have, still I feel that when he says if he has a cow that retains the placenta he simply leaves her alone as far as outward help is concerned, gives her his prescribed doses of carbolic acid and that nature does the rest, that he does not relieve the cow of the afterbirth, and would not allow a veterinarian to do so, it is this statement that I take exception to. I have seen cows invert the uterus in less than twelve hours from the effect of weakness, due to constant straining to relieve themselves of the placenta. For my part, while not denying that carbolic acid is, perhaps, a preventive when given in due time, I must say I consider taking the retained organ from the cow when she does not expel it in a day's time, by inserting the hand and stripping it from the walls of the womb, is the only practicable way, and when done carefully is quite a safe and simple operation. In conclusion I would say, that when the placenta is retained eight to twelve hours it is high time to remove it by hand, as at this time decomposition has not set in, and it can all safely be removed, thereby leaving nothing to pass off in discharges, which is often the case when left to become putrid, in the vain hope that nature will relieve itself.

Norfolk Co., Ont. ROY SCHUYLER.

A Record of Four Cows.

Editor "The Farmer's Advocate":

I notice a few records of cows, and as you asked for others, I thought I would send mine, which I hope you will find room for in your valuable paper. You may notice the extra calf. I will just note that I bought a calf of a neighbor and fattened it, hence the extra calf, \$3.50-50=\$3.00 as per report. I wish you every success with your wonderful paper.

Of four cows, aged 10, 7, 4 and 2 years, respectively, from March 1st, 1905, to March 1st, 1906:

115 quarts of milk, at 5c., \$5.75; 50 lbs. butter, at 20c., \$10; 1 veal calf, \$3; April cheque (4 days), \$3; May cheque, \$25.63; June cheque, \$30.96; July cheque, \$32.22; August cheque, \$38.03; September cheque, \$34.52; October cheque, \$41; November cheque, \$38.19; December butter, 61 lbs., at 20c., \$12.20; January butter, 52 lbs., at 20c., \$10.40; February butter, 55 lbs., at 20c., \$11; 75 quarts of milk, at 5c., \$3.75; total, \$299.68; adding calves (pure-bred) sold, respectively, \$100, \$50, \$15, 60c. (skin), making a grand total of \$465.28.

This is not giving the cows credit of \$1.65 for making and drawing to factory, nor for whey, skim milk or buttermilk.

Norfolk Co., Ont. ARTHUR KELLY.

Whitewash for Dairy that Does Not Wash Off.

Dissolve two pounds of ordinary glue in seven pints of water, and when all is dissolved add six ounces of bichromate of potassium dissolved in a pint of hot water. Stir the mixture up well, and then add sufficient whiting to make it up to the usual consistency, and apply with a brush in the ordinary manner as quickly as possible. This dries in a very short time, and, by the action of light, becomes converted into a perfectly insoluble waterproof substance, which does not wash off even with hot water, and, at the same time, does not give rise to mould growth, as whitewash made up with size often does. It may be colored to any desired shade by the use of a trace of any aniline dye or powdered coloring matter, and, once applied, will last for years, while, by the addition of a small proportion of calcic sulphite, its antiseptic power is much increased.—[Field to Dairy.

Milk Makes Brain and Brawn.

I think one very important phase of the subject, "Milk and Its Uses," writes Mrs. M. S. King, in the Jersey Bulletin, is from a culinary point of view. Analysis shows that one quart of milk has as much nourishment as five-sixths of a pound of beefsteak, and the beauty of it is it is already in available form. Milk is almost a perfect food, and if it can be assimilated, is the most economical of all foodstuffs. Take the sturdy people of Scotland, for instance: their almost universal habit of eating oatmeal and milk gives them plenty of "brain and brawn." We doubt if Carnegie, had he been born in America instead of Scotland, and been fed on American pie and all that goes along with it, would ever have been the great financier of to-day, with his robust health and ability to endure almost any amount of hard work.

POULTRY.

Brooding and Rearing.

The brooding of the young chick is very often where the amateur poultryman or poultrywoman fails. The question of incubation does not seem to be so difficult, but to keep the young chicks alive and thrifty is the rub. By using good healthy, vigorous parent stock, and running the incubator under proper conditions, the chicks that hatch by the 21st day should have sufficient vitality to live until maturity. Many of the chickhood diseases are brought on by lack of proper conditions, and though there are many things in artificial incubation that we do not as yet understand, the brooding is a much simpler matter, and one in which nature should be followed with more certainty.

FEEDING.

More young chicks are killed by overfeeding than underfeeding. The yolk of the egg, absorbed into the system of the young chick prior to hatching, is sufficient nourishment to sustain life

introducing the dry-hopper system of feeding growing chicks after they are six or eight weeks old. This system saves considerable labor, and is giving good results where chicks have free range and green food. A self-feeding hopper is placed in a sheltered place, filled with a mixture of suitable grains, to which the growing chicks have free access. A supply of meat meal or beef scraps or other animal food is supplied, as is also grit when not otherwise available.

THE BROODER.

For brooding, many use the old hen, and when every precaution is used against vermin good results are obtained. Satisfactory arrangements for brooding are absolute necessary, however, when artificial incubation is adopted. Even where it is intended to use the hen, artificial brooders should be provided, as hens are not always to be relied on. There are many good brooders on the market. A brooder should be dry, with plenty of heat overhead and good ventilation. Young chicks, as well as old ones, require plenty of fresh air. The young chicks need a high temperature beneath the hover—a place where the chick may doze for several days. A covering of clover leaves or similar material makes a good litter in which the feed may be fed.

For ordinary farm conditions, the individual brooder and colony house is very advantageous. The brooder inside of a colony house is easier to operate in changeable weather; the colony house forms a runway for the young chicks and protection from the wet, and, when the brooder is taken out, allows a good place to house the growing chicks till marketed or put into winter quarters. A description of how the brooders and colony houses used at illustration stations are made, might be of benefit to those intending to construct such for their own use.

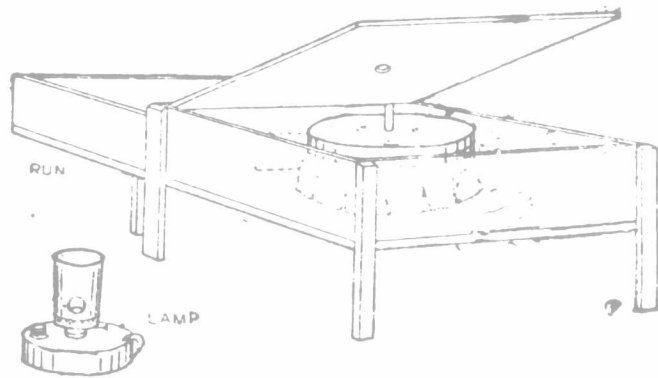
CONSTRUCTION OF THE BROODER.

The brooder is warmed by means of a lamp; the fumes of the lamp are not permitted to enter the chick compartment. Warm fresh air continually flows into the brooder and ventilates it. The management of the brooder is simple. It should be placed in the movable house, or in a vacant room or pen. It is not intended for outdoor use. The brooder can be satisfactorily constructed at home; the heater and lamp can be made by any tinsmith; the cost of the complete brooder is small.

Box.—The box that forms the brooder is 34 inches square and 8 inches deep, inside measurement. It is made of 1/2-inch lumber, planed on both sides. A 5 x 10 inch chick door should be sawed in one of the sides of the box; the chick door should be hinged at the top. The floor is 1/2-inch matched lumber. At center of the floor a round hole (diameter 6 1/2 inches) should be sawed. The heater is placed in this opening, and rests on a galvanized-iron rim (inside diameter 5 1/2 inches). Four legs, 1/2 by 2 inch, should be attached to the box; they should project 8 1/2 inches below it. The roof is a light wooden frame, covered on both sides with heavy cotton. It should fit inside the box level with the top, and be supported on 1/2-inch cleats. The roof frame is 34 inches square and 1 inch deep, outside dimensions. A 2-inch hole is required in the cotton for the upper smoke pipe of the heater.

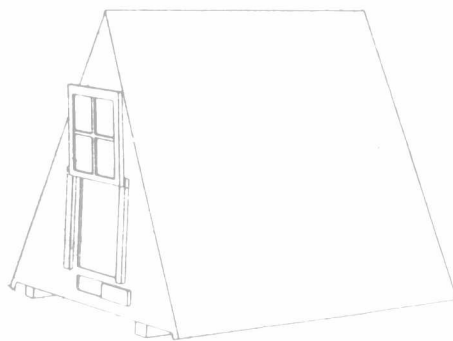
Run.—The run is 2 by 3 feet. It should be hinged to the front of the brooder on a level with the brooder floor. A three-section hinged frame, 6 inches high, should be placed around the outside of the run to confine the chicks for the first few days. The floor of the run can then be lowered to the ground, and will form a runway into the brooder.

Lamp.—Dimensions: diameter of the oil fount, 7 1/2 inches; depth, 2 inches; total height of lamp (including chimney), 8 inches. There should be a small handle on the oil fount, and a screw cap for filling with oil. A large-size burner can be

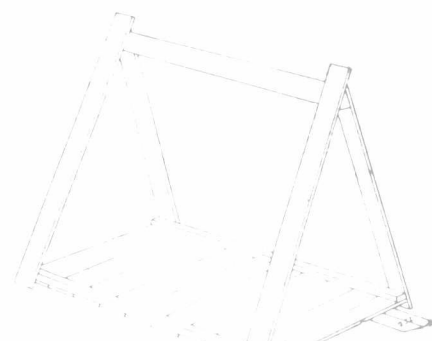


General View of Brooder.

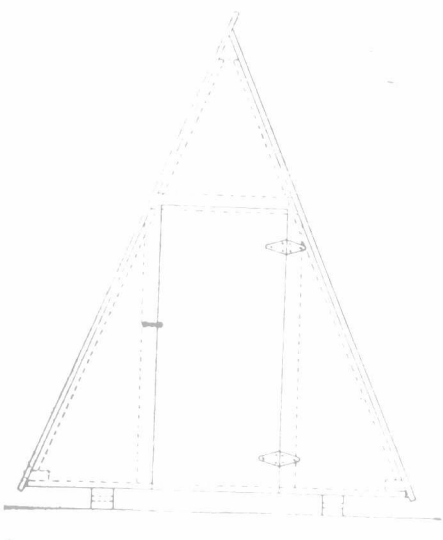
for a week or more; and still, young chicks are often fed all they will eat as soon as they come out of the shell. In the case of chicks running with the mother hen it is different. The young chicks pick up a bite here and another there, with plenty of exercise between, so that their stomachs are never overloaded; but brooder chicks, or chicks under unnatural conditions, do not have the forced exercise between each mouthful, and to be allowed all the feed they will eat during the first week has only the one result—indigestion and consequent bowel trouble. A hungry chick is a healthy chick. Feed a little and often, and let the feeds be dry. It takes more skill and care to feed young chicks on wet mash than on dry feed. Dry oatmeal, granulated or flaked, seeds and small grains, prepared chick food—any, or a mixture of these, sprinkled in good clean litter, gives good results. A crumbly mash can be introduced later on if preferred, though some poultrymen are



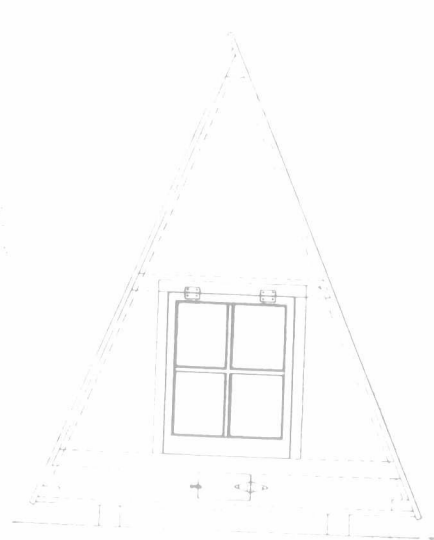
GENERAL VIEW



FRAME AND FLOOR.



REAR VIEW



FRONT VIEW

Colony Houses.

GARDEN  ORCHARD.

Apple-growing in the West.

"What do I think of the possibilities of apple-growing in the West, and especially in Alberta?"

The question has been asked by several correspondents who are evidently anxious to bring with them the orchards of the old farm at home. It can be done. During the past few years the orange-growing area of the South has been extending northward. In Ontario, peaches are now produced much farther north, and in the West, apple trees that at first proved a failure are being successfully grown in many parts of the country.

One of the most successful fruit men of the plains is Mr. A. P. Stevenson, of Nelson, Manitoba. Mr. Stevenson's place is not better adapted for tree-growing than thousands of other farms in the West, and what he has done may possibly be done, and done better, in several other sections of the country. Last year he had seventy barrels of apples, and the year before his orchard produced forty barrels. He has now 100 crab trees and over 200 standard apples. His best headed trees this year have over four barrels. When this orchard comes into full bearing, Manitoba will figure as a fruit-producing Province.

What about it farther West? In Alberta the orchards are not yet so large, but something has been done. In the north, Tom Dale is the leader. He has only a few trees as yet, but they are doing well, and give promise of being good producers. In the south there are quite a number of earnest experimenters. Lethbridge and Magrath have their little orchards, and in the accompanying illustration will be seen the fruit farm of Mr. Thos. Duce, a Cardston farmer. These are all bearing; not much, of course, but they are doing something.

The difficulties? Yes, there are a few. The strong winds make it hard to establish trees in some sections, but shelter-belts are increasing, and, judging from the number of trees sent out by the Forestry Dept., planting is becoming pretty general. Then there is a tendency to plant a tree carefully. Would you think that a mistake? Well, it is sometimes. A man buys a few apple trees, and they look precious to him. He selects the richest piece of land he has, and the result is there is too great a stimulation of growth, and a consequent killing back of the tender shoots, and serious if not fatal injury to the young tree. Apple trees do best in this country where they are planted in soil containing some clay, and a little gravel would not hurt. Then, cultivation should cease in August, to give the wood a chance to harden for the winter.

Yes, you can bring the orchard with you, or, better still, you can grow it after you come. But perhaps I have too much faith, for I love the West, and some say "love is blind." I don't agree. I think the eye of love sees with a clearer light the true worth of the thing admired, and, anyway, I am only telling of the things I have seen. Who can tell what we may yet produce on the fruit farms of the Last West?

R. J. DEACHMAN.

used, or a special water-cooled burner. The burner screws into an ordinary lamp collar, soldered to the oil fount. The iron chimney is about 5 inches high; the diameter of the top chimney is 2 1/2 inches; the bottom diameter is 3 inches. A 1 1/2-inch hole should be punched in the chimney, and covered inside with mica, in order to see the flame. The top of the chimney is placed over the lower smoke pipe.

Heater.—The heater is complete in itself, and can be successfully operated in a box of any size. No separate hover is required, and the chicks are continually supplied with warmed fresh air. In cleaning the brooder, if the heater and lamp are

brooder will rear 75 chicks to marketable age. The brooder can be removed from the house when the chicks are six or eight weeks old, and used for a later hatch.

F. C. ELFORD,
Chief Poultry Div.
Ottawa.

Poultry Feeding.

The system of feeding our hens for egg production during the winter, says J. P. Landry, Poultryman at the Nova Scotia Agricultural College, Truro, in his 1905 annual report, which has given us very good results, is as follows:

Morning.—Scald mash, composed of two parts of wheat middlings, one of ground oats, and one of corn meal. We feed about as much of this as the hens will eat up clean in three minutes.

Noon.—Whole oats or barley is scattered in the litter, about one pint to twelve hens. A quart of raw, pulped turnips is also fed to each pen.

Night.—Whole wheat and corn is fed in litter, about one quart to each pen of twelve hens. Fresh water is supplied to them at all times. They always have access to a box of oyster shells, and, in addition, ground bone is fed twice each week. While the above amounts of feed are approximately correct, yet we vary the quantity somewhat, being guided by the appearance of the birds at meal times.

A Cheap Meat Food for Poultry.

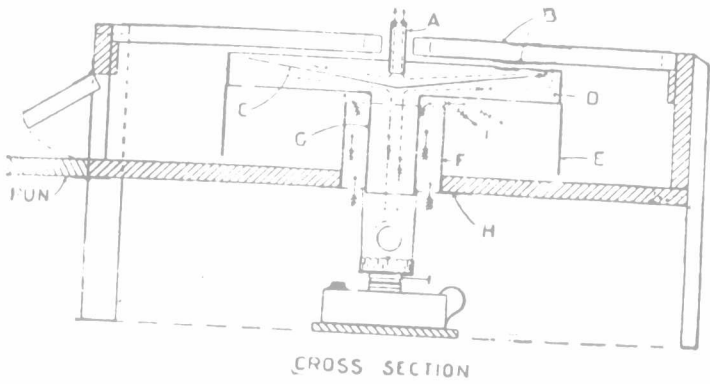
An economical and valuable food for poultry in winter, that is in much demand in the neighborhood of cities, is the residue left after lard has been pressed out, known as cracknees. This consists largely of pork skin, and there is also a good deal of other animal tissue in it. It is pressed into the form of thin cheese, and is so hard that one of the best ways of preparing it is to chip or shave it fine with a sharp axe. It costs 1 1/2 cents per pound. It should, of course, like other animal food, be fed in limited quantities.

Canvas Instead of Glass.

J. P. Landry, Manager of the Poultry Department of the Nova Scotia Agricultural College, Truro, N. S., in his 1905 annual report, says:

"By way of improving the ventilation of our poultry building, and keeping it drier than heretofore, we have adopted a suggestion received from some of the best poultry-breeders in the New England States and Ontario. We have opened back every window about 18 inches, and have covered over this space with canvas. While it is yet too soon to give a complete report, we already find that the building is much drier, and we anticipate, from the experience of others, that the poultry will be more vigorous and healthy in the spring."

J. J. McClenaghan, Bruce: "The Farmer's Advocate" is a cracking good paper."



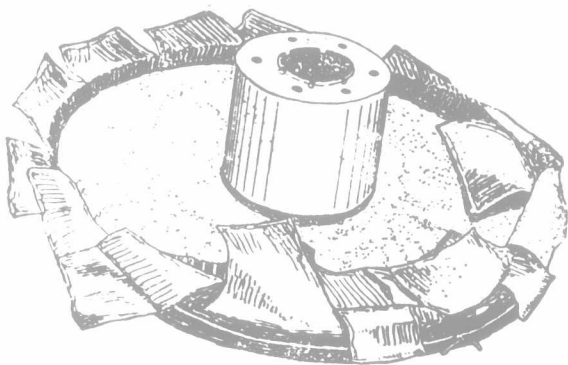
A. Upper smoke pipe to carry off the fumes of the lamp. B. Cotton-covered frame, or roof of brooder. C. Heat-reflector. D. Heating chamber. E. Two-ply flannel to form the warm hover for the chicks. F. Fresh-air chamber. G. Lower smoke-pipe. H. Galvanized-iron rim on which the heater rests. I. Warm fresh air entering the hover.

removed, and a pan is placed beneath the hole in the floor of brooder, the litter can be caught and removed in the pan.

The heater is made of galvanized iron, with the exception of the heat-reflector. This should be cut from bright tin. The dimensions of the different parts of the heater are as follows: Lower smoke pipe, diameter 3 inches, length 5 1/2 inches; fresh-air chamber, diameter 6 inches, length 5 inches. The fresh-air chamber is attached to the smoke pipe at the bottom. In the floor of the fresh-air chamber 1/2-inch holes should be punched for the ingress of fresh air. The fresh-air chamber is open at the top. Heating chamber, diameter 20 inches, depth 2 inches. A heat-reflector (inverted cone) is placed in the heating chamber. The diameter of the cone is 18 inches, depth 1 1/2 inches. The upper edge of the cone is 1/4 inch below the top of the heating chamber. The apex of the cone is 1/2 inch above the bottom of the heating chamber. The cone is riveted to the heating chamber by three clips at the top. The upper and lower surfaces of the heating chamber should be rigid; they can be stayed to the cone, or held by two wire nails driven through the chamber and soldered.

Upper smoke pipe: Diameter 1 inch, length 4 inches. The upper smoke pipe should be soldered 1/2 inch inside the heating chamber.

To complete the heater, two strips of flannel may be placed around the outside of the heating chamber, and tied with a cord to it. The flannel strips should extend four inches below the heater. They reach to within one inch of the floor of the brooder, and form a warm hover for the chicks. The strips should be cut every four inches, and alternately, so as to prevent the escape of heat.



HEATER - VIEW FROM BELOW

The foregoing illustrations show how the colony houses are constructed. The floor is 6 feet by 8 feet, and the sides are 8 feet high. The material used depends on what the builder may have convenient. The ordinary pine siding, dressed, gives good results. If four pairs of small rafters, 2 in. by 2 in. by 8 feet, are erected, half-inch lapping may be put on horizontally.

In each house one brooder is placed. The house is bright and cheerful during the day, and when the chicks cannot be allowed outside they scratch for grain among the litter on the floor. The house will last for years. One house and



Home of Thos. Duce, near Cardston, Alta.

Two-year-old apple trees in the foreground; already bearing.

Top Grafting.

By Linus Woolverton, Grimsby, Ont.

In estimating the value of a fruit farm, it is a common mistake to leave out of consideration the varieties of which it is composed, simply counting up the number of trees, or the acres in orchard. In the absence of any definite information as to suitable varieties, many have been planted in the past which, for one reason or another, are now found almost unsalable; and many which, though at one time very valuable, are now undesirable in the commercial orchard on account of scab, as, for example, the Early Harvest and the Fall Pippin. The income from such an orchard is far below that from an orchard of Spy and Baldwins. In other cases the income is very much below what it should be, because it contains too many varieties. This also lessens the value of the orchard, by rendering the crop difficult to sell, for buyers do not like to handle mixed lots. In my experimental apple orchard, I have forty or fifty varieties, and every year I find that most of these go to waste, because there are too few of any one kind to find a market. The same rule holds good in pears, plums, cherries and grapes; the key to success in fruit-growing lies in having only those varieties which are best suited for the locality in which the orchard is situated. It was to aid farmers in selecting varieties best adapted to their respective localities that our Ontario Fruit Experiment Stations were established, and now, after ten years of experimental work in the vari-

For preparing the wax, the following is one of several recipes: Resin, 4 parts, by weight; beeswax, 2 parts; tallow, rendered, 1 part. Melt together and pour into a pail of cold water; then grease the hands and pull until it is nearly white.

In renewing an old tree, the grafter should not attempt to complete the work in less than two seasons, a few of the smaller limbs being grafted each year, thus gradually transforming the whole top. As a rule, limbs about two inches in diameter are best for top working, because such wounds are quickly healed.

Grafting the apple or pear may be done by any farmer or fruit-grower who is at all handy in the use of tools. Figure 2 shows a limb sawed and split for

At A the stock is shown cut off and prepared for the insertion of the cions; the wood is not split, the bark only is slit a little way, sufficiently to permit the insertion of the cion under it. At B is shown the cion bevelled on one side, ready to go next the wood. At C the cions are set, and at D is shown the same wound with stiff manilla paper and tied firmly about with a string. The paper is made to project about half an inch above the cut, and the basin thus formed is filled with mud, which will remain to protect the cut surface until the wound has begun to heal over.

CHERRIES AND PLUMS.

In top-grafting cherries and plums, more care must be taken than with apples and pears, for the wood does not unite quite as readily. The work, too, must be done earlier in the season, say in March or April, before there is the least beginning of wood growth or of bud development.

In trees not too old, whip-grafting may be done, instead of the cleft-grafting already described. Fig. 7 will illustrate a method of whip-grafting which may be used for cherries and for plum trees, in branches less than an inch in diameter. At D is shown how a splice is made, the cion having been bevelled on one side only; A shows the splice graft wound with string to keep the parts securely in place; B the same, waxed, and C, wound with muslin or other cloth over the wax to keep off the hot sun.

For larger limbs, cleft-grafting is preferable, and the method is just the same as in the case of apple and pear trees.



Fig. 5.—Top-worked Trees, 20 years old.

grafting, with the cions properly inserted. Skill is required in two things: first, in making the small wedge-shaped cut of the cion. This must be done with a sharp knife, by a single drawing cut for each side, so as to make a perfect wedge, usually leaving the one side a little thicker than the other to insure close contact. Then, while the split wood is held apart with the chisel, the two cions are put in place. In the second place skill is required in so placing the cion in the cut that the inner bark of both stock and cion may be in contact with each other and make a perfect union. The reason of this will be evident to the reader by a study of figure 3, which is self-explanatory. When the cions are in place, cover every portion of the cut surface of cion and limb with grafting wax, so as to thoroughly exclude rain and the drying effects of the atmosphere, as shown in figure 4.

Two cions are not really necessary at each cut, but it is very little more trouble to insert two than one, and thereby two chances of success are afforded; while, if both live, it is a simple matter to cut off one, leaving its stub to help grow over and cover the wound.

A general idea of the best way to cut and graft large trees is shown in figure 5, in which the trees are twenty years old, and the work of top-grafting has extended over a period of about three years.

CROWN GRAFTING.

A very simple method of grafting large branches, six inches or more in diameter, has been practiced by the writer on some old apple and pear trees; a method

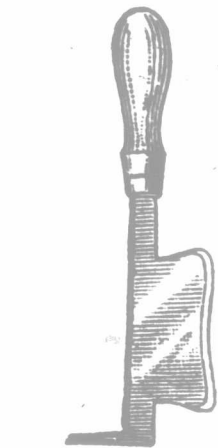


Fig. 1.—Grafting Chisel.



Fig. 2.—Cions inserted in cleft.

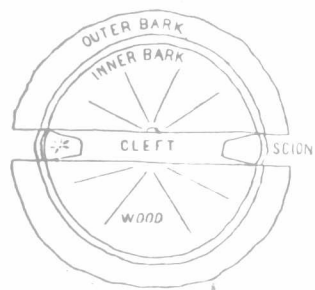


Fig. 3.

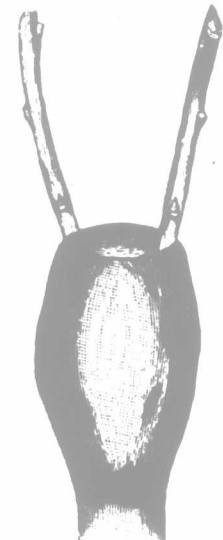


Fig. 4.

ous fruit districts, the Department of Agriculture, Toronto, has been able to publish an official bulletin of varieties recommended for each, which may be had on application. In addition to this, a book has been prepared, giving descriptions and photogravures of all our desirable Ontario fruits, which will soon be published by the Department for the benefit of Ontario farmers.

Knowing the varieties most desirable for his district, the fruit-grower should mark those trees bearing undesirable kinds and estimate the number of cions he needs of each. These should be cut from trees of which there is no doubt about the identity; bearing trees are best on this account, and, by selecting the cions from those trees which have been the most productive, or which have given the finest fruit, these special characteristics may be propagated. By cions we mean cuttings from the wood of last season's growth. These should be made while the wood is still dormant, long in advance of the time for grafting, tied in small bundles, labelled, and packed away either in earth or fresh sawdust until needed.

THE APPLE AND PEAR.

The top-grafting of an apple or of a pear tree may be done much later in the spring than stone-fruit trees, for while the latter should be done very early in spring, the former may be deferred until the last of May or the beginning of June.

The necessities for the work are: (1) A sharp, fine-toothed pruning saw, with which to make a clean cut of the limbs to be grafted; (2) a grafting chisel (such as is shown in figure 1), or if these cannot be had, a common chisel, or even a large pruning knife, with which to split and hold open the limb for the insertion of the cion; (3) a small mallet; (4) a ball of grafting wax, and (5) a small bundle of cions.

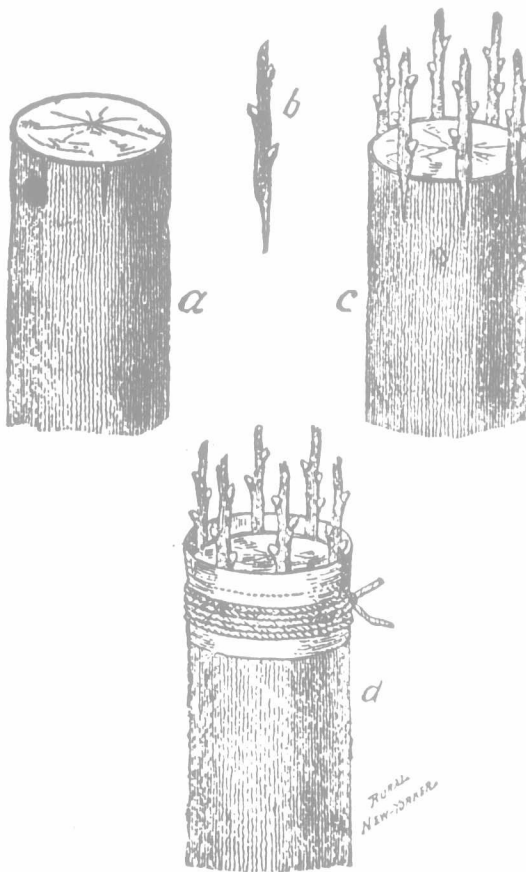


Fig. 6.—Crown Grafting.

which requires very little skill, few tools and no wax. Our illustration (figure 6), after the Rural New Yorker, illustrates the method so perfectly that very little need be said in explanation.

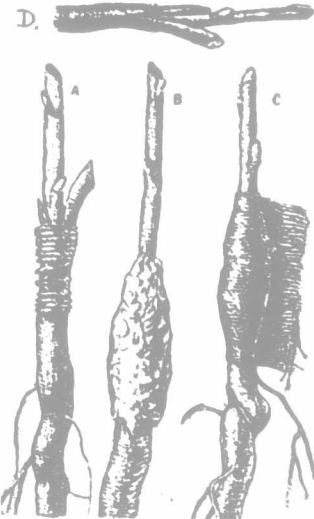


Fig. 7.—Grafting the Plum and the Cherry.



Fig. 8.—Cleft Grafting the Grapevine.

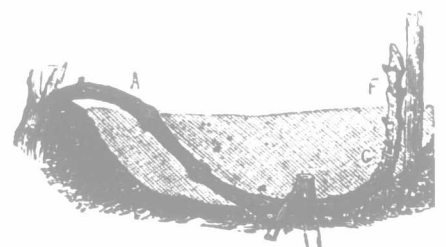


Fig. 9.—Splice-grafting the Grapevine.

THE GRAPE.

Sometimes a vineyard is unprofitable because of the varieties. Either they are not very productive, or they are badly subject to mildew, or they are not profitable in the market. In such a case, providing the old vines are still healthy and vigorous, they may all be grafted over to better kinds. To do this, cut off the old vine five or six inches below the surface of the ground, leaving an inch or two of straight wood above the roots. Into this stub insert two cions of grape-wood just as is done in cleft-grafting the apple, using cions of young wood about six inches long, having each two or three buds, so that when the work is completed one of the buds will be above the surface of the ground (see figure number 8). Use no grafting wax, but, if necessary, tie about the cleft with a string to hold it well together, and then fill in the soil about the stump, firming it well, so as to exclude the air from the cut surfaces sufficiently to prevent their drying out.

The grape may be grafted at any time between the fall of the leaf in autumn until the time in spring when the sap becomes active; but if done at the latter time the profuse bleeding is apt to drown the cion and cause failure; or the work may be done late in spring, when the strong flow of sap has ceased. One very important point is to cut the young wood for cions before very cold weather and while growth is dormant, or failure will result. They should be stored in sawdust or buried in the ground until needed.

In case an old vine is too knotty for cleft-grafting, the work may be accomplished by splice-grafting. This is done at a distance of two or three feet from the stump, at G, and the grafted branch is then laid down and fastened in place with a peg. The earth is pressed about the cion, leaving a bud above the surface at F, which is the only one that should be allowed to grow.

In Europe grafting of the grapevine is done on a large scale, using native American kinds as root stocks, because these are resistant to the phylloxera, a root louse, most destructive to European varieties.

Early Gardening.

The essentials for a good early garden are, first, good seeds; second, a hotbed; next, a good rich, thoroughly pulverized earth. We have found it a good practice to plow in the fall, cultivate, and rib up. I have found that if the garden receives the attention it should the first two months, one is sure of success. A garden where the weeds are allowed to keep pace with the vegetables will never give the gardener much of a reward; but a small garden, well kept, is a pleasure to look at and to work in. Have a few flowers; they are restful to look upon, to say nothing of the bouquets they will afford. The more most varieties are picked, the more they will bloom. Sweet Peas, Phlox Drummondii, Nasturtiums, Mignonette and White Alyssum, if enough of the blossoms are picked so the plant does not exhaust itself growing seed, will blossom until frost comes. I sow all the flower seeds where they are to remain, except Asters, which are started in hotbed. Sweet Peas require support, such as some brush or wire netting. When my Sweet Peas commence to blossom I have a good mulch of barnyard manure put on both sides of row, and, if it does not rain soon after, I water, thoroughly soaking the earth. The mulch will keep the mixture, and you will be liberally rewarded by the profusion of blossoms. The Aster I like best is the Giant Branching. It is a little later than other varieties, but a perfect beauty. When I first started raising flowers, I bought all my seed of a reliable seedsman, buying the best varieties, but now I grow my own. I pick out the finest, earliest flowers, mark them, and when the seed ripens I gather it. I try to keep all other seed from ripening. The flowers not picked for ornamentation I pick when faded.

My first practice in gardening was to grow everything in long, straight rows, but two years ago I tried a new plan, and like it better for a small, early garden and flowers. A walk runs through it, dividing in four squares, with the flowers on either side of paths. It makes a very attractive garden. Peas and onions can be sown very early—as soon as the ground can be worked. I have had peas sown and several inches of snow come. When the snow went off, the peas were up, none the worse for the snow. It is best to buy three varieties of peas—early, medium, and later—and sow at three different times, a week apart, of each variety. After the earliest peas are picked, I clean the ground and set celery. One reason for this is that, if left idle, weeds are more apt to be neglected. The later peas I plant in double rows, leaving about six inches between. In this space I plant my cucumbers; the shade seems to be just what they need to grow in, and, after the peas are gone, the vines are there, and the weeds will be kept down. After the latest varieties I sow some winter radishes and turnips. I raise only a small amount of very early sweet corn in this garden, the bulk of it being grown where it can be cultivated with horse. As I said before, this is a small garden, for early vegetables, principally, and is by no means where all the vegetables are grown, but I can manage to get this plot worked and planted before the men have time to spare for the purpose. Although peas and onions can be planted earlier than other seed, the others can soon follow. I sow all seed far enough apart in the rows to allow a garden rake to go between. After the seed is up, after every rain, as soon as the earth is dry enough, I go over the garden with a rake. This loosens the surface soil and destroys weed seeds that are sprouted. With the exception of this, all the work can be done with a hoe. Sometimes one hand weeding is all that is necessary. I thin the rows at the same time as I weed. I have a small, three-cornered hoe which allows one to hoe very close to plants.

The earliest tomatoes I start in the house about the first of March, transplanting into hotbed about the last of the month, when I sow early. Cabbage, celery, eggplant, pepper, cauliflower, lettuce and asters are transplanted to garden as soon as weather will allow—first, cabbage, cauliflower, celery and lettuce. This leaves plenty of room in hotbed to transplant eggplant and pepper, and makes stronger plants. Set them in up to the first leaves. I do this with tomatoes, also, but do not transplant them until they go to the garden. I sow some of these last-named vegetables in the garden for transplanting later. No dates can be set for sowing or planting, as conditions differ somewhat every spring. I have always noticed that an early garden grows best. Early enough to escape frost is my plan, for some plants will stand quite a frost. Beans and tomatoes are about the tenderest, and should be left until the weather is safe. I never enjoyed

working in the garden so much as since having the flowers there. I find it a real pleasure. While vegetables are good for the health, and amply repay for the labor and money invested in seeds, the exercise in the open air is of great benefit to the woman who is strong enough to pursue the practice of doing her gardening, and, for those who are not strong, I would say a limited amount of this kind of exercise will help to build up your health and strength. L. R. B.

Potatoes: Test of Resistance to Blight.

By W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa.

An experiment was conducted in 1905 to determine which varieties of potatoes were freest from blight, and which of those freest from blight would prove most productive. The potatoes were planted side by side on May 27th in sandy loam soil, 33 sets of each kind being used. The plants were sprayed with Paris green to protect them from the potato beetle, but no Bordeaux mixture was used. Level cultivation was adopted. The kinds planted were those which in previous years had shown themselves freest from blight, but a few less resistant varieties were used with the object of giving the disease a foothold. Thirty-two varieties were planted. The Holborn Abundance, which has been grown at the Central Experimental Farm for the past seventeen years, proved to be the most blight-resistant, as well as one of the most productive. It yielded at the rate of 816 bushels 48 lbs. per acre. About equally as resistant to blight, but much lower in yield, were: June, 189 bushels 12 lbs. per acre; Rust-proof, 118 bushels 48 lbs. per acre; Sutton's Discovery, 66 bushels per acre. Almost equally resistant were Clay Rose, 215 bushels 36 lbs. per acre; Rural Blush, 206 bushels 48 lbs. per acre, and Dr. Maerker, 158 bushels 24 lbs. per acre, and State of Maine, 149 bushels 36 lbs. per acre. The dates when the tops showed the first signs of disease, when the leaves were dead, and when the stems were dead, were all noted, and the yield per acre recorded of all the varieties tested.

The disease did eventually attack the foliage of those most resistant, and as these are all late varieties, some of them did not yield as much as other earlier kinds a little less resistant. The disease developed early this year, which accounts, no doubt, for the fact that the yields from some of the most blight-resistant but latest varieties were comparatively small. It is evident that a variety can be so late in season that it will not resist blight long enough for a crop to be developed which will equal a variety a little earlier in season, though apparently not so resistant. The potatoes from the best hills of the most blight resistant varieties were saved for the purpose of continuing this test, in the hope that by careful selection more productive and more blight-resistant strains will be developed.

Fruit and Vegetable Improvement.

During the coming season at the Central Experimental Farm, an increased attention will be given to the improvement of varieties of fruits and vegetables. In the past the attention of experts has been turned mainly to testing known varieties of plants and seeds. This work, it is understood, has been thoroughly and fairly exhaustively covered as regards vegetables and fruits which it is possible to grow at Ottawa. More attention is to be shown in the future to the production of new varieties and the improvement of the old, rather than to determining the capabilities of existing varieties. This will not be done in a haphazard way, but with a view to overcoming or eradicating weaknesses or derogatory tendencies that might make any variety become unprofitable. Selection will be the principal means used in these experiments. For instance, an important move will be to endeavor to produce a potato that will resist the destructive potato rot so prevalent last year. The first step in this direction is to choose from affected areas the best samples of the hills that resisted the disease. These are planted, and a selection made from the product until a typical variety is established. But this is, of course, but one, though perhaps the most important one, of the many factors that enter into the expert horticulturist's experiments. Mr. W. T. Macoun, Chief Horticulturist, is now laying in a store of material for the summer's work. D.

Some Varieties of Fruits Tried in Temiskaming District.

Editor "The Farmer's Advocate":

The best kinds of fruit I know to be adapted to this new district are: Apples—The Russian, Petofsky, Duchess of Oldenburg, Whitney Seedling; Crab Apples—Transcendent, Stodart, and World-beater. All kinds of small fruits do well. Grapes also do well; they need to be let down within six inches of the ground in fall. Berries do extra well. Gooseberries, strawberries, black currants and red do well, and all kinds of raspberries. The red plums do well; other kinds we haven't tried. Some have been planted, but are not bearing yet. Cherries and other fruits will do all right when the country gets more cleared and the soil worked up and warmed, where the sun and air can get at it. GEO. S. ROYCE.

Temiskaming district, Ont.

Spraying.

IS IT NECESSARY? DOES IT PAY?

Spraying to destroy insects and fungus pests has been done now for about twenty years, and each succeeding year sees more and better work, until the practice has become general throughout Canada and the United States, and other countries are fast falling into line.

The law is that the Experimental Schools and Farms shall aid the farmer by means of experiments, investigation of special difficulties, lectures, publications and teachings. This has been done; yet it is a fact that the majority of farmers have not been personally touched by the great enterprises. Much of the teaching is necessarily too advanced to appeal to the general farmer, yet he must be awakened and educated. How?

Farmers who do not spray are running the risk of a total failure in some crops, and a loss of profit, equal in many cases to a doubling of the crop.

For thirteen years past the Vermont Experimental Station, at Burlington, has sprayed potatoes for rot and bugs with Bordeaux and Paris green, with a result that should be conclusive. The improvement has been all the way from 60 bushels to 268 bushels per acre, and an average increase in the 13 years of 115 bushels per acre.

During this time similar work has been going on in other Experimental Stations throughout the world. At Geneva, N. Y., experimental spraying of potatoes has been carried on for 10 years, showing increase slightly less than Vermont. At the Central Experimental Farm, Ottawa, similar good work is being done each year.

Scientific knowledge is considerably in advance of the best farm practice, and the practice of the Experimental Farms throughout the country is thorough and careful, while the best farm practice is more or less careless. A want of knowledge and a lack of proper means to apply is the cause for much of the failure.

When viewing the operation of spraying from the standpoint of necessity, one is reminded of some kinds of fruit and vegetables that cannot be grown without spraying, and therefore the operation might fairly be termed a necessity. Plums, certain kinds of apples, pears, grapes, potatoes and beans—all of these in some years will prove a total failure from blight and rot unless sprayed. Other varieties of apples, peaches, beets, asparagus, quince, cucumber, melon, grapes, tomatoes, cherries, currants, gooseberries, raspberries, strawberries, and all kinds of truck, are sprayed, partly because of the necessity to save the crop and partly from the large profits that come to those who do the work of spraying well.

In no other operation is the word thorough so applicable.

There are some who will still spray with copperas, believing it to be sulphate of copper. All sulphate of copper is not of equal quality; yet how many stop to try the test?

It is very important in getting results that (a) the proper chemical to be used, (b) that it be applied at the right time, and (c) in the right manner.

There is little use in spraying scale, lice and all sucking insects with Bordeaux Mixture and Paris Green, or to spray fungi and insects that chew, with anything else. You might as well spray wild mustard in the rain on a cold day, and expect good results.

All the operations of spraying are of the same general character, and the most careful work is necessary to get proper results. Either poor or good chemicals, improperly prepared or applied, will defeat the operation.

The amount of money you will make in this operation will depend entirely on the thoroughness with which the work is done.

The cost of the operation of spraying an acre of fruit trees or potatoes varies with the size of the trees and the condition of the foliage. As a general thing, an acre of potatoes may be sprayed for 40 cents each spraying, not including labor. Apple trees will vary from 16 to 40 trees to the barrel. The cost of a barrel of Bordeaux and Paris green is: Five pounds bluestone, 30 cents; five pounds lime, 2½ cents; 6 ounces Paris green, at 20 cents per pound, 7½ cents; total, 40 cents.

The profit in fruit trees will be from 50 to 90 per cent. of the crop, depending on the prevalence of the fungi and insects. The fruit holds on better when sprayed, and will mature when free from disease, which would not otherwise be the case.

In potatoes, thirteen years shows that 115 bushels is the average improvement, which, at the average selling price of 43½ cents, would yield a profit per acre of \$50.02.

In reviewing the above facts, it will be observed that no opinion has been ventured. Only facts are stated, and only those facts that have been verified by years of competent test.

It is, therefore, fair to say that spraying is a necessity for some crops, and is a source of enormous profits when properly done.

W. H. HEARD.

Calendar Guide to Spraying.

BY DR. JAS. FLETCHER, DOMINION ENTOMOLOGIST AND BOTANIST.

PLANT.	1ST APPLICATION.	2ND APPLICATION.	3RD APPLICATION.	4TH APPLICATION.	5TH APPLICATION.	6TH APPLICATION.
APPLE. Black spot fungus, codling moth, leaf-eating caterpillars, borers, apple aphid, scale insects.	Copper sulphate or poisoned Bordeaux. Just when leaf buds open. (Important.)	Poisoned Bordeaux. Just before blossoms open. (Important.)	Poisoned Bordeaux. Soon after blossoms fall. (Important.) Alkaline wash. For borers at end May.	Poisoned Bordeaux. 10 to 15 days later.	Poisoned Bordeaux. 10 to 15 days later if spot disease is severe. Alkaline wash. For borers at end June.	Poisoned Bordeaux. For winter apples.
Kerosene emulsion, whale-oil soap or tobacco and soap wash before buds start, for aphid and scale insects; again in June when young scale insects hatch. For oyster-shell scale, spray trees late in autumn with lime wash, two coats, applying second as soon as first is dry. Lime-sulphur wash for San Jose scale.						
CHERRY. Rot, leaf diseases and injurious insects. Cut out and burn black-knot, whenever seen.	Poisoned Bordeaux. Before flower buds open. Kerosene emulsion or whale-oil soap solution. For aphid.	Poisoned Bordeaux. When fruit has set. (Important.)	Poisoned Bordeaux. 10 to 15 days later. (Important.)	Ammoniacal Copper Carbonate. 10 to 15 days later. (Important.)	If a late brood of the "cherry slug" appears, dust with fresh-slaked lime, or spray with Paris green. (Important.)	
CURRENT. Leaf spot, "currant worm," currant aphid.	Paris green. When worms appear. For aphid, kerosene emulsion, whale-oil or tobacco and soap wash.	Hellebore. When fruit is fully formed.	Bordeaux. After fruit is picked. soap solution.	Bordeaux. 10 to 15 days later.		
GOOSEBERRY. Mildew, "currant worm."	Copper sulphate. Before buds start.	Poisoned Bordeaux or potassium sulphide. (1 oz. to 2 gals. water) Just as buds burst.	Poisoned Bordeaux—Hellebore (applied separately); or potassium sulphide. 10 days later. (Important.)	Ammoniacal Copper Carbonate or Potassium Sulphide. 10 days later.		
GRAPE. Mildew, rot, anthracnose, "thrip" (or leaf-hopper).	Copper sulphate. Before buds start. for anthracnose only. (Important.)	Bordeaux. Just before blossom. (Very important.)	Bordeaux. As soon as fruit has set. Kerosene emulsion. For leaf hopper (Very important.)	Bordeaux. 10 to 15 days later. (Important.)	Poisoned Bordeaux. 10 to 15 days later. If disease persists. (Important.)	Ammoniacal Copper Carbonate. If disease persists. (Important.)
PEACH, APRICOT, NECTARINE. Rot, leaf-curl, curculio, bud moth, bark borer.	Copper sulphate and Paris green. Before buds start. (Very important.)	Bordeaux. 3 lbs. copper sulphate, 3 lbs. lime, 50 gals. water, Paris green (3 ozs.). Just before blossoms open.	Bordeaux (as before). Paris green (3 ozs.) Soon after fruit has set.	Bordeaux (as before). Paris green (3 ozs.) 8 to 12 days later.	Bordeaux (as before). 8 to 12 days later. If rot is prevalent.	Ammoniacal Copper Carbonate. 10 to 15 days later. If rot is prevalent.
PEAR. Spot, cracking, leaf blight, codling moth, "slug," pear psylla.	Copper sulphate. Before buds start. (Important.)	Poisoned Bordeaux. Just before blossoms open. (Important.)	Poisoned Bordeaux. Soon after blossoms fall. (Important.)	Poisoned Bordeaux. 10 to 12 days later.	Bordeaux. 10 to 15 days later.	Paris green. If late brood of "slug" appears.
For pear psylla, lime wash in winter; kerosene emulsion or whale-oil soap.						
PLUM. Rot, blight, shot-hole, bud moth, curculio, aphid. Cut out and burn black-knot.	Copper sulphate and Paris green. Before buds open. (Important.)	Poisoned Bordeaux. Soon after blossoms have fallen. (Important.)	Poisoned Bordeaux. 10 to 12 days later. Kerosene emulsion, Whale-oil soap, or Tobacco and soap wash For Aphid.	Poisoned Bordeaux. 10 to 15 days later. Kerosene emulsion, Whale-oil soap, or Tobacco and soap wash For Aphid.	Ammoniacal Copper Carbonate. 10 to 15 days later. If rot is prevalent.	Ammoniacal Copper Carbonate. 10 to 20 days later. If rot is prevalent.
ROSE. Mildew, leaf blight, "rose slug," "rose thrip."	Mildew in Greenhouse. Paint heating pipes with paste made of equal parts of sulphur, lime, water.	Leaf Blight. Ammon' Copper Carbonate. "Rose Slug." Paris green (1 oz. in 12 gals. water) or Hellebore.	"Rose Thrip." Kerosene emulsion, or whale-oil soap. When "thrip" appears			
RASPBERRY, BLACKBERRY, DEWBERRY. Anthracnose, rust.	Copper sulphate. Before buds burst.	Bordeaux. 10 to 15 days later.	Bordeaux. Soon after old canes are cut out.	Dig out and burn badly-diseased plants.		
STRAWBERRY. Rust, white grubs.	Bordeaux. Just before blossoms open.	Bordeaux. Soon after picking season, or burn foliage.	Bordeaux. 10 to 15 days later.	For white grubs, grow strawberries on one-year system.		
BEAN. Anthracnose, cut-worms.	Copper sulphate. ½ oz. to 1 gal. water. Soak seed 1 hour.	Bordeaux. When rough leaves appear.	Bordeaux. 8 to 12 days later.	For cutworms, poisoned bran or paper bands round newly-set plants.		
CABBAGE, TURNIP. Flea-beetle, caterpillars, aphid, root-maggots.	Paris green—dry mixture. For flea-beetle immediately plants appear above the ground.	Pyrethrum—dry mixture. For cabbage worms.	Kerosene emulsion, or Soap washes. For aphid.	For root-maggots, tarred-paper disks around stems of cauliflowers, etc., and Hellebore or Pyrethrum infusion at roots when set out.		
POTATO. Scab, blight and rot, insects.	Formalin or Corrosive Sublimate. For scab.	Paris green. 1 lb. to 80 gals. water. For Colorado potato beetle. Bordeaux for flea-beetle.	Poisoned Bordeaux. For rot and beetles. From 15th July till end of season, two weeks apart. Keep foliage covered.			
CELERY. Rust.	Keep foliage constantly covered with Bordeaux throughout season.					
ASPARAGUS. Rust.	Bordeaux and Resin soap. Before rust appears in latter half of July, and two to three weeks later.					
TOMATO. Rot, blight.	Bordeaux. On plants in seed-beds	Bordeaux. On first appearance of rot.	Bordeaux. When necessary.			

Formulas of Insecticides.

PARIS GREEN.

For Foliage-eating Insects.
Paris green 1 lb.
Unslaked lime 1 lb.
Water 160 gals.
Dry Mixture.—1 lb. Paris green with 50 lbs. flour, land plaster, slaked lime or any other perfectly dry powder.
Poisoned Bran.—Mix ¼ lb. of Paris green with 50 lbs. of slightly moistened bran.

HELLEBORE.

White Hellebore 1 oz.
Water 2 gals.
Or to be dusted undiluted over attacked plants.

PYRETHRUM (or Insect Powder)

Tyethrum powder 1 oz.
Water 3 gals.

Dry Mixture.—Mix thoroughly 1 part by weight of Insect Powder with 4 of cheap flour, and keep in a close vessel for 24 hours before dusting over plants attacked.

KEROSENE EMULSION.

For Bark Lice and Other Sucking Insects.

Kerosene (coal oil) 2 gals.
Rain water 1 gal.
Soap ½ lb.

Dissolve soap in water by boiling; take from fire, and, while hot, turn in kerosene and churn briskly for five minutes. For use, dilute with nine parts of water so that the above three gallons of stock emulsion will make 30 gallons of spraying mixture.

Continued on next page.

WHALE-OIL SOAP.

For brown or black aphid, 1 lb. in 4 gallons water.
For scale insects (young), 1 lb. in 5 gallons water.
For green aphid or thrip, 1 lb. in 6 gallons water.
For San Jose scale (in winter), 2 lbs. in 1 gallon water.

TOBACCO AND SOAP WASH.

Soak in hot water for a few hours, 10 lbs. of tobacco leaves (home-grown will do); strain off and add 2 lbs. of whale-oil soap. Stir until all is dissolved, and dilute to 40 gallons. Apply early, and two or three times at short intervals.

LIME WASH.

Unslaked lime 1 to 2 lbs.
Water 1 gallon.
Strain through sacking before spraying.

LIME-SULPHUR WASH.

For San Jose Scale and Fungous Diseases.

Lime 12 lbs.
Sulphur, powdered 12 lbs.
Water to make 40 gals.

Slake the lime with only enough water to do it thoroughly. Add the sulphur by dusting it over the lime while slaking; stir well and boil for at least an hour, adding only so much hot water as is necessary for easy stirring. When thoroughly cooked, strain through sacking, and apply hot.

N.B.—All the above recommendations are dependent on weather. If heavy rain falls within 24 hours, applications should be repeated. Always wash out thoroughly with clean water all pumps and nozzles immediately after using.

LIME-SULPHUR-SODA WASH.

Lime	25 lbs.
Sulphur, powdered	12½ lbs.
Caustic soda	5 lbs.
Water to make	40 gals.

Put the lime in a barrel; add enough hot water to make it boil rapidly; while slaking, stir in the sulphur, previously made into a thin paste with hot water; then add the caustic soda, dissolved in hot water. Add more water as required to prevent boiling over, and stir briskly all the time. When all bubbling ceases, add hot water to make up to 40 gallons.

Cook sulphur washes in iron pots or by steam in wooden vats or barrels; never use copper vessels either for cooking or for spraying sulphur washes from.

ALKALINE WASH.

For Borers.

Soft soap, reduced to the consistency of thick paint by the addition of a strong solution of washing soda in water. If applied with a brush about the 1st of June, on the morning of a warm day, this will dry in a few hours and form a tenacious coating not easily dissolved by rain.

If one pint of crude carbolic acid to the gallon of wash be added, it will make it more effective.

Formulas of Fungicides.

BORDEAUX MIXTURE.

For Fungi.

Copper sulphate (bluestone)	4 lbs.
Unslaked lime	4 lbs.
Water (1 barrel)	40 gals.

Dissolve the copper sulphate (by suspending it in a wooden or earthen vessel, containing 4 or 5 or more gallons of water). Slake the lime in another vessel. If the lime, when slaked, is lumpy or granular, it should be strained through coarse sacking or a fine sieve. Pour the copper sulphate solution into a barrel, or it may be dissolved in this in the first place; half fill the barrel with water; dilute the slaked lime to half a barrel of water, and pour into the diluted copper sulphate solution, then stir thoroughly. It is then ready for use. (Never mix concentrated milk of lime and copper solution.)

A stock solution of copper sulphate and milk of lime may be prepared and kept in separate covered barrels throughout the spraying season. The quantities of copper sulphate, lime and water should be carefully noted.

To test Bordeaux mixture, let a drop of ferrocyanide of potassium solution fall into the mixture when ready. If the mixture turns reddish brown, add more milk of lime until no change takes place.

POISONED BORDEAUX MIXTURE.

For Fungi and Leaf-eating Insects.

To the 40 gallons of Bordeaux mixture prepared as above, add 4 ounces of Paris green.

For Potato Rot.

Instead of 4 lbs. copper sulphate, use 6 lbs.; and for potato beetles, 8 ozs. of Paris green may be used instead of 4 ozs.

SODA-BORDEAUX (BURGUNDY MIXTURE) FOR POTATO BLIGHT AND ROT.

Copper sulphate (bluestone)	6 lbs.
Washing soda (carbonate of soda)	7½ "
Water (1 barrel)	40 gals.

Dissolve copper sulphate as for Bordeaux mixture. Dissolve 7½ lbs. washing soda in 4 gallons water. Pour the copper sulphate solution into a barrel, half fill the barrel with water, then stir in the solution of washing soda, and finally fill the barrel with water. It is now

ready for use. The soda-Bordeaux adheres better to the foliage when freshly made than the ordinary Bordeaux mixture, but it deteriorates rapidly in this respect, and must be used as soon as made. If left standing for 24 hours it will have lost nearly all of its adhesiveness. The soda-Bordeaux is not recommended in preference to the ordinary Bordeaux mixture, but where lime cannot be obtained it may be used with good results. Furthermore, on account of its freedom from gritty matter there is less likelihood of the nozzles becoming clogged when it is used. As washing soda is more expensive than lime, this mixture costs a little more than the ordinary Bordeaux mixture.

Note.—If the soda-Bordeaux is used for spraying fruit trees, the formula is: Copper sulphate, 4 lbs.; washing soda, 5 lbs.; water, 40 gallons.

RESIN SOAP.

Resin	8½ lbs.
Washing soda (sal soda, carbonate of soda)	6 lbs.
Water	4 gals.

Dissolve 6 pounds of washing soda in 4 gallons of hot water, and then bring the solution to a boil. In another vessel melt 8½ lbs. resin. When the latter is melted, pour it slowly into the boiling soda solution until all the resin is added, stirring it well at the same time. After all the resin is added, continue boiling for one hour, or until a homogeneous mixture is obtained. If properly made, this will mix well with water or Bordeaux mixture. As some water will be evaporated in boiling, sufficient should be added to make the stock mixture 4 gallons.

Two quarts of the above stock mixture should be used with 40 gallons of Bordeaux mixture.

Resin soap may be added to Bordeaux mixture (2 quarts to 40 gallons), and makes it adhere better to foliage.

COPPER SULPHATE SOLUTION.

For Fruit Trees Before Buds Burst.

Copper sulphate (bluestone)	1 lb.
Water	20 gals.

As soon as dissolved it is ready for use. Use only before the buds open. To destroy wild mustard, spray before bloom, with 5 lbs. in 20 gallons.

AMMONIACAL COPPER CARBONATE.

Copper carbonate	5 ozs.
Ammonia	2 qts.
Water (1 barrel)	40 gals.

Dissolve the copper carbonate in the ammonia. The ammonia and concentrated solution should be kept in glass or stone jars, tightly corked. It is ready for use as soon as diluted with the 40 gallons water. To be used when Bordeaux cannot be applied, on account of staining the fruit.

FORMALIN, CORROSIVE SUBLIMATE.

For potato scab, soak the tubers before planting, either:

I. For 2 hours in a solution of commercial formalin (formaldehyde), 8 ozs., in water, 15 gallons; or 1 oz., in water, 2 gallons; or

II. For 1½ hours in a solution of corrosive sublimate, 2 ozs., in water, 16 gallons. When dry cut up for planting.

Formalin has the advantage of being neither poisonous nor corrosive, while corrosive sublimate is a fatal poison if taken internally. It also corrodes metals. The solution should, therefore, be made in wooden or glazed vessels. All treated seed potatoes should be planted, and any solution left over should be poured into a hole in the ground dug specially for the purpose.

For smut in small grains, soak the seed for two hours in the above solution, formalin (I).

The Dominion Conference of Fruit-growers.

On March 20th, 21st and 22nd was held at Ottawa a Dominion conference of fruit-growers, comprising delegates from the horticultural organizations of nearly all the Provinces of Canada; also the corps of Dominion fruit inspectors, and a number of fruit shippers and other men interested in the fruit business, present by invitation. The accredited delegates were:

ONTARIO.—Harold Jones, Maitland; W. H. Bunting, St. Catharines; Elmer Lick, Oshawa; F. G. Stewart, Homer; M. Pettit, Winona; A. W. Peart, Burlington; D. Johnson, Forest; A. E. Sherrington, Walkerton; W. D. A. Ross, Chatham; E. D. Smith, M.P., Winona, Ont.; P. W. Hodgetts, Department of Agriculture; Prof. H. L. Hutt, O. A. C., Guelph; Linus Woolverton, Fruit Experiment Stations, Grimsby.

NOVA SCOTIA.—Ralph Eaton, Kentville; R. W. Starr, Wolfville; G. C. Miller, Middleton; S. O. Parker, Berwick; B. W. Chipman, Department of Agriculture, Halifax; Professor F. C. Sears, Agricultural College, Truro.

QUEBEC.—G. Renaud, La Trappe; J. M. Flak, Abbotsford; Robt. Brodie, Westmount; R. W. Shepherd, Como (Montreal); N. E. Jack, Chateauguay Basin; J. C. Chapais, Department of Agriculture, St. Denis; Saxby Blair, Macdonald College, Ste. Anne de Bellevue.

NEW BRUNSWICK.—J. C. Gilman, Kingsclear; I. W. Stephenson, Sheffield; Thos. Peters, Department of Agriculture, Fredericton.

PRINCE EDWARD ISLAND.—Rev. A. E. Burke, Alberton; A. E. Dewar, Charlottetown; J. C. Ready, Department of Agriculture, Charlottetown.

MANITOBA.—David S. Manson, Winnipeg.

SASKATCHEWAN.—R. T. Goodfellow, Prince Albert.

ALBERTA.—A. E. Clendennan, R. J. Hamilton.

BRITISH COLUMBIA.—Jas. A. Grant, Victoria; J. C. Metcalf, Hammond; W. J. Brandrith, Ladner; Martin Burrell, Grand Forks; E. M. Palmer, Department of Agriculture, Victoria.

A pleasing feature of the conference was the prevailing concord. In the words of Secretary Parker, of the N. S. Fruit-growers' Association, "The East met the West and the center came along." Whether this is a tribute to the push of the Easterners and Westerners, or an evidence of the magnanimity of Ontario and Quebec, will depend, perhaps, on the point of view. Be that as it may, the conference succeeded in disposing of practically all the vexed questions that came before it, and on account of its national representative character, the substance of its recommendations will in all probability be crystallized into legislation at an early date. This will mean much to horticulture. The agreement upon a uniform size of apple barrel, and the suggested amendment to the Fruit Marks Act, to provide for a "fancy" grade and to define the limitations of the present grade, known as No. 2, would amply justify the conclave, even though nothing else had been done.

With unexpected facility, the convention resolved in favor of the present Nova Scotia apple barrel as the standard to be adopted for all Canada. At present the minimum barrel allowed by law is a 96-quart barrel, but no maximum is prescribed. If the conference's recommendation is adopted as law, the legal apple barrel, after two years, will be one of the following internal dimensions: 26½ inches between heads, 18½-inch diameter at the bilge, and a 17-inch head. Practically the only exception taken was by apple shippers, not by growers; the Ontario growers who had any prejudices waiving them in the interests of uniformity and harmony. It is felt that the matter of exact size is of small account anyway; that as soon as one size becomes universally adopted, freight, prices, etc., will



Delegates Attending the Dominion Conference of Fruit Growers, at Ottawa, March 20th to 22nd, 1906.

adjust themselves, and nobody will suffer, while all will gain by having uniformity. The co-operative association influence has seemingly turned the scale in favor of the smaller barrel.

Hon. Sydney Fisher, Minister of Agriculture, presided throughout nearly all the sessions, evincing a lively interest in all the matters that came up, and directing the meetings with commendable tact and judgment.

Extended report of this gathering is unnecessary. It was called for business; the subjects discussed have many times been threshed out at annual fruit-growers' conventions, and the deliberations are epitomized in the resolutions.

RESOLUTIONS.

The gist of the resolutions is given herewith:

The Fruit Marks Act, it was resolved, should be amended in the following particulars: That section 4 be amended, to require the legal lettering of name, address, etc., to be in letters not less than half an inch in length.

That the option of marking apples No. 1 or XXX, No. 2 or XX, and No. 3 or X, be done away with, as the X system of marking led to confusion and was unnecessary; that instead, the No. 1 and No. 2 be the legal designations.

A subsequent clause provided for a change in the grading, to permit of a grade called "Fancy," a grade called No. 1 and a grade called No. 2. This allows three grades, and the conference decided not to advise provision for a No. 3. The amendment embodying this proposed change of grades reads: That section 6 be amended as follows:

"No person shall sell, or offer, expose or have in his possession for sale any fruit packed in a closed package upon which package is marked any designation which represents such fruit as of 'fancy' quality, unless such fruit consist of well-grown specimens of one variety, sound, of uniform and at least normal size, and of good color for the variety, and of normal shape and be properly packed."

That a sub-section A shall be added to section 6, as follows:

"No person shall sell, or offer, or have in his possession for sale, any fruit packed in a closed package upon which package is marked any designation which represents such fruit as of No. 1 quality, unless such fruit consist of well-grown specimens of one variety, sound, of not less than medium size and of good color for the variety, of normal shape, and not less than ninety per cent. free from scab, worm-holes, bruises and other defects, and be properly packed."

That a sub-section B be added to section 6, as follows:

"No person shall sell, or offer, or have in his possession for sale, any fruit packed in a closed package upon which package is marked any designation which represents such fruit as of No. 2 quality, unless such fruit consist of specimens of nearly medium size for the variety, and not less than 80 per cent. free from worm-holes, and free from such other defects as cause material waste, and be properly packed."

Exception has already been taken to the definition of No. 2's, and it is likely to be amended to make it more stringent before passing the House of Commons. The phrase to which the fruit inspectors object as allowing too much latitude is, "and free from such other defects as cause material waste."

Later on a resolution passed, which prescribed that all the marks on packages required by the Fruit Marks Act be put on one end of the package.

Transportation was dealt with in a couple of resolutions, one relating to rail and the other to marine carriage. The former was introduced by W. H. Bunting, of St. Catharines, and reads:

That the Railway Commission be requested to order: (a) That a time limit for the transportation of perishable fruits of not less than twelve miles per hour be put in force upon the railways of Canada, which time limit if not maintained shall place the onus of responsibility upon the carrying company if loss or damage is sustained thereby.

(b) That when railway companies fail to furnish suitable equipment for the transportation of fruit within six days after the time an order is placed with the local agent, a penalty be provided for each subsequent day's delay.

(c) That icing stations be established at divisional points on all railways engaged in the transportation of fruit, and that cars fully iced be furnished when necessary by the shipper.

(d) That at all stations where fruit is customarily loaded in car lots, shelter from sun and rain shall be provided.

(e) That when requested, shippers of perishable fruit shall be furnished by the local agent with a daily report of the location of a car of fruit while in transit.

(f) That a rate for transportation of apples shall correspond to the present rate for flour, until such time as the railway companies furnish satisfactory equipment and service."

Water transportation was dealt with in the following manner:

"Whereas, the export of fruit from the Maritime Provinces by sea is not at present satisfactory, on account of the slow service provided by the lines now sailing from Halifax to Great Britain;

And, whereas, these lines are subsidized by the Federal Government for amounts which should give a satisfactory service;

Therefore, be it resolved, that we ask the Government to combine the two subsidies now paid to two lines in a subsidy to any one line which will give a

12-knot weekly service during the fruit-shipping season.

"Resolved, that (a) all subsidized steamship lines should have good ships at not less than 12 knots speed, with thoroughly ventilated holds for fruit, apart and free from heat and taint of other cargo.

(b) Close supervision of the stevedores to ensure proper stowage and careful handling in both loading and discharging.

(c) Just and reasonable conditions in all bills of lading, so that in case of loss through breakage or non-delivery of goods the shipper may easily recover such loss from the shipping company.

(d) That the Government should hold back part of such subsidy in order to indemnify shippers that may have suffered loss through the failure of a steamship to sail within a reasonable time of the advertised date of sailing."

A paper on adulteration of fruit products was capped with a resolution as follows:

"Whereas, a large percentage of the jams and jellies labelled 'genuine' or 'pure,' which are offered for sale within the Dominion are adulterated; and, whereas, the low prices quoted on these articles secure for them a ready sale, to the disadvantage of the pure article;

And, whereas, the interests of the manufacturers of pure goods, the fruit-growers and consumers are thereby impaired;

Therefore, be it resolved, that this conference urgently requests the Federal Government to secure the immediate enforcement of the Pure Foods Act, and that the Act be so amended as to compel the manufacturers of jams and jellies to print their formulas on their labels."

Another resolution expressed appreciation of the services of the Dominion fruit inspectors, in performing educational work when not otherwise employed, and praying for continuance of their valuable services in this connection.

The thanks of the conference was expressed to the Minister of Agriculture for his assistance in advertising our products abroad by displays at leading exhibitions. Further aid was solicited, and it was requested that exhibits representing all of the Provinces of the Dominion be held at the fall show of the Royal Horticultural Society, England, in 1906. It was also suggested in this connection that in future the fruit for exhibition purposes, particularly apples, be gathered in orchards during the picking season, properly wrapped, packed and placed in cold storage, instead of making selections during the winter months from stock in storage; and, further, that part of each display be exhibited in the packages generally used in carrying such products to the markets.

The experiment station and illustration work in fruit, carried on by the various Provinces, was described by L. Woolverton, of Ontario; Prof. Sears, Nova Scotia; Thos. A. Peters, New Brunswick; J. C. Readey, Prince Edward Island; Mr. Chapais, Quebec. Prof. Hutt, of Ontario Agricultural College, referred to the value of co-operative experimental work in fruit, and pointed out that such effort developed not only horticulture but the horticulturists. The opinion of the meeting on the matter of experimental work was framed as follows:

"That the Horticulturist of the Central Experimental Farm, or other competent officer, should be authorized to collect information on fruit topics from the work of the various Provinces, whether done by fruit stations, or otherwise; to advise with Provincial organizations regarding such subjects as nomenclature of fruits, identification of varieties; origination and distribution of new varieties, history of varieties, and to publish a digest of every year, giving number and title of the Provincial reports in which details may be found."

"That new sub-stations be established in the various Provinces of the Dominion wherever local conditions and the importance of the fruit interests may warrant it, for experiments in pruning, spraying, irrigating, fertilizing, studying orchard pests, testing new varieties and investigating the many new questions constantly confronting the fruit-grower."

"That experimental orchards be established in the dry-belt and on Vancouver Island and in the Kootenay; and that the British Columbia representatives be requested to use their influence to have these stations established."

The subject of fruit-crop statistics was dealt with in a resolution introduced by A. W. Peart, of Ontario: That the delegates to this conference from the several Provinces petition their respective Governments to collect, classify and publish henceforth in detail in their annual reports the statistics bearing on fruits; that the Dominion Government be asked to give in the next census further subdivisions of the tables and figures relating to fruits; and that we recognize and appreciate the valuable information given heretofore by the Dominion and various Provincial Governments on fruit statistics.

It was also suggested that the Fruit Division be asked:

1. To issue monthly reports, from May to August, inclusive, and semi-monthly from September to December, inclusive.

2. That the reports should include weather, general condition of trees, plants, vines and bushes, insects, fungous diseases, outlook or probable quantity of crop, and market quotations for each of the Provinces.

3. That there be set forth the outlook or probable crop of apples in those countries to which Canada exports, such as Great Britain, Germany, France, South Africa, Mexico, and other countries where profitable markets may be secured.

4. That Canadian representatives in the above countries be instructed to cable weekly at the proper season the prices ruling for apples and pears in those countries, said cables to be published in a weekly report, and in such newspapers as would be willing to print them free.

Individual or co-operative sale of fruit was urged upon growers; also the adoption of a better system of pruning, spraying, grading and packing.

The Provincial Governments were urged to enact legislation regarding the commission business, for the protection of the interests of shippers consigning fruit to firms in the several Provinces.

The advisability or otherwise of forming a Canadian Pomological Society was brought forward, but on the assurance of the Minister of Agriculture that he would be willing to convene a conference of this kind every few years if desired, having, say, one conference for some great agricultural interest—such as fruit, dairy, etc.—every year, the permanent Dominion organization was not called for, and the motion was laid on the table.

The matter of tariff on sugar came up, in a paper by Robt. Anderson, of Montreal, but it was felt unwise to deal with a question of this kind, affecting the policy of the Government.

The question of extending our trade with Germany was brought forward by A. S. Chapin. The Minister explained Canada was willing to negotiate with Germany for improved trade relations whenever Germany was ready.

It was suggested that a permanent treatise upon Canadian fruit be prepared by the Department, to contain colored plates, and assist in the identification of varieties.

A motion asking that the Fruit Division be represented in the Department of Agriculture by a Commissioner was laid on the table by the Chairman, but its purpose was served, in expressing the unanimous views of the fruit men.

The convention concluded with a felicitous vote of thanks to the Minister, moved by Rev. Father Burke, President P. E. I. Fruit-growers' Association, and seconded by Martin Burrell, of British Columbia. The point was well made, that the conference not only bid fair to accomplish much of tangible benefit through its recommendations, but the good fellowship of all the delegates had promoted the ties between East and West, reconciled conflicting interests, and made for the betterment of national citizenship, as well as in the substantial advancement of Canadian horticulture.

Femiskaming District Full of Wild Fruits.

Editor "The Farmer's Advocate":

As yet I have had very little experience with fruit-growing. Now, I put in about twenty-five apple and plum trees last summer, and about ninety currant plants, but cannot say yet how they will do. The country is full of small fruits, such as currants, gooseberries, cranberries, both high bush and low, any amount of raspberries, etc., and I see no reason why cultivated fruit will not do well here, but will be better able to say in another year.

C. CHAPMAN.

THE FARM BULLETIN.

Dr. Bell Manager Winnipeg Exhibition.

A press despatch from Winnipeg announces the appointment of Dr. A. W. Bell, of Toronto, as general manager of the Winnipeg Industrial Exhibition. Dr. Bell's long experience as assistant manager of the Toronto Exhibition, under Mr. H. J. Hill and Dr. J. O. Orr, the present manager, will stand him in good stead in the responsible position to which he has been appointed, while his courteous manner and acquaintance with the requirements of live stock exhibitors, and of the farming community generally, will make him especially acceptable to that important class in the West. Dr. Bell succeeds Mr. F. W. Heubach, who, as manager of the Winnipeg Exhibition for many years, has done very satisfactory work in that capacity, and made a host of friends.

Chief of Poultry Division Resigns.

(Ottawa correspondence.)

The position of Chief of the Poultry Division of the Dominion Department of Agriculture will shortly be made vacant by the retirement of Mr. F. C. Elford, who has accepted the important post of Director of the Poultry Department at the Macdonald College at Ste. Anne de Bellevue, Quebec. Mr. Elford began the duties of Chief of the Poultry Division on May 1st, 1904, and has been active and energetic in promoting the interests of poultrymen all over the Dominion. One of his chief aims has been to endeavor to produce a grade of fowl commercially valuable, both for table use and as layers. With a view to accomplishing this, he has been a strong advocate of the use of the trap nest as an aid to determining the productive capabilities of individual fowl, and thereby making a selection for the improvement of the breed.

Mr. Elford was born in Waterloo County in 1871, and moved with his parents to Holmesville, Huron County, in 1874. He attended the Ontario Agricultural College at Guelph in 1891-92, and subsequently in 1894 and 1895. On his own farm he succeeded well in the two special lines of alfalfa and poultry. His support of institute work and recognition as a poultry expert

brought him into prominence, and on the resignation, in 1904, of Mr. F. O. Hare as Chief of the Poultry Division, he was offered and accepted the position. Mr. Elford is a supporter of co-operation amongst poultrymen, and upholds strongly the idea of co-operative poultry circles.

A Good Sale of Holsteins.

The dispersion sale on March 21st of the small but richly-bred and good-producing herd of Holstein cattle, belonging to Mr. Alfred Rice, of Currie's Crossing, Oxford Co., Ont., came on a very stormy day, but the attendance was large and the bidding spirited, the herd of 21 head, including calves, and the horses, hogs and implements on the 100-acre farm, being all sold in three and a half hours, for the handsome sum total of \$4,300. Following is the cattle sale list:

Table with columns for animal names and prices. Includes sections for COWS AND HEIFERS and BULLS.

Ontario to Lose Prof. Sherman.

It is understood that the resignation of Prof. Franklin Sherman, M. S., appointed Professor of Entomology and Botany at the Ontario Agricultural College last summer, is to take effect in June next, and that he will return to North Carolina as State Entomologist, where, it is understood, the emolument will be some \$2,200, compared with \$1,500, according to recent Ontario Agricultural College estimates. Ontario, with greater wealth and greater agricultural interests at stake, relinquishes the services of Prof. Sherman.

Wide Sleigh Runners.

Mr. Jas. Tucker, M.P.P., has introduced in the Ontario Legislature a bill, providing that: "(1) On and after the 1st day of December, 1907, no person shall use on any public highway, except within the limits of any city, any sleigh or other vehicle upon runners (except a cutter) drawn by horses or other animals unless the same is so constructed that the distance from center to center of the runners of such sleigh or vehicle is three feet ten inches. Any By-law passed by any County Council under subsection 2 of section 29 of The Statute Law Amendment Act, 1905, shall, on and after the coming into force of the Act, become inoperative."

Circumstances Alter Cases.

Every nation in the world, says the Toronto Globe, with the exception of Britain, claims to be in "peculiar circumstances." At all events, that is the excuse they give for maintaining the protection system. They attribute Britain's success under free trade to the fact that "Britain's circumstances are peculiar." Britain's circumstances certainly are peculiar. She is a nation of middlemen in a sense that no other nation is. High protection for her would be mercantile suicide. With us, as pointed out editorially March 8th, moderate

protection is tolerated as the lesser of two evils. In the case of Britain, it would be one of the greatest evils which could befall that country.

Hon. John Dryden for Ireland.

The Hon. John Dryden, of Toronto, formerly Minister of Agriculture for the Province of Ontario, has accepted a position as member of a commission appointed by the new British Government, to make an exhaustive enquiry into, and report upon, the agricultural conditions of Ireland. Notice of his appointment came in the form of a cable from Lord Strathcona, High Commissioner for Canada in London, England. Mr. Dryden will leave Canada at an early date, and expects to be ready to join the commission about the middle of April. The Earl of Aberdeen is the new Lord Lieutenant of Ireland, and remembering his familiarity with the long public work of Mr. Dryden in connection with agriculture when the former was Governor-General of Canada, it is not unlikely that the suggestion to enlist the service of another Canadian in the cause of the Emerald Isle might emanate from that quarter. Throughout their varied public career, Lord and Lady Aberdeen have invariably shown an intense personal interest with all movements calculated to further the interests of the industries of the people. It is a graceful compliment to Canada, and rounds out fittingly Mr. Dryden's long tenure of public effort. In this connection, as a coincidence, readers of "The Farmer's Advocate" will have the pleasure of reading in next week's issue a valuable contribution on Irish agricultural affairs by our special correspondent.



Hon. John Dryden.

The Dominion Exhibition.

The Dominion Exhibition, to be held this year in Halifax, Nova Scotia, is slated for the dates, September 22nd to October 5th. The prize-list is now in the hands of the printer, and will be ready for mailing about April 1st. The names of principal exhibitors at Toronto and Sherbrooke, both in live stock and manufactures, have been obtained, and copies of the prize-list will be mailed to each. Those interested not receiving a copy should write for it to the secretary and manager, Mr. M. McF. Hall, Halifax. The prize-list is said to have been increased in the live-stock department to compare favorably with those offered from the former Dominion Exhibitions. The date is a favorable one for western exhibitors, and it is hoped a large entry will be made.

Incubators and Brooders.

The hatching season is at hand, and those who contemplate raising over two hundred chicks will find incubators and brooders more convenient than the natural method, and at the same time they can hatch their chickens early, which means a better chance of getting eggs next winter. There are a few points that need consideration in artificial incubating and brooding.

The incubator should be operated where the air is pure. If the air in the room where the machine is run has an offensive odor, due to the smell of kerosene, or decaying wood or vegetables, the room is not a good place to run a machine. The machine may hatch fairly well, but to raise the chicks is another question. Thousands of chicks are ruined by being hatched in ill-ventilated rooms, especially if very moist.

The machine, especially a hot-air make, must not be run in a direct draft, as it may heat unevenly. It is well to have four or more thermometers, and place them in different parts of the egg tray before putting the eggs in, to make sure your machine has no "hot spots." Raise or lower the ends of the machine until it heats at least within a degree and one-half at all parts. If a hot spot is found in the center, this can be screened by attaching a cloth or a piece of metal under the top of the egg chamber. This will usually cause the heat to distribute better.

It is wise to follow the manufacturer's directions as to operating the machine. Different makes require different treatment, and the maker usually knows what his machine requires to do good work. Care should always be taken to keep the lamp and burner clean. At times the wire at the base of the burner gets dirty or covered with dust; this should be well cleaned, otherwise the lamp is liable to flicker or smoke.

Chicks, as a rule, are more easily hatched than reared. Mortality in young chicks is frequently due to bad incubating—i.e., machines run in rooms in which the air is foul, or run uneven in temperature; the parent stock being sickly or lacking in vigor—one cannot be too particular about this point when selecting breeding stock; or it may be due to bad brooding and feeding, such as too low and too high temperatures, feeding sloppy feeds, indigestible feeds, or too much at a time, followed by short feeds.

Our method of feeding is usually to remove the chicks from the incubator to the brooder, which has been bedded with cut straw or hay, and warmed to 95 degrees, at the age of 36 to 48 hours. We place on a board some grit, also some bread crumbs or cracked wheat and oatmeal. We keep this well supplied for perhaps two days, until all the chicks know where to look for food. We also keep a constant supply of pure water in easy access. After the second day in the brooder we begin feeding about five or six times daily, just what the chickens eat quickly. It is still somewhat of a debatable point, whether it is wise to feed a young chick all it wants to eat before it is two weeks of age. We try to feed a little less than they would eat. Such feeds as bread and milk are given early in the morning, which is fed on clean boards or troughs. At nine o'clock some cracked wheat or pin-head oatmeal is fed, or if these are not to be had, small wheat screenings. This is buried slightly in the litter on the floor, so as to induce the chicks to exercise. The above feeds are used alternately. Before there is any grass, we feed usually two feeds a day, after the chicks are a week old, of grated or chopped root or onions, sometimes boiled potatoes; enough shorts and bran is added to this to absorb the juices of the root. We try to have the chicks drink some milk, or if this is not at hand, we keep beef scrap in easy access. The feeding of much cooked or raw meat is dangerous—a little is good. Where there is plenty of milk or insects, the animal food is not so essential. After three weeks of age, feed three times daily, plenty of vegetables and grass (and exercise). Have grit, water and broken charcoal within easy access. Reduce heat of brooder 4 degrees per week, until 75 degrees is reached. Chicks five or six weeks old require no artificial heat. O. A. C., Guelph. W. R. GRAHAM.

MARKETS.

Toronto. LIVE STOCK.

Cattle—Prices ruled higher last week. Export inquiry brisk; offering light. Good trade anticipated. Exporters ranged, \$5 to \$5.25 for choice; \$4.60 to \$4.90 for medium; \$4.50 to \$4.75 for common. Butchers' cattle, \$4.75 to \$5 for choice; \$4.40 to \$4.60 for good; \$4 to \$4.25 for fair, and \$3.50 to \$3.75 for common; cows, \$3 to \$4; bulls, \$3.25 to \$4; canners, \$1.75 to \$2.25. Active demand last week for stockers and feeders, and 200 head changed hands. We quote short-keep feeders, \$4.50 to \$4.75; heavy feeders, \$4 to \$4.25; medium, \$3.50 to \$3.75; bulls, \$2.75 to \$3; good stockers scarce at about \$3.50 to \$3.60; light, \$3.25 to \$3.40; rough to common, \$2.75 to \$3, and bulls, \$2.50 to \$2.75. Calves, \$3.50 to \$7 per cwt. Sheep and Lambs—Market still strong,

with moderate receipts. Export ewes, \$5 to \$5.25 per cwt.; bucks, \$4 to \$4.50. Lambs, \$6.75 to \$7.35 for grain-fed, and \$5.50 to \$6.50 for mixed. Hogs—Keen inquiry by packers. Selects, \$7 per cwt.; lights and fats, \$6.75.

HORSES.

The Toronto horse market is reported as very active. Private dealers and prospective exhibitors are endeavoring to secure purchasers for the spring show. High-class stock is, however, held at prohibitive prices, and but few sales of this class are reported. A shortage of carriage and saddle horses of the right type is noticed. Heavy horses are in good demand and at high prices. Ordinary draft and work horses are ready of sale at good prices. The prevailing quotations are as follows: Single roadsters, 15 to 16 hands, \$125 to \$175; single cobs and carriage horses, 15 to 16.1 hands, \$125 to \$180; matched pairs, carriage horses, 15 to 16.1 hands, \$300 to \$500; delivery horses, 1,100 to 1,200 pounds, \$150 to \$175; general

purpose and express horses, 1,200 to 1,350 pounds, \$160 to \$190; draft horses, 1,350 to 1,750 pounds, \$175 to \$225; serviceable second-hand workers, \$60 to \$80; serviceable second-hand drivers, \$65 to \$90.

COUNTRY PRODUCE.

Butter—Stocks getting low, but new milk commencing to arrive. Good demand for creamery prints at 27c. to 28c.; tubs, 22c. to 23c. Dairy lb. rolls, 23c. to 24c. for good to choice; 20c. for large rolls, and 21c. for medium. Cheese—Quiet, but firm; 14c. for large, and twins, 14c. Eggs—Plentiful; 16c. to 17c. for new-laid, and 14c. for storage. Poultry—Choice, dry-plucked range: 15c. to 16c. for fat chickens; 12c. to 13c. for thin. Fat hens, 10c. to 11c.; thin, 8c. to 9c. Ducks, 14c. to 15c. Turkeys, 17c. to 18c. Geese, 11c. to 12c. Potatoes—Ontario being purchased at 65c. to 75c. per bag. Hay—Slow sale. Baled, \$8 to \$8.50

per ton for pure timothy; \$6 to \$7 for No. 2, and \$6 for clover-mixed. Beans—Hand-picked, \$1.80 to \$1.85; prime, \$1.70 to \$1.75; undergrades, \$1.40 to \$1.50. Honey—White clover, combs, per doz., \$1.90 to \$2; strained, 8c. to 8c.; buckwheat combs, 10c. to 11c.; strained, 8c. to 8c. Vegetables—Turnips, 25c. per bag; onions, \$1 to \$1.25 per bag; cabbage, 40c. to 50c. per doz.; carrots, 40c. per bag.

BREADSTUFFS.

Grain—Wheat unsteady of late, Ontario ranging at 75c. to 76c. for No. 2 white; Goose, 71c. to 72c. Manitoba—No. 1 northern has held about 84c. Stocks of oats heavy; No. 1, 38c.; No. 2, 34c. to 35c. Barley—Malting, 47c. to 49c.; feeding, 45c. to 46c.; peas, 76c. per bushel. Buckwheat, 55c. per bushel. Rye, 70c. per bushel. Feedstuffs—Ontario bran, \$18.50 per ton; shorts, \$19. Manitoba bran, in bags, \$19.50; shorts, \$20.



HOME MAGAZINE

Life, Literature and Education.

Our New Debate.

It has been suggested by a reader of "The Farmer's Advocate" that our next debate be between the three Maritime Provinces, Nova Scotia, New Brunswick and P. E. I. on the one side, and Quebec and the Eastern States on the other, our readers in Ontario and elsewhere to vote on the final award. We are much pleased with this proposition, but the question to us is, "Upon what subject would these 'Easterners' like to debate?" . . . We give it up. . . .

And now, in order to best satisfy everybody, we have a plan: Will all interested in this debate, in the above-named Provinces, Nova Scotia, Prince Edward Island, New Brunswick and Quebec, also those in the Eastern States, kindly write us, JUST AS SOON AS POSSIBLE, suggesting suitable topics. From these, then, we shall make a selection, and get the debate under way.

Now, kindly do not delay in this matter. We think the contest should be a very interesting one. Our Eastern friends have been a little remiss, so far, in taking part in "things," but we intend, if possible, to let them be so no longer. At least, if they do not respond, it will not be for want of invitation. So kindly send in your suggestions as soon as you can. We are anxious to find out the sort of mettle that is in all these seaboard and St. Lawrence people of ours.

F. A. and H. M. L. S.

As we fear we have scarcely given time enough for deciding the last debate, we have arranged to extend the time one week. Hence, if you send in your post card, marked "Affirmative" or "Negative," any time until April 7th, it will be all right, but kindly favor us with your decision as soon as possible.

In the meantime, we must apologize for the long delay in getting your pins. The fact was that the manufacturers have been moving into new quarters, and, in the confusion, the filling of our order was given up for a while. However, they are here now, and they are beauties.

Once more we may state the conditions on which you may obtain one if you choose:

1. As a first prize for an essay, in preference to a book.
2. By sending us one new subscriber to "The Farmer's Advocate," this method, of course, preferred, as we naturally wish to increase our circulation.
3. By sending us 60 cents in cash.

The pins, by the way, are genuine rolled gold, enamelled, and really cost us more than this.

It is not absolutely necessary for you to have one in order to be a member of our Literary Society, neither is it absolutely necessary for you to be an active member of the Society in order to have one. Your interest and sympathy will prove a sufficient "open sesame," and we feel sure that when you see someone else's pin you will want one, too.

Answer to Maritime Enquirer.

My attention has been called to a letter in your issue of Feb. 22nd, from some one signing himself "Maritime Enquirer." In his very interesting communication, the writer touches a very important point in connection with the teaching of manual training, when he enquires whether the children are required merely to copy the teacher's work, or, on the contrary, whether their individuality is to be encouraged, and proper growth of thought thus engendered.

As one who has something to do with the spread of the manual-training movement in these Maritime Provinces, I should like to reply briefly to your correspondent.

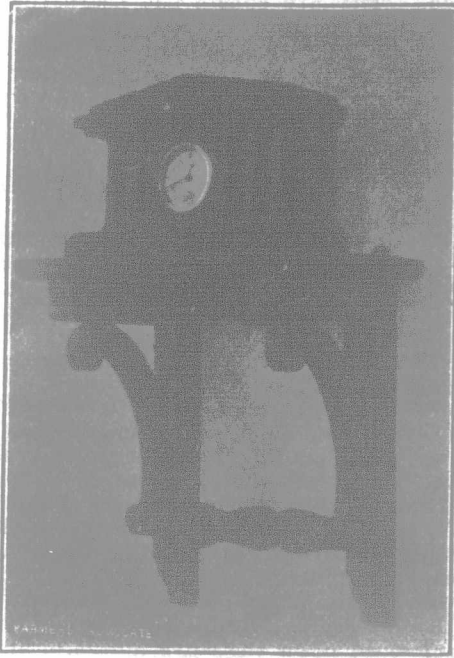
Your columns have often given evidence of your interest in the newer educational movements, so that I shall not weary your readers with a treatise on the subject, but I should like to say at once that the object of the subject—to use "Maritime Enquirer's" words—is "that in every way possible, individuality, growth, thought, must be encouraged."

But let us reflect. Five or six years ago manual training was almost unknown in Maritime Provinces, or, indeed, in Canada generally. In 1900 the model schools of Sir Wm. C. Macdonald were established to give the Canadian public the opportunity of judging the merits of the subject, and, backed up by the various education departments, its spread had since been rapid.

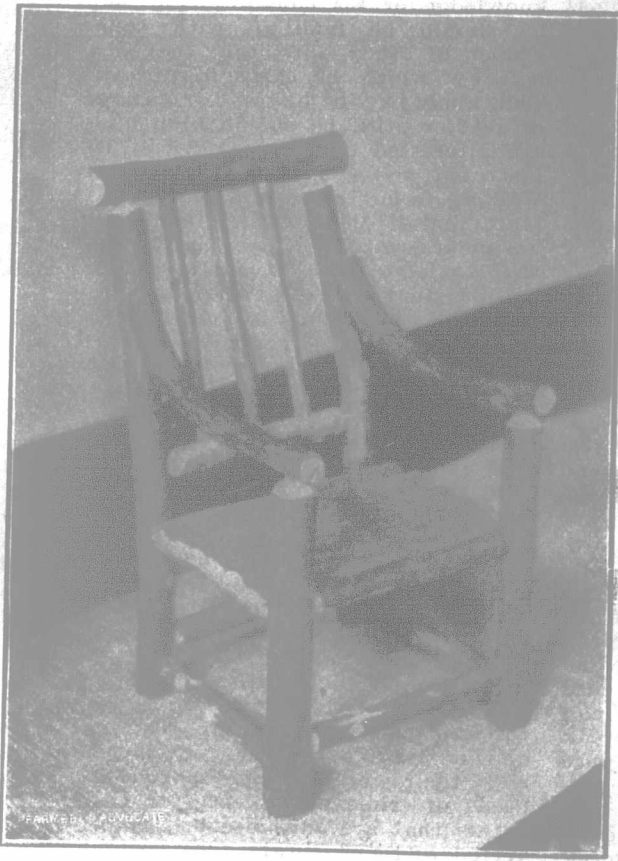
In manual training, however, as in every other branch of education, the teacher is the chief factor. It is a matter of common knowledge that, with little or no system, the teachers of the schools of two or three generations ago obtained excellent results in the men and women of sterling character turned out by them. It is also a matter of daily comment that, with all the modern appliances and systems, many teachers are failing to satisfy the public in the matter of character building and thoroughness in pupils.

I think, then, that something of this sort may be observed in our manual training just now. Our teachers are all young, and have had very little experience. Some of them were attracted to Manual Training because of its novelty; others from the fact that it offers rather better salaries than the regular school work. Their preparation for the special work of the Manual-training Instructor was all too brief; but, brief as it was, the writer and others had and are having considerable difficulty in persuading teachers and educational authorities that such periods as are now given to training (6 to 9 months) are necessary.

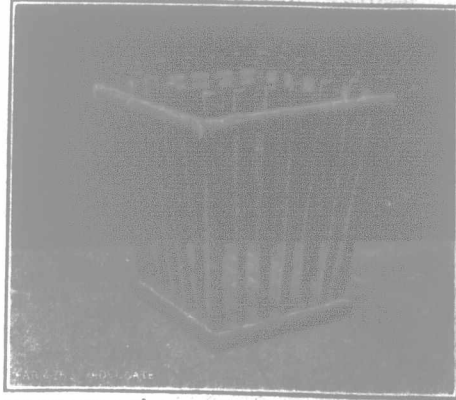
Some of these teachers have followed the too-common habit of considering that at the completion of their training course no further study was necessary. Equipped with their brief experience, their work is



CLOCK SHELF. Original design by pupil in N. B. school.



CHAIR. Designed by pupil in New Brunswick school.



WASTE-PAPER BASKET. Original design by pupil in N. B. school.

bound to lack spirit, and more than liable to degenerate into mere instructions as to the making of some stereotyped set of "models" or exercises.

But others have deemed their training as but an introduction to the whole broad field of art and craftsmanship, and are daily absorbing, from all sorts of sources, more of the true spirit of the teacher and worker. Such instructors—and there are several in my own district—delight the heart of a superintendent, who finds little occasion in their case to worry about "courses" or "models." These teachers are going with their children, investigating, experimenting, doing. The writer has schools now under his supervision where the actual course laid down consists of a few articles and exercises giving the child the command of a few essential operations, and even these preliminary pieces of work are varied, according to the capability and taste of the pupil. Later, the whole wide range of woodcraft will offer suggestions which the pupil will bring to the teacher, and

with the latter's advice and guidance, all sorts of things may be successfully wrought.

But I am trespassing unduly on your space, and must close. I hope, however, that so keen and sympathetic an observer of the manual-training movement as "Maritime Enquirer" appears to be, will find, in some schools at least, the true spirit. The subject is quite young yet, and suffering, perhaps, from the fervid praises of its friends, and from the weakness of its exponents. But its principles are true, and its end the acquisition of power—power over the external world, master-over self.

"Maritime Enquirer" has given us such excellent quotations from Ruskin that I also should like to offer one in conclusion. In his "Seven Lamps of Architecture," Ruskin says of the lamp of life, "That things in other respects alike, as in their substance or uses, or outward forms, are noble or ignoble in proportion to the fulness of the life which either they themselves enjoy, or of whose action they bear the evidence, as sea sands are made beautiful by their bearing the seal of the motion of the waters."

And this is especially true of all subjects which bear upon them the impress of the highest order of creature life—that is to say, of the mind of man—they become noble or ignoble, in proportion to the amount of the energy of that mind, which has visibly been employed upon them."

Yours faithfully,
T. B. KIDNER.

Director of Manual Training for New Brunswick.

[We would advise all our readers to save their "Farmer's Advocates," so that in each case in which a reply appears several issues later than the letter replied to, the two may be read, the one in conjunction with the other. In the present case, for instance, it is absolutely necessary

to reread "Maritime Enquirer's" letter in order to get the full force of Mr. Kidner's. We trust this is a point that will not be neglected.]

Country Entertainments.

No apology need be made for writing on anything that makes farm life more attractive. No more serious problem is before the farmers at the present time than how to keep the boys and girls on the farm. We do not expect to make all boys and girls reared in the country follow their father's occupation. This would not be desirable, as it would deprive us of some of our brightest professional and business men; but we should aim to make country life so attractive that many who are rushing to the cities to take their places in the already overcrowded ranks, would stay on the farm, and in the great army of producers help to increase our wealth by millions of dollars every year, instead of simply struggling for existence among the non-producers.

We are not by any means despising the means of entertainment within reach of our young people. All honor to our worthy farmers' wives who give such splendid parties to their neighbors; to the earnest school teachers who prepare enjoyable concerts; the promoters of Literary and Debating Societies, and the earnest workers who prepare Sunday-school entertainments. These all deserve our warmest praise. But the bright boys and girls deserve something more than these, and we are all agreed they deserve the best that the country can produce.

In most country districts the churches monopolize the entertainment business. In some places they do this work admirably, and able and cultured men devote themselves to giving good concerts. But in many districts there are so many struggling branches of different denominations, each with its old-time tea-meeting, with so small a constituency to draw from, that they are forced to employ all local talent.

We have talented singers and elocutionists among us that we are glad to hear, but to expect these to appear before practically the same audience at several entertainments in one neighborhood, is not fair to them. We are not belittling their talents in bringing in professionals; on the contrary, they are the persons who will enjoy the stranger's efforts most.

In the case of some districts, we hope that the union among our churches will soon be an accomplished fact. We know of county cross-roads in Halton County that have four struggling congregations, where they should have one strong, vigorous one. Probably we will soon be able to unite. How many and how great are the things we agree on, and how few and small are the things on which we disagree! But if at present we do not see our way clear to worship together, we should, as citizens, join together and procure the best talent that the country can afford, and give in each district a first-class entertainment at least once a month during the winter, and perhaps at longer intervals during the summer. We all remember the good times that we have had at tea-meetings; but surely these are a thing of the past. Women with a number of small children to look after and household cares, have not the opportunity to attend many entertainments, and it is not fair that they should be kept busy serving tea until about 9 o'clock, and then, tired and flustered, go to listen to the rag end of the programme. How much more pleasanter for them to come and sit quietly and hear a first-class programme, without the thought of another effort on the following day to clean up the church.

Most of our townships have good township halls. Some of these, with moderate expense, could be made very comfortable. Now, let five or ten representative young men from all townships form a committee to give entertainments when wanted.

A strong and popular committee would ensure patronage that would pay expenses. Let the surplus, if any, be used to purchase a library, or be given for some charitable purpose.

Splendid treats can be given at 25 cents a ticket, but remember that nothing is too good for boys and girls who work early and late, and if it is necessary to have 50-cent tickets, don't be mean enough to grudge the young people a treat. Some concert troupes that require a guarantee of \$100, and a percentage after that, we consider well worth the money, and one of the best investments that a community could make.

At present a young person from the country, conversing with a relative from the city, is at a disadvantage. The city cousin has heard the leading artists of the day, the other has not. One has as keen an appreciation of the beautiful as the other, and we should try and honor our great profession by giving our lads and lasses the very best that the country can produce.

JOHN D. MCGREGOR.

Halton Co.

Discrimination in Novel Reading.

The main fault to be found with many novel readers is that they do not read enough of other literature. They allow the novel to crowd out that solid reading which is an essential part of the food of a well-stored and properly-balanced mind. A farmer should read books and magazines that bring to him the best expert opinions and experience of thoroughly practical men who practice his craft. Besides, he should be informed upon the Government of his country, both local and national, for it will mean a deal of waste on his part if he should toil while others make his laws without either his knowledge or his consent. Further, he should be familiar with some branch of study outside of the pursuit by which he earns his bread. This study may be history, or poetry, or, better still, he should keep himself interested in nature-study, as illustrated by men like Burroughs. Walking is not recreation to a plowman, and if the farmer would keep his mental faculties alert, he will do well to have some line of study or reading that will give him real delight. If the farmer, or anyone else, will observe due proportion, he may fear nothing, but be infinitely the gainer, by reading an occasional novel.

The trouble with many people is that they read for amusement, rather than for instruction. They seldom ask if the novel they have on hand gives a true or a false view of life. Too many novels hold up for admiration the farmer's son or the mechanic's son who works hard and denies himself in order to procure the means of leaving the farm or the trade behind for politics, or for a profession. Other novels give pictures of society that are sectional and misleading. Other novels derive their interest from portraying deeds of crime or violence, or characters that are unwholesome, or perverted and unnatural. The unthinking reader allows himself to dwell upon these books till he finds himself fascinated therewith, and his interest in healthy literature wanes, and happy will he be if he escapes without being made unhappy at his old, wholesome way of living. More than one home has been broken up, and not a few have been made both criminal and wretched by reading novels giving false views and false ideals of life. Too much care cannot be taken to read only those books whose ideals are emphatically on the side of law and order. If parents and teachers were a little more careful to place in the hands of boys and girls beginning to read such books as "The Lady of the Lake," "Ivanhoe," "Robinson Crusoe," "Black Beauty," and "David Copperfield," many a blunder would be saved.

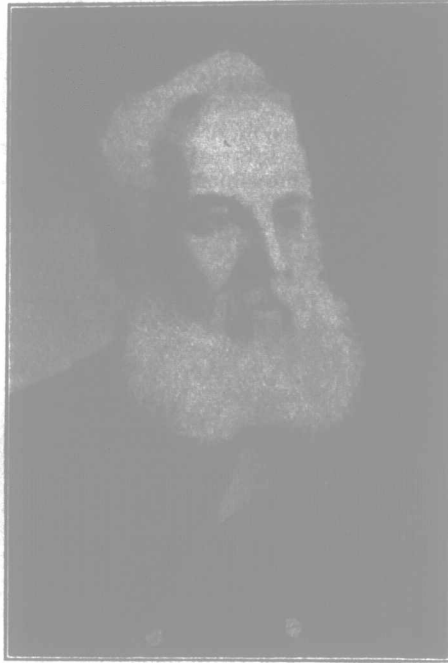
Further, a good method of testing a book is to read it to the family circle. What a pity that parents will spend money on making their children indifferent players or singers, while good social reading is so often neglected. The novel has its place in literature, but it is not the whole of nor the most valuable part of literature.

J. A.

Wentworth Co., Ont.

Brantford's Latest Undertaking.

In her present movement to memorialize the invention of the telephone, and thereby do honor to its inventor, Professor Alexander Graham Bell, the little City of Brantford, Ont., is setting an example that might, possibly, be well followed by a few other cities and districts in Canada, in respect to other celebrities or events. So far Canada has been, perhaps, a little remiss in marking spots of historic and other interest in a tangible way. The loss is, perhaps, a greater one than may appear on the surface, not only in an educative sense—the events, etc., for want of such emphasis, tending to drift out of the popular memory—



Prof. Alexander Graham Bell.

but, also, in the lack of that charm and distinctiveness which belongs to every town or district whose noblest records are thus placed so that "all who run may read." We all know how much the Continental cities would lose were they suddenly depleted of the multifarious monuments and statues, the historic buildings, etc., kept, as far as possible, intact, which lend to them, to-day, so distinct and unique a charm.

It is impossible that we in Canada can have in every town such monuments as the grand Gothic Cathedrals and historic castles of the Old World. We may, however, occasionally provide such memorials as may afford an educative stimulus to the children of the Dominion, and induce the stranger who comes within our gates to speak with distinctiveness of this city or that, not remember them all as an indiscriminate jumble of railway tracks, brick houses and manufacturers' chimneys. By all means let us, when practicable, have parks, each as different from all the others as may be, and monuments to the honor of our noblest citizens and noblest events.

Among those best worthy of such honor, it will be unequivocally conceded, is Professor Alexander Graham Bell.

Prof. Bell, it may be interesting to note, is a Scotchman, having been born in Edinborough. In 1870, with his father's family, he came to Brantford, and, four years later, in the same city, he invented the telephone. His own account of the event, as given by himself at the

banquet recently given in his honor in Brantford, and recorded by the Courier, is as follows:

He first of all reached the conclusion that if a chunk of iron could be made to vibrate in front of a magnet, why should not similar oscillations be made to transmit the human voice? This problem he solved while conducting an experiment in a totally different direction. He was at that time interested in the formation of the human ear, and a certain professor had, in this regard, presented him with the ear of a dead man with which he could experiment. That ear was, in 1874, set up at Tutela Heights, and he formed a mouthpiece for speaking into it, and had a glass which would reflect the vibrations. As he spoke into the ear the tympanum caused the small bones to vibrate in a most wonderful manner. He then attached a piece of hay to one bone, and had a smoked glass in front. Then, when he spoke into the ear again, the vibrations caused the hay to draw the most beautiful curves on the glass. Then came the thought that if the human voice could agitate the tympanum of the ear so as to enable it to vibrate bones so much heavier than itself, why could not the human voice also be made to vibrate a thin piece of iron in front of a magnet, and so transmit the waves of sound.

He carried the idea with him to Boston, and there the first crude machine, by which he talked from room to room, was made. Returning to Brantford, however, he elaborated his invention, and it was there that the first successful longer-distance experiments were accomplished, over lines leading, first, from the barn to the stable, then from the city to Tutela Heights and Mt. Pleasant. In the latter instance, the inventor's uncle was to remain in the city, and, at a given time, recite Shakespearian verse to Prof. Bell, who was waiting five miles away. The Professor well remembers sitting in Mt. Pleasant, with his ear to the receiver, and his watch in his hand, waiting for the fateful moment. Suddenly he heard a preliminary cough, and then the words, "To be or not to be." Conclusively, it was to be, and before long, messages were flying over the lines to Paris, and thence forward, as speedily as might be, over the whole country, along a network of lines which now embraces almost every town and village in the Dominion. It was the privilege of one of the editors of "The Farmer's Advocate" to converse over the first telephone line a few days after the successful trial above referred to.

Dr. Bell is described as a man who presents "a magnificent spectacle, over six feet in height, with proportionate build, snow-white hair and beard, a massive head and intellectual face." He lives at present in Washington, D. C., where he is now carrying on experiments in aerial navigation. He believes that the success of the airship is now beyond question, and that we are just on the verge of an era in which such vessels will be made use of by every nation. Prof. Bell may not be the immediate one to solve the long-wrestled problem, but such an opinion from so noted a scientist is at least worth noting.

A Word for Us.

May I add a word of commendation to your paper? On account of the Gospel Spirit of your paper, it is worthy to be recommended to any Christian home, and will carry religious teachings to many homes where no church papers are taken.

Your up-to-dateness on important subjects make your paper uplifting in its influence, and it should be read by the farmer and his wife, and boys and girls, and by the hired girls, and the hired men, and then, if there is a family in the neighborhood too poor to take a paper, it should be passed on to them.

W. H. NORTON,
Westville, N. Y.

News of the Day.

Canadian.

It is rumored that a railway branch will be built this year by the C. P. R. from Hamilton to Goderich, via Guelph Junction.

The probabilities now are that Newfoundland will, before long, be admitted to the Confederation. The question of admitting the West Indies has for the present been shelved.

British and Foreign.

A movement is afoot in Albany, N. Y., for the building of a new electric railway bridge below Niagara Falls.

The number of killed during the recent earthquakes in Formosa is now put at several thousand.

The Japanese House of Representatives has pronounced in favor of the nationalization of all the railways, at a cost of \$250,000,000.

There is still nothing definite reported from Algieras, but Germany is said to be more in mood to compromise, having already conceded the right of policing Casa Blanca, the sticking-point for the last few weeks.

THE EASTERN LEVIATHAN - AND US.

It is interesting to note the rapidly changing attitude of all the world towards China. But a few decades ago, every nation under the sun which could find any excuse for appropriating her territory, appropriated it, without saying by your leave, and for a while it looked as though the great Celestial Empire, with its 400,000,000 souls, thus banded about from nation to nation in a grand game of grab, was on the verge of dismemberment.

In the meantime, the Chinese were a despised race. When a few of them crept timidly out into Occidental lands, bringing with them their plodding, industrious habits, their frugal mode of living, and, in many cases, owing to their different valuation of money, their willingness to work for comparatively little, they were received everywhere with contumely. The white man, depending for his bread upon his labor, naturally hated the Chinaman who thus cut in upon his field of rates, and the prejudice spread to all classes. Laws were passed compelling Chinamen to pay duty upon their persons, prohibiting the import of their women, etc., and, almost without exception, wealthy and influential Chinamen arriving at Western, especially U. S. ports, were reprehensibly treated, often being kept in bond as so many bales of lading, until the red tape of the customs officers was fully and deliberately reeled off.

Added to this, the hue and cry was sufficiently published that the Chinese were vicious to the lowest degree, drunken, gamblers, swine, and, although no one could attempt to gainsay the fact that vice is to be found among the Chinese, it was not, as a rule, held up as a counter that similar vices are to be found among the whites, nor was it thought necessary to observe that a few gambling dens raided in sections, where low-grade Chinese were wont to congregate, might scarcely afford sufficient reason on which to condemn a whole race, high and low.

Then came the war between Russia and Japan—and, presto, a change! By it, not only was Japan set upon her feet, but China also. The white man had been beaten in fair fight. Japan had accomplished this. Japan had not only shown herself the equal of any Occidental nation in intelligence and in her grasp upon science and political economy, but her strides were making Occidental nations stare. In less than half a century she had developed from an obscure, inconsequential nation to one of the first in status in the world. Even such nations as Great Britain and France began to find it

to their interest to study Japanese naval and military tactics, and the Lord High Admiral of the British Navy was inspired at a "psychological moment" to raise a war-scare, in order that the efficiency of the British navy might be tested. It stood the test, but the mere fact that the experiment was made showed the suspicion—and the comparison.

In the meantime, the colossal sleeping giant, China, was rubbing its eyes. By the time the Battle of the Sea of Japan was fought, it was thoroughly aroused and staring. When the peace treaty between the two warring nations was signed, it was ready to act. As with Japan, so it must be with China—Occidental customs, institutions and inventions must be studied.

Accordingly, before the world was even well aware of what was transpiring, Japanese schools were crowded with Chinese students, these learning according to Occidental standard. More than that, Chinese students were being sent out one by one, and two by two, to every country in Europe, steps were being taken towards creating a navy, and the vast Chinese army was undergoing a thorough system of reorganization. Later, when the Chinese Government took the step of buying up for nearly \$7,000,000 the right to build the Canton-Hankow railway, whose franchise was held by Pierpont Morgan and his syndicate, and set the project afoot again, the Chinamen fairly tumbled over one another in the streets in the rush to buy the railway stock. China had evidently found out what it means to have railways. Last of all, it appeared that she was sending out powerful Imperial High Commissioners whose duty was to investigate, in Europe and America, Western constitutions, laws, methods of education, work of departments, etc., and upon whose report a new era was—or is, rather, since the report is not yet formulated—to set in for China. Yes, the

but for the very fact that we are only taking the fair hand when compelled to. . . Is Prince Tsai Tseh, or any of his staff, bonded, thrown any sort of bone by way of accommodation? Not so. The rigid boycott against Americans and American goods in China has made the whole Western world, as well as the Yankee, wince. Uncle Sam—and because it happens to be Uncle Sam, does not throw the whole onus off Canadian shoulders—finds it politic to turn the bland countenance—the Dr. Jekyll—Chinawards. A palace car is set at the disposal of the latest arrival of the almond-eyes, and flower-decked arches, and proffered banquets, mark the routes by which they travel.

The Imperial High Commission, however, is not anxious for much banqueting. Its members wish to get through with their business and return to China to put it into practice. So far, they are said to favor a constitution modelled on that of Great Britain, with an elective parliament; but what the ultimate decision will be, will be something to look for with interest.

Yes, China is on a new road, and, as yet, for which the world may be thankful, her intentions seem chiefly along peaceful lines. There are those among her people, of course, who are turbulent, as evidenced by the recent anti-foreign outcry, but this turbulence is sectional, and in it the Government itself seems to have little part. However, we can hardly dare hazard a guess as to what the great Empire will do. In the meantime we shall go on, probably—turning our coats.

Females First, Males Second.

One spring I observed with much interest a phoebe bird building her nest not far from my cabin in the woods. The male looked on approvingly, but did not help. He perched most of the time on a mullein stalk



A NOTED HUNTER of Culross Tp., Bruce Co., Ont. Behind him is his cabin, in which he lives during the winter, while hunting and trapping, and on the pole, in the foreground, we may see his bedding hung out to air. We should like to hear some of the yarns this genial-looking veteran must be able to tell. Wouldn't you? Photo by J. F. Reinhart, Belmore, Ont.

giant aroused, was, without doubt, beginning at the root.

The second of these Commissions, after visiting Europe, is just completing a tour of the United States. It consists of about 30 representatives, under the leadership of Prince Tsai Tseh, one of the royal blood, and said to be the most democratic Prince of the Chinese Imperial House.

And herein may we smile, we Westerners who are turning our coats so sheepishly—a half-ashamed, half-apologetic smile which we do not altogether enjoy—not that we are changing our tactics towards China,

near the little spring run where phoebe came for mud.

In the early morning hours she made her trips at intervals of a minute or two. The male firted his tail and called encouragingly, and when she started up the hill with her load he would accompany her part way, as it were, to help her over the steepest part, and then return to his perch and watch and call for her return. For an hour or more I witnessed this little play in bird life, in which the female's part was so primary and the male's so secondary. There is something in such things

that seems to lend support to Professor Lester F. Ward's contention, as set forth in his "Pure Sociology," that in the natural evolution of the two sexes the female was first and the male second; that he was, in fact, made from her rib, so to speak, and not she from his.—[John Burroughs, in Harper's Magazine.

The Pains of Conversation.

One of woman's besetting sins is to talk about her aches and pains, and servants. She never wearies of talking of all the sicknesses she has had in the past, all she has at present, and all that she ever expects to have. These are embellished with the symptoms that accompany each separate illness, until one feels that contagion lurks in the very air, ready to grasp its victims. One gazes upon the chronic pain-rehearsing woman with a degree of wonderment that she should have passed through so much suffering and still be alive to tell it.

As a matter of fact, few women realize how much they talk upon this subject of aches and pains. While physical and mental suffering must exist so long as the world has mortals in it, the wise woman discovers, sooner or later, that it is not an interesting topic of conversation.—[Chaperone.

The Difference.

"Whoa, there, I say; whoa, you brute!"

The man jerked his horse savagely, pulling him right and left, for the simple reason that when he had left the poor animal a moment it had moved away toward a spot of grass, which it began to nibble, when it was reined up by its angry master.

At the same moment, another man who had stopped his team opposite, was lifting a dozen jolly boys and girls from his truck, and dropping them gently on the grass.

"Thank you, mister," they chorused as, smiling, he drove away.

Out of the goodness of his heart he had treated them to a ride. His neighbor vented his bad temper on his horse. The conditions of the men were parallels, but their souls were as far apart as the poles. Smiles and scowls indicate the moral temperament.—[Detroit Free Press.

Notice to Amateur Photographers!

We are sure that every owner of a camera will be especially interested in the reproduction of Mr. Reinhart's hunter, which appears on this page. We are not professionals in the art, but it strikes us that the distribution of light and shade in this picture is especially good, and the detail brought out very well. We are always pleased to consider photos, JUST AS GOOD AS THIS, which illustrate persons, places or events of ESPECIAL interest. So, if you have anything very good which you would like to see in printer's ink, send it along. We may not publish all that we receive, but you can run your chance.

A Word to Mothers.

We have a limited number of Margaret Sangster's delightful book of Bible stories—the "Story Bible"—on hand. Will any mother who desires to place this book in the hands of her children, or who wishes to own one, in order that she may read to them from it, kindly let us know. The book is a nicely bound, illustrated volume of 490 pages. Price, \$2.00.

Irish Servant (to mistress, upon seeing a dachshund for the first time): What sort is he, at all, mum?

Mistress: It is called a dachshund, Kate, and "Dach" is the German for "roof."

Servant: Glory! An' if he didn't go on growin' after them puttin' the roof on 'm!—[Argus.

Recessional.

God of our fathers, known of old,
Lord of our far-flung battle-line,
Beneath Whose awful Hand we hold
Dominion over palm and pine—
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

The tumult and the shouting dies;
The captains and the kings depart:
Still stands Thine ancient sacrifice,
An humble and a contrite heart.
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

Far-called, our navies melt away;
On dune and headland sinks the fire:
Lo, all our pomp of yesterday
Is one with Nineveh and Tyre!
Judge of the Nations, spare us yet,
Lest we forget—lest we forget!

If, drunk with sight of power, we loose
Wild tongues that have not Thee in awe,
Such boastings as the Gentiles use,
Or lesser breed without the Law—
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

For heathen heart that puts her trust
In reeking tube and iron shard,
All valiant dust that builds on dust,
And guarding, calls not Thee to guard,
For frantic boast and foolish word—
Thy Mercy on Thy People, Lord! Amen.
—Kipling.

Judge Not.

Judge not; the working of his brain
And of his heart thou canst not see;
What looks to thy dim eyes a stain,
In God's pure light may only be
A scar, brought from some well-won field,
Where thou wouldst only faint and yield.

The look, the air, that frets thy sight
May be a token, that below
The soul has closed in deadly fight
With some infernal fiery foe,
Whose glance would scorch thy smiling
grace,
And cast thee shuddering on thy face!

The fall thou dardest to despise—
May be the angel's slackened hand
Has suffered it, that he may rise
And take a firmer, surer stand;
Or, trusting less to earthly things,
May henceforth learn to use his wings.

And judge none lost; but wait and see,
With hopeful pity, not disdain;
The depth of the abyss may be
The measures of the height of pain,
And love and glory that may raise
This soul to God in after days!
—Adelaide Anne Proctor.

The Bloom and the Light.

Back of the gloom—
The bloom!
Back of the strife—
Sweet life,
And flowering meadows that glow and
gleam,
Where the winds sing joy and the daisies
dream,
And the sunbeams color the quickening
clod,
And faith in the future, and trust in
God.
Back of the gloom—
The bloom!
Fronting the night—
The light!
Under the snows—
The rose!
And the vales sing joy to the misty hills,
And the wild winds ripple it down the
rills;
And the far stars answer the song that
swells
With all the music of all the bells!
Fronting the night—
The light!
—Frank L. Stanton.

The day returns and brings us the petty
round of irritating concerns and duties.
Help us to play the man, help us to
perform them with laughter and kind
faces, let cheerfulness abound with in-
dustry. Give us to go blithely on our
business all this day, bring us to our
resting beds weary and content and un-
dishonored, and grant us in the end the
gift of sleep. Amen.—Robert Louis
Stevenson.

**Climbing the Ladder of Pain.**

It is one of the splendid common-
places of experience that from beneath
the shadows of agony springs much of
the spiritual heroism in which mankind
exults, as characters mount with rapid
strides on the rungs of the ladder of
pain; while side by side with it moves
the wealth of tender sympathy on the
part of the well and strong with suffer-
ing and sorrow, that makes the darkest
paths glisten as with sapphires and
rubies and emeralds.—From "The Splen-
dor of the Human Body!"—Bishop
Brent.

Blessed is the man whose strength is in
Thee;
In whose heart are the highways to
Zion.
Passing through the valley of Weeping,
they make it a place of springs;
Yea, the early rain covereth it with
blessings.
They go from strength to strength,
Every one of them appeareth before God
in Zion.
—Ps. 84: 5, 7 (R. V.).

We are so accustomed to the words of
the Bible that we often miss the start-
ling nature of many a command and
promise. We can read about "rivers in
the desert," without realizing that it
is, as Isaiah says, "a new thing." We
can placidly accept the strange saying:
"Blessed are they that mourn," with-
out seeking to find the blessedness that
is hidden in such a rough casket. Only
by experience can anyone know that
God's comforting of mourners is a last-
ing strengthening—a thing to be greatly
desired. Pain—physical or spiritual—
should never be simply "passed
through," as one might pass through a
dark valley to brighter regions beyond,
gaining nothing by the experience. That
would be to waste a grand opportunity
of mounting higher, and opportunity
never returns. It would be like a
foolish child who "gets through" the
years of school-training without trying
to learn the lessons set for him, think-
ing only of the good time he is expect-
ing to have when he is a man. No,
those who are determined to climb, con-
tinually nearer to God, will be able to
thank Him for the cross which raiseth
them. It is not by slurring over the
hard bits of life, not by trying to forget
sorrow in exciting distractions, that any-
one can mount from strength to
strength on the ladder of pain. Sorrow
can and should be faced fearlessly by one
who draws daily, hourly strength from
God; he can walk dauntlessly, with un-
faltering steps, through the valley of
Weeping, making it a place of springs,
because in his heart are the highways
to Zion. This is not impossible for one
who is made in the image of God, and
who feels the glorious life of Christ in
every crevice of his being. As Elisha,
by throwing wood into the water,
caused heavy iron to swim, so the de-
liberate acceptance of a cross can make
the heaviest heart rise with supernatural
buoyancy. The wood of the cross can
make sweet the bitter waters of Marah—
but it must be an "accepted" cross, for
sorrow can embitter as well as sweeten,
pain can harden as well as soften a
heart. If the Son of God walk beside
a suffering soul, when it has been
called to enter the fiery furnace of pain,
then that soul will come out, not only
tested, but purified and strengthened;
and His upholding Presence is not a
privilege granted only to a favored few.
No one need attempt to meet trial alone.
The promise is free to all who "will"
to serve Him: "Fear thou not; for I
am with thee; be not dismayed; for I
am thy God; I will strengthen thee;
yea, I will help thee; yea, I will uphold
thee with the right hand of My
righteousness." Ethel Romanes, in her
beautiful book, "The Hallowing of Sor-
row," declares that "Sorrow is a dis-
tinct call from God to a higher life."
Surely this call can be welcomed by
those whose hearts are set on living the
higher life, as a soldier eagerly welcomes

the bugle call which leads him forward.
The way may be rough, the battle may
be fierce, but at least he is not idly
loitering in camp, but is fighting with all
his might—fighting to WIN. The noble
army of martyrs still follows in the
train of a Crucified Leader. Those who
aspire to walk in the ranks of that army
must not only endure but "take up"
their cross daily; then, through peril,
toil and pain, they, too, can climb the
steep ascent of Heaven.

Only one who is strengthened of God
can really strengthen others. What if
a friend should reach out to you for
help in a dark and trying hour, and find
your sympathy powerless to infuse fresh
courage and strength into his troubled
spirit, your counsel weak and dishearten-
ing to his burdened mind, your love
helpless to cheer his fainting heart! As
one has written:

"Ah, me! what woe were mine if thou
shouldst come,
Troubled, but trusting, unto me for
aid,
And I should meet thee powerless and
dumb,—
Willing to help thee, but confused,
afraid!
It shall not happen thus; for I will
rise,
God helping me, to higher life, and
gain
Courage and strength to give thee
counsel wise,
And deeper love to bless thee in thy
pain.
Fear not, dear love! thy trial hour
shall be
The dearest bond between my heart
and thee."

Think of the love and loyalty of
David's three mighty men, who gladly
put their lives in jeopardy that they
might bring water to strengthen and re-
fresh his body. Are we so far beneath
them that we are unwilling to bear
trials which may win for us the ability
to strengthen and refresh the souls of
those we love?

Crosses are very varied in their char-
acter, but each brings its own special
lesson, its own precious gift, and they
never come at random, each one proves
the watchful, tender thoughtfulness of
the Master in Life's school. We may
learn the lesson, and gain the treasure
for our lasting use, or we may recklessly
lose the opportunity, to our lasting loss.
Many people feel as though they had
nothing to endure that was important
enough to be called a "cross." There is
only the constant pressure of little cares,
the irritating restlessness of feeling that
the best years of life are slipping away,
and that nothing "worth while" is be-
ing accomplished. Time seems to be
wasted in

"The tiresome round of little things,
The small demands of every day."

But it is a great mistake to under-
value the accumulated power of these
"trifling tasks, so often done, yet ever
to be done anew." It is a fatal mis-
take to attempt to carry, without Divine
help, the heavy weight of the common-
place cross, "the cares that come with
every sun, morn after morn, the long
years through." This cross is often far
heavier than it looks. People can brace
up their courage to endure great trials
bravely and patiently, and yet be weak
enough to grow peevish and discontented
under the steady strain of little everyday
trials to the temper. It is an old say-
ing that we never know anyone until we
have wintered and summered with him.
Though we generally form our estimate
of another person far more swiftly than
that, it is by small things that we are
guided in our judgment of character.
We instinctively admire and love those
who are sweet-tempered in their every-
day home life, without waiting to see
whether they can be heroic in a crisis.
It is a solemn fact that character is be-
ing made every day, and is growing
permanently strong or weak, according to
the way these little events and tempta-
tions of common life are faced. The

soul will surely grow stronger each day,
if it is really fighting on the Lord's
side, which is a great comfort to those
who cannot see that they are making
progress. A short, sharp battle is
generally easier than this long, monotonous,
inglorious (apparently inglorious)
guerilla warfare, which most of us must
accept as our portion. Fight we must,
as long as we belong to the Church
"militant" here on earth. Let us
mount these small rungs of the ladder
patiently and steadily, year after year.

"The griefs that fall to every share,
The heavier sorrows that life brings,
The heart can nerve itself to bear;
Great sorrows are half holy things.
But for the ills each hour must make,
The cares with every day renewed,
It seems scarce worth the while to
take

Such little things with fortitude.
And he before whose wakened might
The strongest enemies must fall
Is overcome by foes so slight,
He scorns to hold them foes at all."

Then there is the sorrow of a long
parting with those who, next to God,
are nearest and dearest to us. This is
not a sorrow we can or should think
lightly of. But let us not fall into the
opposite error of letting it crush all
gladness and energy out of the soul. We,
as Christians, have no right to speak as
though death could stand as an impass-
able barrier between those who are in
the mystical Body of Christ. The Com-
munion of Saints is not a mere name,
it is an ever-fresh reality. Friendship
is too holy and mighty a force to be
crushed by parting—indeed, it should
grow stronger under pressure. Many a
loyal heart can echo the trustful words
written by James Berry Bensen, when a
dear friend of his had been called to
"come up higher."

"Closely thy loving friendship I have
held
Through peace and fearful fray,
And when a mighty Power my feet
compelled
To walk Grief's narrow way.
Yea, of thy love my heart hath been
so sure
It gathered strength from thee,
And learned to battle bravely, keeping
pure,
When Sorrow tempted me.
Now, through the distance lying here
between,
O trusted friend of mine!
O friend so faithful, and so long un-
seen,
I send to thee this sign.
No more is needed; thou canst under-
stand
The meaning of the whole.
One word will speak as would an out-
stretched hand
To thee, O splendid soul!"

Some are called to endure intense or
long-continued physical pain or the wear-
iness of bodily weakness. To such, I
hardly dare to speak—I, who hardly ever
have an ache or a pain. But one thing
I do know, that when God cuts to the
quick—in body or soul—He is not mu-
tilating, but pruning His branches, seek-
ing to bring forth more fruit. When a
soul trusts His hand and endures with
strong meekness, the pain will be far
easier to bear, and the gain in the
spiritual power will be swift and certain.
Some are called to deliberately turn their
backs on earthly happiness for the sake
of Christ's kingdom—following His
"counsels of protection," that advice, of
which He has said that all men cannot
receive it, save they to whom it is
given. Is there not deep joy in a sacri-
fice that costs something? If He
should call you to leave "house or
brethren, or sisters, or father, or mother,
or wife, or children, or lands," for His
sake, and for the sake of spreading the
good news, will you even wish to hold
back? Will you not

"dare forego at His dear call
Thy Best—thine All?"

I must again express my thanks for all
the kind words of encouragement that
have reached me from our readers. I
am glad to be able to assure the
"Mother of Three" that Hope's ideals
are far, far above her own head. To
have reached up to such ideals would be
to stand beside the Pharisee who had
accomplished all he had hoped to do—
may God keep us all from that low am-
bition.
HOPE,

Sweet Peas.

Put in your sweet peas just as soon in spring as the ground is workable. Make a trench eighteen inches deep, put six inches of well-rotted manure in the bottom, and tramp it down. Now put in six inches of soil, tramp it down well, and plant the seeds three inches apart. As the peas grow, gradually fill in the rest of the soil. Give plenty of water and cultivation at all times, and when the vines need it, supply them with wire-netting support. Occasional applications at the roots of weak liquid manure or top-dressings of ashes will also be found beneficial. If sweet peas are not permitted to seed, they will keep blooming until checked by the late October frosts.

DURATION OF BLOOM—LOCATION.

In making a garden, it is always necessary to know something of the duration of bloom of the flowers chosen; otherwise, one may have the annoyance of seeing, at certain times during the summer, great flowerless gaps where one had least expected them.

For early spring, and until the end of June, you must, of course, depend chiefly for bloom on your bulbs and early tuberous-rooted plants, e. g., snowdrops, crocuses, tulips, narcissi, daffodils, peonies, bleeding-hearts, etc.; on your shrubs, such as Japonicas, Forsythias, lilacs, syringas, spiræas, and roses; and on such early-flowering perennials as rock cress, double buttercups, daisies,



etc. With these, however, we will not now deal specifically, since, to afford much bloom this year, these should either have been planted last fall, or have attained size and blooming qualities by reason of several years' growth.

In regard to annuals, however, which will reach their full development this year, the following table may be of use, not only as to duration, but also location:

1. Annuals that will bloom from midsummer until frost (especially if given an early start in the house): Aster, marigold, coreopsis, petunia, snapdragon, stocks, sweet Sultan, zinnia.
2. Those that will bloom from midsummer until frost, if not permitted to go to seed: Alyssum, candytuft, poppy, estholtzia, cornflower, phlox Drummondii, mignonette, nasturtium, sweet peas, pansies. Several of these will also bloom after a considerable degree of frost.
3. Annuals that will grow in dry places: Nasturtium, petunia, portulaca, zinnia.
4. In shady places: Musk, pansy, nemophila.
5. In very sunny places: Nasturtium, gaillardia, candytuft, hyacinth

bean, balsam, poppy, phlox, portulaca.

For very late flowers among the perennials, no better can be found than the "whirlwind" anemone, while the best late-flowering shrub, probably, is the hardy garden hydrangea.

RE STARTING VEGETABLES.

Do the housewives who look after the garden, and who, having no hotbeds, start flower seeds in boxes in the kitchen windows, know that nearly all vegetables—carrots, beets, cabbage, onions, celery, etc.—may be similarly started, and so forced to be fit for eating weeks earlier than if the seed were merely sown out of doors. They should be transplanted from the boxes when ready into little bags, etc., as described in a recent issue of "The Farmer's Advocate." Try this plan, and be convinced.

Calla, Asparagus.

Will you please tell me what to do with my Calla Lily to make it bloom? It is a large, healthy plant, of the "Little Gems." I got it last May from a reliable seed

store in Toronto. It has been growing ever since, and is a fine plant, but I would like some flowers. Also, last fall I bought an Asparagus Plumosus. At first it grew all right, but lately it looks as if it would die. The ends of leaves turn yellow and drop off. Can you tell me what to do with it, as I am almost discouraged. I believe I would be were it not for my geraniums; they never fail me. P. E. M. Kent Co., Ont.

Ans.—You need not be uneasy about your Calla. It must be at least two years old before it will bloom much. Give it good drainage, a soil composed of leaf-mold and muck, and plenty of water during the growing season. In June turn the pot on its side out in the garden somewhere, and leave it there without any attention until September. The leaves will drop off, but that will not matter. Dig out the tuber, repot, and water moderately until leaves appear, then water freely.

We think probably your Asparagus needs shifting. Get a pot a couple of sizes larger than the one it is now in (a deep one preferred, as the roots are long), put some drainage material in the bottom, and move your Asparagus into it. Do this without disturbing the roots, by striking the side of the pot the plant is in sharply on something, then turning the soil out in a lump. Set in the other pot, and fill in all around with rich, fresh soil. Give plenty of water, and liquid manure once a week or so. If you think the soil is sour, better repot entirely.

"And how did you know about it?" asked Don of his father.

"It was the minister here came after me."

"Yes," said the minister, "it was Fusie told me you had gone off on a bear hunt, and so I went along to the Cameron's with Mr. Craven here, to see if you had got home."

"Meantime, Mr. Craven had been looking Hughie over."

"Mighty plucky thing," he said. "Great nerve," and he lapsed into silence, while Fusie could not contain himself, but danced from one foot to the other with excited exclamations.

The minister had come out intending, as he said, "to teach that boy a lesson that he would remember," but as he listened to Hughie's story, his anger gave place to a great thankfulness.

"It was a great mercy, my boy," he said at length, when he was quite sure of his voice, "that you had Fido with you."

"Yes, indeed, father," said Hughie. "It was Fido saved me."

"It was a great mercy, my boy," the minister, solemnly.

"And a great mercy," said Long John, "that your lad kept his head and showed such courage. You have reason to be proud of him."

The minister said nothing just then, but at home, when recounting the exploit to the mother, he could hardly contain his pride in his son.

"Never thought the boy would have a nerve like that, he's so excitable. I had rather he killed that bear than win a medal at the university."

The mother sat silent through all the story, her cheek growing more and more pale, but not a word did she say until the tale was done, and then she said, "Who delivereth thee from destruction?"

"A little like David, mother, wasn't it?" said Hughie; but though there was a smile on his face, his manner and tone were earnest enough.

"Yes," said his mother, "a good deal like David, for it was the same God that delivered you both."

"Rather hard to cut Fido out of his share of the glory," said Mr. Craven, "not to speak of a cool head and a steady nerve."

Mrs. Murray regarded him for a moment or two in silence, as if meditating an answer, but finally she only said, "We shall cut no one out of the glory due to him."

Glengarry School Days.

A STORY OF EARLY DAYS IN GLENGARRY.

By Ralph Connor—Rev. C. W. Gordon.

CHAPTER X.—Continued.

At supper-table the whole affair was discussed in all its bearings. In this discussion Hughie took little part, making light of his exploit, and giving most of the credit to Fido, and the mother wondered at the unusual reserve and gravity that had fallen upon her boy. Indeed, Hughie was wondering at himself. He had a strange new feeling in his heart. He had done a man's deed, and for the first time in his life he felt it unnecessary to glory in his deeds. He had come to a new experience, that great deeds need no voice to proclaim them. During the thrilling moments of that terrible hour he had entered the borderland of manhood, and the awe of that new world was now upon his spirit.

It was chiefly this new experience of his that was sobering him, but it helped him not a little to check his wonted boyish exuberance that at the table opposite him sat a strange young man, across whose dark, magnetic face there flitted now and then a lazy, cynical smile. Hughie feared that lazy smile, and he felt that it would shrivel into self-contempt any feeling of boastfulness.

The mother and Hughie said little to each other, waiting to be alone, and after Hughie had gone to his room his mother talked long with him, but when Mr. Craven, on his way to bed, heard the low, quiet tones of the mother's voice through the shut door, he knew it was not to Hughie she was speaking, and the smile upon his face lost a little of its cynicism.

Next day there was no smile when he stood with Hughie under the birch tree, watching the lad hew flat one side, but gravely enough he took the paper on which Hughie had written, "Fido, Sept. 13th 18—," saying as he did so, "I shall cut this for you. It is good to remember brave deeds."

CHAPTER XI.

John Craven's Method.

Mr. John Craven could not be said to take his school-teaching seriously; and indeed, any one looking at his face would hardly expect him to take

anything seriously, and certainly those who in his college days followed and courted and kept pace with Jack Craven, and knew his smile, would have expected from him anything other than seriousness. He appeared to himself to be enacting a kind of grim comedy, exile as he was in a foreign land, among people of a strange tongue.

He knew absolutely nothing of pedagogical method, and consequently he ignored all rules and precedents in the teaching and conduct of the school. His discipline was of a most fantastic kind. He had a feeling that all lessons were a bore, therefore he would assign the shortest and easiest of tasks. But, having assigned the tasks, he expected perfection in recitation, and impressed his pupils with the idea that nothing less would pass. His ideas of order were of the loosest kind, and hence the noise at times was such that even the older pupils found it unbearable; but when the hour for recitation came, somehow a death-like stillness fell upon the school, and the unready shivered with dread apprehension. And yet he never thrashed the boys; but his fear lay upon them, for his eyes held the delinquent with such an intensity of magnetic, penetrating power that the unhappy wretch felt as if any kind of calamity might befall him.

When one looked at John Craven's face, it was the eyes that caught and held the attention. They were black, without either gleam or glitter, indeed, almost dull—a lady once called them "smoky eyes." They looked, under lazy, half-drooping lids, like things asleep, except in moments of passion, when there appeared, far down, a glowing fire, red and terrible. At such moments it seemed as if, looking through these, one were catching sight of a soul ablaze. They were like the dull glow of a furnace through an inky night.

He was constitutionally and habitually lazy, but in a reading lesson he would rouse himself at times, and by his utterance of a single line make the whole school sit erect. Friday afternoon he gave up to what

he called "the cultivation of the finer arts." On that afternoon he would bring his violin and teach the children singing, hear them read and recite, and read for them himself; and no greater punishment could be imposed upon the school than the loss of this afternoon.

"Man alive! Thomas, he's mighty queer," Hughie explained to his friend. "When he sits there with his feet on the stove smoking away and reading something or other, and letting them all gabble like a lot of ducks, it just makes me mad. But when he wakes up he puts the fear of death on you, and when he reads he makes you shiver through and through. You know that long rigmorole, 'Friends, Romans, countrymen'? I used to hate it. Well, sir, he told us about it last Friday. You know, on Friday afternoons we don't do any work, but just have songs and reading, and that sort of thing. Well, sir, last Friday he told us about the big row in Rome, and how Caesar was murdered, and then he read that thing to us. By gimmini which! it made me hot and cold. I could hardly keep from yelling, and every one was white. And then he read that other thing, you know, about Little Nell. Used to make me sick, but, my goodness alive! do you know, before he got through the girls were wiping their eyes, and I was almost as bad, and you could have heard a pin drop. He's mighty queer, though, lazy as the mischief, and always smiling and smiling, and yet you don't feel like smiling back."

(Continued on page 523.)

When Booker T. Washington began his early attempts to arouse the colored men of the South to work regularly, save their money, stop stealing chickens, lead good lives, etc., one of his agencies was the establishment of schools. Money was scarce, and it was a day of small beginnings. The first class was held on the porch of a house, but it rapidly outgrew the accommodation, and in casting about for ampler facilities, he found an old abandoned henhouse.

Finding a venerable darky idle, he said to him, "Sam, you go up to-morrow morning and clean out that old henhouse back of Mr. —'s house."

"Sho'ly, Mr. Washington," was the reply, "you won't clean out a henhouse in de daytime?"

More Essayists.

Dear Cousin Dorothy,—I am sending my essay on "A Book I Have Read." I have not tried any competition in "The Farmer's Advocate" for a long time. The skating-time has passed, for the bay is covered with snow, but I enjoyed the skating while it lasted. I hope you like your new home and work. The following is my essay:

The Grey House on the Hill.

I have not read many books, but this story is interesting and well told. It shows that truth is great and must prevail. Maurice is trying to find his brother who must go to war. Arriving too late to see him, Maurice faints, and is picked up and carried home by a kind man. This man's son, Tom, had a currant bush. One day, Tom, finding it broken, is very angry. Maurice is accused of the act, which he did not do, and sent to the workhouse. When the truth is found out, Maurice is brought back with rejoicing.

PEARL JOSE (age 11).
Rosmore, Ont.

On the Seas.

The book that I will write about is called "On the Seas." It is about some men going to the Arctic Ocean in search of a whaler, who is supposed to be lost. After numerous difficulties, they find him with his ship on an iceberg. I like this story because it is about adventures, and I like adventurous stories.

NORMAN WARDLAW.
Brampton, Ont.

"In Luck's Way."

Lettice, educated by her mother's friend, became a teacher in Hillborough, distant from home. Here she met, and promised to marry a rich, good man, though ashamed that her father was a laborer. When her father appeared, she kept him out of sight, and he, with wounded heart, returned home. Lettice, repenting, followed, and took cold by being wet. While ill, she was nursed by her lover and his mother, who, after all, thought kindly of her father and her slovenly sister. I like this book because Lettice, though foolish, was, by her true heart, brought safely out of trouble.

WINNIFRED FIFIELD (age 14).

Uncle Tom's Cabin.

Tom, who is the chief person in this story, was a slave, and worked many years for Mr. Shelby. He was liked by all the people, on account of his honesty and goodness. At last his master was forced to sell Tom. He then passed into the hands of a kind, rich man, who would have given him his liberty had he not died so soon. Tom was then sold to a cruel master, who hated him be-



cause he was good, and he soon beat him to death. I think I like this story best because it shows what a good man a negro can be.

GRACE E. NIXON (age 13).
Arva, Ont.

Booker T. Washington.

"Up From Slavery" is one of the books I like best. It was written by Booker T. Washington, one of the finest characters of any race. He was once a slave boy, and lived in the depths of poverty. His eager desire for knowledge, and, then, for service to his race, was the foundation of his position today. His burning desire to plan and work out schemes for the uplifting of his race teaches us patience and unselfishness, and that the Ethiopian and Caucasian should be acknowledged as equal in mind. His success should remove the prejudice entertained by the white race against the negro.

GRETA VAN NEST (age 13).
Solina, Ont.

Evangeline.

"Evangeline" is one of Longfellow's most beautiful poems. Evangeline was a young girl who lived with her father at Grand Pre in Acadia. She loved Gabriel, a blacksmith's son. A few days before they were to be married, the English forced all the Acadians to leave the country. When they were getting on the boats, families were separated, and Evangeline lost Gabriel. She looked for him for many years, but never found him. She became a Sister of Mercy. At last she found him dying in a hospital in Philadelphia. I like this book because it is based on truth.

NELLIE B. E. ROSS (age 12).
Woodbridge, Ont.

Robinson Crusoe.

Robinson Crusoe, a book that has gained world-wide renown, is written in many languages, besides English. What led to the writing of this book was the experience of Alexander Selkirk, who was supposed to have been cast away on the Island of Juan De Fuca, and afterwards written about by Daniel Defoe. Many editions of this story are in circulation, and probably few stories are so well known among the people. The theme of the story especially appeals to young people, arousing a keen interest in ad-

venture and travel, yet never drifting away from the yearning for friends and home.

MABLE B. MORRISON (age 14).
Arthur, Ont.

Glengarry Schooldays.

The hero of this book is Hughie. He falls into the boy's "Deepole," and is rescued by Ranald. A new teacher comes to the school, and the big boys fight him. Hughie's only rival is Foxy. He gets into debt to Foxy, but triumphs over him in a shinny match in which the sixteenth school beat the twentieth school by a goal. (1) I like this book, because it is about boys; (2) because it is about a school I would like to have gone to.

FAWCETT EATON (age 10).
Carlisle, Ont.

A Book I Have Read.

John Winter was foreman of a lumberyard. He had a little daughter called Ellie, who was a cripple. When Ellie was seven years old, her father took to drinking, and lost his position. Soon after this his wife fell very ill, and the doctor said the best medicine for her was for her husband to get work. Ellie, knowing this, went on her crutches to her father's former master and procured work for her father on condition that he would stop drinking, which he did, and this was the means of saving her mother's life. I like this book because it shows us what good we can do for others if we make up our minds to do it.

Campbellford.

Joe Cole.

Mrs. Almer had advertised for a page. Among many letters was a queer little one from Joe Cole. He called next morning—a very small lad, but clean and tidy. He was accepted, and was very faithful. One night burglars broke into the house, and, consequently, Joe and his dog were missing. When putting apples in the cellar, they found Joe there wrapped in blankets, bound with ropes, his red stocking in his mouth. His dog was killed. They restored him to life, and promoted him to be undergardener. Later, he started business, and supported his dear parents. The reason why I liked this book is because a poor little boy worked himself up in

the world by being straightforward and honest.

ELENA I. RAYCRAFT (age 10).
Glencoe, Ont.

Another Book.

Martin was a boy whose parents died and left him in care of his sister. He stole her watch, and ran away to make his fortune in London. He lost the watch, spent all his money, wandered about, got no work, and was found on a doorstep, hungry and cold. A kind boy took him in, and advised him to go home and do better. The boy went with him, fell in love with the sister, and married her. It became a happy home. I like the book, for it teaches boys and girls to mind those older than themselves.

CLARA ELLIOTT (age 11).
Fairfield Plains, Ont.

The Listeners.

Two town boys once lost their way in a wood, and stayed at a hotel over night. At midnight, they awoke, and hearing someone talking in the next room, they put their ears to the door, and heard the hotelkeeper say, "Wife, get the big kettle ready, for I mean to kill the two rogues of the town." The boys thought he meant them, so they jumped from a window to escape, but one boy hurt his foot, and could not go on. So they were compelled to sleep with the pigs. At daybreak, the hotelkeeper came to kill the pigs, for that was what he meant by the two rogues of the town. As soon as the man saw the boys begging for mercy, he said, "You silly boys, I meant the pigs, not you." I like this book because it teaches us not to listen to what is not intended for our ears.

CORNIE HUTCHINSON (age 10).
Mount Forest, Ont.

The Good-natured Brothers.

In a cave there lived two monks, who were brothers. They were both good men. One day one of them, growing restless and longing for a change, said to his brother, "Let us quarrel." The other did not like the idea, but finally consented. They scarcely knew how to quarrel; but, presently, one said that he should claim a certain stone, and the other to do likewise. They argued for some time, but they soon began laughing. The one that suggested the disagreement said, "We cannot quarrel, seeing you are too good, so we shall have to give up the idea." This story appealed to me because of the moral: "It takes two to make a quarrel."

JANET McNABB (age 12).
Ottawa, Ont.

Kindly address all letters for the "Children's Corner" to Cousin Dorothy, 52 Victor Ave., Toronto.

A Useful Suggestion.

Editor "The Farmer's Advocate":

I have been for several years an interested reader of your journal, and have found many useful and helpful articles in it, especially in the Home Department.

I am one of those ex-school ma'ams who married while still as ignorant of housekeeping as a baby; but now, after years of experimenting, I feel that there are one or two things I really know how to do properly.

There is one department, however, in which I am constantly seeking for more knowledge—that is, in the choice and preparation of food. Not that there is any scarcity of recipes for any and all kinds of foods, but, as my husband says about his stock, "I want to feed a balanced ration," and how can I do this when I know little of the chemical properties of the human body, or of the food which nourishes it? In my school days Domestic Science was not in any school curriculum, and so I obtained no training there. It has long been in my mind to ask you to take up this very important subject, and teach us—the wives and mothers of farmers—how to choose and prepare the food which makes strong muscles and rosy cheeks.

Perhaps you may not care to undertake the task; but if you do, I

About the House.

have a plan that will show you more exactly what I want, and, if followed out, would be very helpful.

First, give a definite analysis of the chemicals that go to make up the human body which are wasted in the ordinary processes of life, and what foods will best replace these materials. Then, as meat is one of the principal articles of food, say we begin with it, and give the chemical properties of beef, how to choose good meat, the different cuts, and how each can best be cooked. To illustrate the need of this, I saw a woman who has cooked for thirty years take the choicest cut of a round of beef and boil it hard and long, until it was cooked through and through, and then she boiled away all the juice, thinking she would boil it back into the meat. The result was a shrivelled little ball like India rubber, yet it was nice, juicy, tender meat to begin on. Farmers buy meat by the quarter, and we have all sorts of cuts, good and poor, to cook, many of which are never mentioned in cook books. How shall we learn to cook them? Then, when the subject of the different meats in ordinary use is ex-

hausted, take bread, how to choose good flour, how to make good yeast, the food values of the different breads, and so on through the list—vegetables, milk, cheese, eggs, etc.

I have a great many recipes I know are good, but I want more scientific knowledge of the material which daily passes through my hands. Can you help, or am I asking too much? Surely the need is great; and where can the housewives of the country homes obtain this knowledge better than through a farmer's paper? There are various journals published for women, some of which deal, in a measure, with these things, but they are mostly beyond the range of farm life. One would need an army of servants to carry out the directions of some of them. There are also many books bearing on these subjects, but most of them are expensive, and without a guide one can only guess at which will be most suitable to one's need.

I have tried to show you the need of help. You are ever ready to help the farmers. Will you prove equally ready to help the farmers' wives? You may say, let the Women's Institute do this; but, after all, they

reach but few of us, and often much that they do is not of any great depth. You could reach so many homes. Will you? If you do you will confer a great favor on many a hurried, careworn housewife who has the desire but not the time nor means to make an exhaustive study of this subject. I think this work might even tend to encourage a few of our old bachelors to take the decisive step, if they felt sure it would not lead to worse dyspepsia than they already endure.

"JACK'S WIFE."

We have been very much pleased to receive the above letter. We are always pleased to receive any hints whatever for the improvement of our paper, or any suggestions as to how we may meet the real needs of our readers. "Jack's Wife's" especial suggestion we think a good one. As a rule, farmers' wives, or any other "wives," for that matter, do not know enough about the properties of the foods which they prepare, or the changes, disastrous or otherwise, which may ensue during the cooking process. As noted above, even the finest, nutritious meat may be converted into a useless, indigestible mass by injudicious cooking. And meat is by no means the only thing that may be so ruined.

As the food goes into all the chemical details of the body and its foods,

however, we can scarcely attempt that. In the first place, very few, comparatively, of our readers are ex-school teachers, and without actual experiment and the equipment of a laboratory, it would be almost impossible to make things absolutely clear, except, perhaps, to those who have already "taken" chemistry. In the second, we cannot afford the space for too detailed analyses of all the various things that go to make up the daily ration. We shall, however, so far as may be clear to the general reader, and so far as we can find room, be glad to act on "Jack's Wife's" suggestion, for which we thank her most heartily.

Next week, then, we shall, if possible, begin a series of short articles, based on the best authorities we can find, on "Food Values," and we hope that many others beside "Jack's Wife" will be interested.

SEASONABLE RECIPES.

Orange Jam.—Take 1 dozen oranges and 6 lemons; wash and slice very thin, removing all seeds. Let stand in four quarts water for 36 hours, then boil gently for 2 hours. Add 10 pounds white sugar, and cook 1 hour longer.

English Marmalade.—Seven oranges and 3 lemons. Quarter and cut in very fine chips. Take out seeds, pour over pulp 3 quarts cold water, let stand 24 hours. Boil until tender, let stand until next day, add 9

pounds sugar, and boil till chips are clear and syrup jellies.

Cooking Dried Fruits.—When cooking any kind of dried fruit—apricots, prunes, peaches, apples, etc.—wash well, then soak over night. In the morning put on the stove (without changing the water, of course), and simmer very gently until quite tender. A few minutes before taking off add enough sugar to sweeten. All stewed fruits of this kind are nice when served with whipped cream.

WHAT YOU CAN DO WITH CANNED CORN.

1. **Corn Soup.**—Heat the corn, put through a sieve or ricer, add a quart of milk and a blade of mace and heat again. Just before serving, thicken slightly with a little cornstarch, and season with salt and pepper. Add a bit of butter, and serve with a spoonful of whipped cream on each plateful.

2. **Corn Oysters.**—Three cups corn (drained, if very watery), $\frac{1}{2}$ cup milk, 3 beaten eggs, 1 tablespoonful flour, 1 teaspoon baking powder, salt and pepper to taste. Fry by spoonfuls, turn, and serve very hot.

3. **Corn Omelette.**—Three beaten eggs, $\frac{1}{2}$ cup sweet cream, 1 cup corn, 1 tablespoonful flour, salt and pepper to taste. Pour on a hot, buttered pan, and bake. Do not turn.

Corn Chowder.—Fry a bit of fat pork, cut in small cubes. Add a small onion and cook. Now add 1 pint of cold potatoes sliced, and 1 pint of corn. Season and pour in

enough milk to cover well. When simmering hot add 1 tablespoon butter, thicken slightly with a little flour blended in milk, and serve with crackers.

Fruit Salad.—Take one quart of fruit juice—a mixture of any kind you have left in your sealers will do, but raspberry and strawberry are particularly good when mixed with cherry or pineapple. Heat and stir in two tablespoons gelatine softened in two tablespoons cold water. Sweeten, and add $\frac{1}{2}$ teaspoon mixed spices—cinnamon, cloves, mace—and 1 tablespoon vinegar. Wet some cups, and put a few bits of nut-meat in the bottom of each. Pour in the juice, and chill, letting stand until the mixture jellies, usually over night. Serve on lettuce leaves, with a spoonful of mayonnaise at the side, and another of whipped cream on top.

HOUSECLEANING HINTS.

Linoleum or Oilcloth.—Wash with skimmed milk.

Oiling Floors.—Clean floor perfectly and let dry. Oil with boiled linseed oil, and when oil has had time to absorb, rub hard with soft woollen cloths.

To Paint Floors.—Soak two ounces glue in cold water for 12 hours, then melt it in a solution of one pound caustic lime and water, heated to the boiling point. Stir in linseed oil until it ceases to mix.

Mix with any color not affected by lime, and dilute with water, if needed. For yellow-brown or brown-red, boil in the mixture one-quarter its volume of shellac and borax. Yellow ochre, linseed oil, and a little turpentine, also makes a very good inexpensive paint.

To Fill Cracks in Floors.—Soak newspapers in paste made from 1 lb. flour, 3 quarts water and 1 tablespoon alum, thoroughly boiled and mixed. Make the mixture about as hard as putty, put in cracks, smooth over, and let get bone-dry before painting.

To Clean Painted Woodwork.—If very smoky, rub with kerosene, wash off with soapsuds, rinse in clear water, and wipe dry, or use a strong solution of sal soda.

To Clean Varnished Woodwork.—If very dirty, rub with kerosene and polish vigorously. If not, wash with milk and water, or with weak tea, following, in the latter case, with a polish of 1 part olive oil and 2 parts vinegar. To clean white woodwork, rub well, then apply a mixture of whiting and water; let dry and rub off.

To Remove Spots of Paint on Window Glass.—Apply with a swab a strong solution of lye, and rub off with a woollen cloth. Do not let it get on hands or clothing.

For Scouring Floors or Washing Coarse Articles.—Put 1 pound slacked lime and 1 pound soda in 6 qts. water. Boil 2 hours, let settle, and pour off. Add to water for cleaning.

When Sarah Ann Rebelled.

By Susan Hubbard Martin, in Woman's Home Companion.

Sarah Ann was washing in the shed kitchen. The roof was low, and although it was yet early, the June sun streaming upon it made the heat of the small room almost unbearable. The steam from the boiler of bubbling clothes only added to the discomfort. There was an unusually large washing, that had to be finished before noon. Then there were dinner to get, dishes to wash, and Jane Harriet to be made comfortable for the afternoon.

Sarah Ann's scant calico dress hung in limp folds, her gray hair was strained severely back, and her thin lips were set in stern lines. Life looked difficult this June morning, and in Sarah Ann's usually tranquil soul was a faint uprising of rebellion. She could not help questioning why the hard things, and never the easy ones, came to her; why other lives should be so full and rich and beautiful, her own so poor and bare and limited.

Sarah Ann was forty-seven years old, and had never married. She lived now with her sister, whom she had brought up. Jane Harriet had once been a pretty girl, but she had married young, and married a poor man. Under the shiftless management of her indolent, improvident husband, she lost her beauty and her bloom and her ambition. At thirty-three she was a chronic invalid with five children. Then it was that Sarah Ann left her own little home and came to the rescue. It was not likely that she would lack for something to do in the narrow, pinched household.

As Sarah Ann plunged the clothes-stick into the bubbling boiler, her spirit of rebellion deepened. Just then there came a tap at the door. A young girl stood there, a young girl in a shady hat and a rose-colored dress. Her cheeks matched her gown.

It was pretty Charlotte Dent, one of the young members of Sarah Ann's church.

"Good morning, Sarah Ann!" she said, in her cheerful voice. "I knocked and knocked at the front door, but as nobody came, I thought I'd better come round here."

"Jane Harriet's asleep," replied Sarah Ann, briefly. "She had a bad night, and the children are playing next door. Well," she added, a little brusquely. "What is it? Something about the church, I know. I can't ask you to come in; you'd smother."

Charlotte's face took on a warmer hue.

She felt the resentment of Sarah Ann's manner, and hesitated a little. What had altered the usual unassuming humility of Sarah Ann?

"We're going to have an ice-cream social, Sarah Ann," she began, shyly. It's to be at the town hall Friday night, and we want to know if you'll come over and wash dishes for us."

Sarah Ann took up her gingham apron and slowly dried her knotted hands. Then she turned, and with something tragic in her gaze looked into the pretty face, noting its freshness and beauty. She saw the whiteness of the slender hands and the gracefulness of the girlish figure. "And I—I might have looked like that once," she thought with a passion of longing, "if everything hadn't been so hard!"

After a moment's silence, she spoke. "Help you?" she said, in a harsh tone. "No, I won't!"

"You won't?" cried Charlotte, in surprise. "Why, Sarah Ann, you always have!"

Sarah Ann stood still, tall and grim; her usually meek brown eyes were flashing.

"Yes," she retorted, "I always have! For twenty-seven years I've been a member of the church. I don't believe in all that time I've ever missed washing dishes once at anything that's come up. I've worked faithful at every supper, every social, every 'bazaar we've ever had. Look at my hands! Do they look as if I'd ever shirked my duty? Oh, yes, when there's work to be done you always come for Sarah Ann! She's used to it; you think she don't mind it. Why shouldn't I have a good time, like the rest of you?" she went on, bitterly. "Why should I be always drudging and washing dishes? Is it because I'm old and poor and ugly? There's Mrs. Judge Macon. Ask her to wash your dishes, and see what she'll say!"

"When the ladies gave that dinner and supper election day," she went on, more quietly, "I stayed all day. The rest of you left, and I washed dishes alone until twelve o'clock that night. I could hardly drag myself home, and the next day Jane Harriet had a bad spell that lasted a week. Now, let somebody else wash your dishes. I'm tired."

The face in the doorway flushed and quivered under Sarah Ann's words. Then the girl came in suddenly and put her arms about Sarah Ann's shoulders. At the gentle pressure the poor, overtaken woman broke into sobs, heavy, tearless sobs that shook her thin figure.

"There, there, Sarah Ann," whispered Charlotte, soothingly, "don't cry! I ought not to have asked you, Sarah Ann, if isn't as if we hadn't appreciated

what you've done; we just didn't think—that's all."

A second later she was gone, with a new pity and thoughtfulness upon her face—a thoughtfulness brought there by the picture of a gaunt, tired woman with toll-worn, knotted hands.

On the night of the social, the moon shone clear and bright. It had been a hot day, and poor Jane Harriet had been unusually trying. But it was over now. The children were asleep, Jane Harriet was safely settled for the night, and Sarah Ann could take a minute's breathing-time.

As she sat in the doorway in the soft stillness of the moonlight, she was thinking of the social, and of Charlotte Dent. "I ought to have gone," she whispered, slowly. "They can't get any one to wash dishes but me. I needn't have told Charlotte the things I did, either."

She folded her hands in her lap and sighed heavily. As she sat there, the gate clicked. Someone was coming up the walk; someone in a white dress. It was Charlotte.

"Get your bonnet, Sarah Ann," she said, in a low voice. "Is your sister in bed, and are the children asleep? That's good. Come, I want you to go to the social. Not to help," she added, hastily, "but to enjoy yourself like other people. We never thought about it, Sarah Ann," she went on, shyly. "We have imposed on you, and you've had so much to do at home! Come, get your bonnet!"

Sarah Ann rose stiffly. It had been a hard day.

"Are you sure you want me?" she said, wistfully.

"Quite sure," said the girl. A few minutes later they went up the quiet street together. The hall was lighted, the windows were open, and as they passed up the steps there was a hum of voices.

"There's a lot of people here," said Charlotte, happily, as they went in.

"We think we're going to make a good deal this time. We want to get that Sunday-school piano paid for if we can. They're pressing us for another payment. Did I tell you?"

"No," murmured Sarah Ann, "you didn't."

She would have washed dishes willingly if she had known that, she thought.

It was a pretty sight that her eyes rested on. All about were scattered small white-covered tables, at which people were eating ice-cream and cake. Sarah Ann thought she had never seen so many pretty dresses in all her life.

Charlotte led her to a seat. "Sit here," she whispered, "and I'll wait on you."

She pushed her gently into a chair and departed hastily. Sarah Ann sat stiffly upright. Now that she had her wish, she felt ill at ease. She had never been waited upon before, and she thought that it wasn't such a blessing, after all, to sit with folded hands.

Charlotte came back in a few minutes, carrying on a tray a generous pyramid of ice cream and a liberal supply of cake.

"I brought you the best cake we had, Sarah Ann," she whispered, as she deposited her burden. "Don't forget to try this banana cake. Mrs. Bright made it, and you know how good her cake always is. Good-bye. I'll be back again if I can, but we're very busy."

Left alone, Sarah Ann slowly ate her ice cream. She tasted her cake, but left most of it. She felt strange and out of place, for in all her recollections this was the first time anyone had ever waited upon her, and she did not like it.

As she sat at the white-covered table among the well-dressed, light-hearted people, the conviction came home to her that it was too late to change matters, after all. With an odd restlessness, she wanted to be up and doing as she had always done. In the camp of the Israelites there had been hewers of wood and drawers of water, and perhaps they were just as necessary to the well-being of the camp as the priests and the psalm singers, and perhaps they received as great a reward.

And now she knew that she must bury her longings and her dreams, and be content with the humble things. He who planned all lives knew best.

Rising, she made her way steadily through the crowds to the rear room. Nobody was there but Charlotte Dent, and she was standing over a huge pan filled to the brim with dishes. Her delicate face was flushed, and there was a weary look in the sweet eyes.

She glanced up as Sarah Ann entered. "It's hard work, Sarah Ann," she said, smiling faintly. "I didn't know how hard until I tried it. I've been thinking about you all the time since I've been standing here."

Sarah Ann went over to Charlotte and took her hands resolutely from the dish-pan. "Give me your apron, child," she said. "There, you go and enjoy yourself. You're not fit for this work."

Tying the gingham apron about her own waist, she plunged her calloused hands into the water. The dishes came out with astounding rapidity clean and bright.

There was a relieved yet a reluctant look on Charlotte's face.

"I don't like to leave you, Sarah

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Ann," she said, slowly. "It doesn't seem right."

"Yes, it does, too!" cried Sarah Ann. "You go!"

She drew the slender figure nearer her. "I'm sorry I said what I did," she whispered. "It—that feeling is all over now. I'll help you always after this."

Sarah Ann watched Charlotte as she made her way out among the people—a small, slight figure, with a delicate face, not fitted for the rougher work of life.

"Bless her!" murmured Sarah Ann; and then she turned to her work.

Her rebelliousness was gone, and in its place was a new peace. "O Lord," she whispered, through her tears, "I ain't good for much; I can't preach or pray or sing or talk. I'm only a poor, plain old woman who can wash dishes and can't do anything else. Just a hewer of wood and a drawer of water, but maybe if I can't do the great things, You can let

the little ones resound to Your honor and glory. Forgive me my stubbornness and conceit. Teach me to do the humblest tasks with a willing heart. Help me to be a workman that needeth not to be ashamed."

"Are the ice-cream dishes ready, Sarah Ann?" called a chorus of gay voices. And three or four girls came fluttering in.

"What should we do without you? Nobody can wash dishes as you can. There's a whole crowd of people come up from Harmony, and they want ice cream right away. Come, girls, we must step lively!"

Sarah Ann handed the bright, clean dishes rapidly to the waiting girls. Her face shone with a new light.

The mutiny was over, and Sarah Ann had slipped into her niche again, "a workman that needeth not to be ashamed."



Thanks from Mrs. Bee.

Dear Dame Durden,—Many thanks for the helps sent by you and others. In regard to that suet pudding, you asked does it need soda. It does not; the recipe, as given in your paper in Feb. 8th, is correct. I just made some Banbury tarts after the recipe of Mrs. W. M., and find them excellent.

MRS. BEE.

Raising Money for Church.

Dear Dame Durden,—You have invited us all to come to you in our difficulties. Do you mean difficulties outside of house-keeping ones? I have what seems to me an almost insurmountable one before me just now—trying to advise our church members as to how to raise money for church-building purposes. We have formed a "Women's Guild," and we are all anxious and ready. Can you, Dame Durden, or any of the members of the Ingle Nook, advise me as to what means others have employed? Ours is in a country parish, several miles from any city. Any suggestions as to how to decorate a booth at a picnic will also be most thankfully received.

TRIX.

Now, chatters, bring forth your ideas, and tell your experience.

"Chin-wag" Wags.

Dear Dame Durden and Chatterers, all,—I would like to slip my chair in near the fire, please, if you can make room for an old resident, who is coming in under a new name. Didn't we "catch it" from Dame Durden recently for our feminine failing re bargain hunting? But, as the children say, "I'm not a bit scared, are you?"

Now, my dear Dame Durden, confess up, do you never, never slip in for an occasional peep at the alluring bargain counters? I quite agree with you, though, in your friendly advice about buying anything tawdry. I dearly love shopping on bargain days myself, but try never to fall into that error. To defend myself, I must say that I think there are often good bargains to be had at certain times of the year. For instance, the white sales in January and February, also the carpet sales at the same time, and the fur sales, when the dealer offers them for a little less, rather than keep them over the summer season. "A dollar saved is a dollar made," if, as you say, needless articles are not bought merely for a "bargain."

I must not keep some other chatterer out of the "circle," so, my friend, please take this seat. Hoping you will again admit—
CHIN-WAG.
Grey Co., Ont.

Yes, my dear, I gaze and gaze at the bargain counters, and sometimes I buy, and am glad, and sometimes I buy and am sorry. In fact, it was a mistake or two which inspired me to write that article. What grand mistakes are for showing us the pitfalls. Of course, I concede that good bargains are often to be had, especially in white goods and furs. But, in buying the latter, you

need to be a good judge. We trust, "Chin-wag," that you found your flower query answered in the flower department. "Canada First" also addressed hers to the Ingle Nook, and it was transferred.

Answer to "Newcomer."

Dear Dame Durden,—I have read a "Newcomer's" letter in your issue of 22nd, and wonder if, like myself, she is from the Old Country. Till I came here to live, five years ago, I had never made bread. Now I feel I can express my opinion on breadmaking. I wonder why there seems such an anxiety on the part of housekeepers to get such "white" bread. It really only means a great deal of the nourishing part of the flour is not there.

Now, at our local mill, I pay \$2.25 for high-grade flour, and \$1.35 for low. They are made from the same flour, only the former has gone through more processes, and the latter has more bran and shorts in it. The miller, in talking about flour to me, said: "Bread should be made of low-grade flour." I get good bread from it, but it needs to be well baked, and, of course, is brown in color. I make it from all low, all high, and half and half, and so have a nice change. Low-grade also makes good biscuits, common cakes, and pastry, and there is the saving (in some households a consideration) of 90 cents. For thickening sauces, etc., it is just as good as other flour. I generally keep a tin of flour which has been browned in the oven, on hand, as sauces and gravy made of this have more flavor.

Oxford Co., Ont. MRS. L. J.

In reply to this, we may quote from Hutchinson, an authority on dietetic matters: "Bread should have a sweet, nutty flavor and odor, and in color should be of a creamy whiteness. . . . It must be admitted, however, that the above characters, however important aesthetically, are not of much value from a nutritive point of view. Especially is this so in regard to color. A very white loaf, means a loaf in which starch is at a maximum and proteid at a minimum, and that is certainly not desirable. For setting up a false standard of whiteness, the baker is not to blame. It is the ignorance of the public which mistrusts a dark loaf."

All this, however, does not mean that a hard, solid dark loaf is to be commended. As regards consistency, Hutchinson again says: "It should be well risen, and possessed of a thin, flinty crust, which is neither very light nor very dark in color, and cracks on breaking. The crumb should be elastic in consistency, of uniform texture without large holes, and of a smooth and silky pile."

Sheep-skin Rug—Beef.

Dear Dame Durden,—May I become one of your chatterers, or will I be welcome? I hope so, for I would like to ask the readers of the Ingle Nook if any of them

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ever tried dyeing sheep-skin mats. I have a large one which I tanned myself, and, while it was clean, it was very pretty; but since it has become soiled, I would like to have it colored. I thought, perhaps, I could get it done at the woollen mills, but they would not undertake it, for they said the dye would rot the skin if it were dipped in. I hope you, or some of your readers, can help me out of my difficulty.

I notice in "The Farmer's Advocate" of February 8th, "A Young Housekeeper" asks how to can beef in glass jars. I will give her my experience. Last spring I filled several jars with meat, which I had boiled till tender, and sealed while hot. They kept until the warm weather came, then they all spoiled. I asked a friend, whom I knew had had good success, the reason why mine spoiled. She told me it was because I put water in it. She said, "Cut it into thin slices, put it into the frying-pan with a little salt, fill the pan full. Have your jar beside you on the stove where it will keep warm, as the pieces are cooked (not crisped) fill the jar. Press down tight (I used the handle of a wooden potato-masher) until full. Cover with the drippings, seal while hot, turn on their tops until cold. Be sure you use good rubber rings." She said she had it to keep over until the second year, and never had one to spoil. Hoping this will help some one, I will now withdraw, for fear I have stayed too long. JEMIMA JOB.

Grey Co., Ont. Scientific American gives the following process for dyeing sheep skins: Wash in good suds until the wool is clean. Dissolve 1/2 lb. each of salt and alum in 3 pints boiling water; put into it water enough to cover skin, and soak 12 hours. Hang on a line to drain, and when nearly dry, nail, wool side in, on the side of the barn to dry. Rub into the skin (an hour's rubbing is necessary) an ounce each of pulverized alum and salt-petre, more if the skin is large. Fold the skin sides together, and hang away for three days, rubbing every day, or until perfectly dry. Then with a blunt knife scrape well, rub with pumice or rotten stone, and trim into shape. Make your hot dye, and put to the depth of an inch in a large, shallow vessel. Lay the skin down gently, wool side down, so that the dye does not reach the skin itself. Take out gently, drain, dry and comb.

Cough Mixture.

Dear Dame Durden.—Another one knocking for admittance to that cosy fireplace. How wise that old cat looks! One can almost hear her purr. The Ingle Nook has long been a source of pleasure to me, and I have often thought I would write to it, but have never put thought into action before.

I could not resist that welcome invitation longer, and as this is the time for terrible colds and hacking coughs, I send along a recipe for a good cough mixture, which I can highly recommend, hoping it may help some of the suffering: Two ounces of paregoric, 2 ounces of syrup of squills, 2 ounces of black cherry and 1 dram of chloroform. Get the prescription filled at the druggist's, and take a teaspoonful every four hours. I would like if some one could tell me how to make pork and beans with chili-sauce like the canned ones you buy. Hoping I have not chatted too long, and that I may come again. BLUEBELL, Durham Co., Ont.

Thanks for the recipe. All of the members are always welcome.

"Allie," "Ida," and "M. M. MacC."

We thank this trio, the first from Addington Co., Ont.; the second from Bondhead, Ont., and the third from York Co., Ont., for their recipes, which are not published, as answers have already been given. Don't forget, when answering any question, to put in a little letter besides, so that it may be published, even if it is necessary to omit your answer. . . . Allie asks a recipe for fig cake. Can anyone send a good one? . . . We are glad you feel that you "cannot do without 'The Farmer's Advocate,'" M. M. MacC."

We also thank those who have so kindly contributed the words of the songs asked for by Kitty. The first of those will appear next week.

Auction Sale

65 REGISTERED AND GRADE

Holstein Cows and Heifers

to be held at BROWNSVILLE VILLAGE, at 1 P. M. SHARP, on

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This is an extra good lot, and many of them already in.

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Pure-bred Stock

Under the auspices of the Myrtle Sales Association, to be held at MYRTLE STATION, on

THURSDAY, APRIL 12th, 1906

50 Head Shorthorn Cattle

25 Males from 8 months to 2 years old. 25 Females.

The contributors to this sale include many of the most prominent importers and breeders of pure-bred stock in Canada. The above stock belongs to some of the best Scotch and English families, viz.: The Miss Ramsdens, Wedding Gifts, Crimson Flowers, Stamfords, Symes, Lavinias, Princesses, Beauties, Meadow Flowers, etc. All animals will be inspected before being accepted. This sale will be conducted on the same lines as the Provincial sales, and will be held under cover. Arrangements have been made with all railroads for single return fare. Purchasers at this sale will be entitled to convey their cattle by train at half rates.

Sale at 1 o'clock sharp.

Terms: Cash or six months' credit on approved notes, with interest at 6 per cent. per annum.

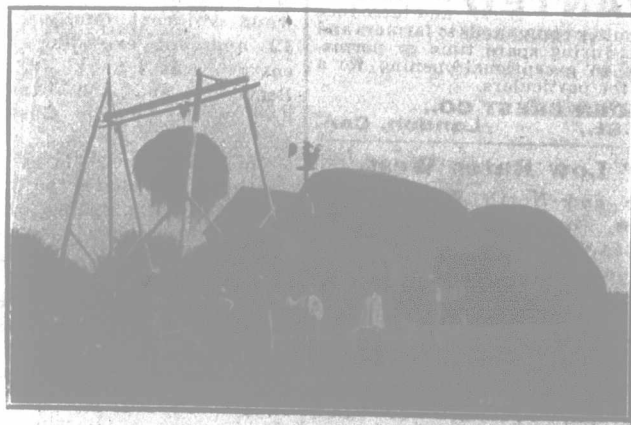
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Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement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

BARRED ROCK eggs for sale for hatching from well-bred stock. Heavy layers. Eggs, \$1 per 15. Percy Crockett, 36 Gunn St., West London, Ont.

BUFF ROCK eggs, \$1.50 for 15. Good hatch guaranteed. W. J. Hyatt, Petrolia, Ont.

BARRED ROCKS. Six large, well-bred pullets for sale, \$1 each. W. H. Biggar, Trafalgar, Ont.

BARRED ROCKS exclusively. Fine young cockerels. Eggs, \$1 per 15. Fred Anstou, Brighton.

BUFF ORPINGTON—Eggs \$1.50 per 15. All stock. Good hatch guaranteed. W. H. Biggar, Trafalgar, Ont.

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EGGS from choice White Wyandottes (Havkin strain) \$1.50 for fifteen. Stock for sale. Emerson Tufts, Box 718, Welland, Ont.

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EGGS FOR HATCHING.—Pure-bred stock; carefully selected. White Wyandottes and Buff Orpingtons. Settings \$1, or \$6.50 per hundred. Miss Beardmore, P. O. box 191, Toronto.

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EGGS for hatching—Mammoth Bronze turkeys, Silver-Gray Dorkings, Barred Rocks, from imported stock. Alfred E. Shore, White Oak, Ont.

EGGS FOR HATCHING.—Barred Rocks and Br. Leghorns. Prize birds. \$1 per 15 eggs. John A. Govenlock, Forest.

FOR SALE—Eggs for hatching from choice pens of White and Golden-Laced Wyandottes. R. H. Sanders, Box 22, Ealing, Ont.

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ONE VARIETY—Barred Plymouth Rocks. Eggs, \$1 a setting; \$5 a hundred. A few choice cockerels for sale. Miss Emily Spillbury, Coborne, Ont.

PEACHGROVE FARM.—Bronze turkey eggs from choice stock, \$3 per 15. Barred Rock incubator eggs, \$3 per hundred. Frank Baird, St. Thomas, Ont.

SNOW-WHITE WYANDOTTES (Duston and Balwin strains). Great winter layers. Eggs \$1 per setting, \$5 per hundred. Warranted fertile. F. Barnable, Don, Ontario.

WHITE Wyandottes exclusively. Choice quality and fine winter layers. W. D. Monkman, Bond Head, Ont.

WHITE Wyandotte eggs from select stock. Martin strain. Write for prices. A. Witmur, Berlin, Ont.

WHITE PLYMOUTH ROCK eggs, \$1 per 15. Good layers. Large stay-white strain. C. E. Smith, Scotland, Ontario.

WE HAVE FOR SALE now twenty White Wyandotte cockerels; also fifty White Leghorn cockerels, hens and pullets. All good stock. Prices reasonable. Eggs of both breeds \$1.50 per setting. For further information address: Fairacres Poultry Co. (T. B. Balfour, Manager), Gordon, Essex County, Ont.

187 EGG STRAIN Buff Orpingtons. Bred from England's greatest layers. Five years' experience breeding and importing. \$1 per 15; \$5 per 100. Everard Brown, Haysville, Ont.

MEN WANTED to advertise and introduce our stock and poultry compounds to farmers and dealers. Work during spare time or permanently. This is an exceptional opening for a hustler. Write for particulars.

GOLDEN CREST CO., 48 Bathurst St., London, Can.

Settlers' Low Rates West. The Chicago and North Western Ry. will sell low, one-way, second-class settlers' tickets, daily from Feb. 15th to April 7th, 1908, to points in Colorado, Utah, Montana, Nevada, Idaho, Oregon, Washington, California and British Columbia. Rate from Toronto to Vancouver, Victoria, New Westminster, B. C., Seattle, Wash., or Portland, Ore., \$42.25; to San Francisco or Los Angeles, Cal., \$44.00. Correspondingly low rates from all points in Canada. Choice of routes. Best of service. For full particulars and folders call on, or write, B. H. Bennett, General Agent, 9 East King St., Toronto, Ont.

GOSSIP.

H. J. Whittaker & Sons, North Williamsburg, Ont., write: "We have had a prosperous season, having sold 10 Ayrshire bulls and 8 cows since going into winter quarters. Have two young bulls still on hand, but expect them to go in a short time. We are booking orders at present for young calves and Buff Orpington eggs for hatching. Our stock are coming through the winter in fine shape, and we are looking for an increase in trade the coming year."

Bell Bros., "The Cedars" Stock Farm, Bradford, Ont., report the following recent sales of young Shorthorn bulls: "Bonnie Lad to Oldham & Brooks, Mt. Albert; Archer's Lad to Wm. Graham, Oro Station; Simcoe Archer =54950= to W. Wray, Schomberg, Ont. Also sold two Clydesdales and two yearling Shropshire ewes to T. E. M. Banting, Banting, Manitoba. Have yet for sale one dark roan bull, fourteen months old, a good one, by Queenston Archer =46898=. Would sell or exchange stock bull, Queenston Archer, by Derby (imp.) =32059= (160224), out of Veronica (imp.), by Brave Archer (70018), for a good imported bull, or one from imported dam and sire. He is three years old, a prizewinner, weighs 2,200 lbs., is active and sure; have a large number of heifers got by him, and cows are all in calf again to him."

Mr. H. J. Davis, Woodstock, Ont., has recently sold to Messrs. Thos. Barrett & Sons, Ridgetown, the ten-month-old imported Shorthorn bull calf, Aberdeen Prince (imp.), sired by Sittytown's Choice, bred by Mr. Duthie, and from a prize-winning cow of true Shorthorn character. This young bull is full of promise, being of the thick, short-legged character, with a very fine head and horn. The same firm purchased roan Conqueror, sired by Imp. Bapton Chancellor, by Silver Plate, dam Imp. Jessie. This young bull possesses many qualities of his sire, and is one of the best of our last season's crop of calves, and in the hands of his present owners he will be heard from later. To F. Woodward, Fernhill, a mossy-coated red bull calf, sired by Imp. Broadhooks Prince, dam Bertha (imp.), first-prize heifer at Aberdeen, 1904. He also shipped this week ten imported Yorkshire boars for the Dominion Department of Agriculture.

BIRMINGHAM SHORTHORN SHOW AND SALE.

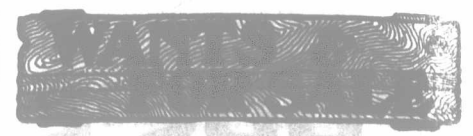
At the Birmingham (England) Shorthorn Show and Sale, March 7th to 9th, there was the enormous entry of 765 animals, over 400 of which were bulls. In the first class, for bulls 80 months or over, Mr. F. Platt's six-year-old, Blood Royal, was placed first; Mr. C. Bell's Royal Count, second. Bulls over 21 and not exceeding 30 months had 95 entries. Mr. J. W. Barnes' Warrior, of Hon. A. J. Balfour's breeding, was first, followed by Mr. H. Dudding's Royal Marksman, bred at Collynie. Bulls between 10 and 20 months were led by Mr. W. Taylor's Honest Florion, Mr. J. Handley's White Emperor being second, and Mr. W. Bell's entry third. Bulls over 18 and not over 21 months, 76 entries, were led by Messrs. Dyke's Duke of Barrington 66th. Bulls between 15 and 18 months, numbering 73 entries, found the first-prize winner in Mr. W. Bell's Baron Merry Beau, a nice roan of the Ingleswood Millicent family. The class over 12 and not exceeding 15 months, 159 entries, was led by Mr. Barnes' Harold Benedict, and the same exhibitor was first in the younger class, between 9 and 12 months.

Considering the large number in the auction sale list, the prices ran high, over 30 bulls selling at prices ranging from 100 guineas up to 850 guineas (\$4,472), the top price, paid by Mr. Preece for Mr. J. Graves' Good Gift, bred by Jas. Durno, of Jackston, the fourth-prize bull in the class between 21 and 30 months old, own-brother to the champion, Choice Goods. The second highest price, 750 guineas, was paid for Dyke Bros.' Duke of Barrington 66th by Mr. Miller for Argentina. Mr. Miller also paid 500 guineas for Mr. Barnes' Warrior, first-prize winner in class 21 to 30 months. The highest price for females was 150 guineas.

By an error in writing out the copy for advertisement of Mr. W. E. Wright, Glanworth, Ont., it was made to read Mammoth Bronze turkeys, instead of turkey eggs for sale. Mr. Wright has sold all the turkeys he can spare.

Mr. Thos. Skippen, Hyde Park, Ont., writes: "With 'The Farmer's Advocate' as a medium, I have recently sold my Hereford show and breeding bull, Keep On =1564=, illustrated in a former issue, to Mr. H. D. Smith, of Compton, Que. Mr. Smith is to be congratulated on securing so choice an individual, and in the hands he is in at present, this splendid animal will, doubtless, add to his already good reputation, both in the breeding herd and in the show-ring."

Mr. R. Keevil, Crampton, Ont., writes: "I was interested to read in a Chicago journal, Mr. David Messenger's remarks, in which he asks how it was so much attention was paid in reporting the Clydes at the Toronto Draft Horse Show, while no mention was made of the Shires, and goes on to say: 'I have just received a letter from England, giving an account of a Shire stallion, Locking Midnight, being hired for this season by Lord Northburn, of Bethaner, Kent County, for the use of his tenants only. He pays \$1,500 for the hire for this season, and all expense and groom. Service fee is to be \$25 per mare, foal or no foal. He stands 17 hands, and measures 18 inches below the knee. His dam's sire cost Lord Longatock 2,500 pounds, or \$12,500.' Mr. Messenger finishes his remarks by saying, 'all I ask is fair play for the massive, docile, gentle and powerful Shire.' The Chicago journal cover themselves by saying they took their reports from the Canadian papers. I don't know what paper they could have taken it from, but what I do know is that 'The Farmer's Advocate,' the principal Canadian horse journal, published a full account of the Shires as well as the Clydes. You will be interested to hear that the stallion, Locking Midnight, referred to above, is the property of Mr. Clement Keevil, whose son is now at Crampton, Ontario, in charge of an importation of high-class Shires from their noted Blagdon Stud, England, and among them is a fine young stallion by this noted Locking Midnight, also Medbourne Heirloom, prizewinner at the recent Toronto Show, etc. Owing to the exceptional qualities and AI breeding of the stallions sent out in this importation, they are selling remarkably well, for which I thank 'The Farmer's Advocate.'"



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

AGENTS WANTED for two great books. Just published. Exclusive territory given. Write now. William Briggs, Publisher, Toronto.

FOR RENT or will let on shares. One of the best farms in Temiscamingue District. Large clearing. Buildings. Pasture. Can use any machinery. 14 miles from good market. Good road, schools and churches. Telephone. State capability for working. Write at once. Geo. V. Slade, New Liskeard P. O., Ont.

FOR particulars of Nanton farm lands, write Loree & Campbell, Nanton, Alta.

FOR SALE—The right to manufacture fruit drier; works in connection with stove or register; handy, simple and effective; will last a lifetime. Particulars, Geo. McKay, Kilsyth.

FARM FOR SALE or rent. 160 acres—all cleared. Good buildings. Good soil. Fine lying farm. Well watered. Three miles from Kenilworth station. Richard Wright, Kenilworth.

FARM to rent in Red River Valley—640 acres; all fenced; 300 in cultivation; good buildings, good water, plenty of wood; within three miles of railroad station. Tenant must provide all his own equipment. Long lease to satisfactory tenant. Apply Box 44, Farmer's Advocate, Winnipeg, Man.

GATE LATCH, with adjustable keeper; patented in Canada and United States. Send 75 cents for sample, complete, except three common bolts. Reduction made on quantity. Alex. Murray, Woodstock, Ont., box 812.

HERBERT RASPBERRY.—Earliest, hardiest, largest, most productive, best-flavored red raspberry. Prof. Macon says: "Herbert considered best." Three plants, \$1. Renfrew Nurseries Co., Ltd., Renfrew, Ont.

HERDSMAN WANTED for small herd of Shorthorn cattle. Also a good teamster and farm hand, both single. None but honest, sober, industrious men need apply. References required. Scotchmen preferred. Apply to M. D. Ketchen, Swickley, Pa.

IMPROVED farms for sale in the Edmonton district. Candy & Co., Edmonton, Alta.

MARRIED MAN—On farm—Canadian preferred. State wages. Yearly engagement. Send references. Henry Sanders, Fairbank.

RED Deer Lands—For fall wheat and mixed farming lands come to Red Deer District, the centre of Central Alberta. Write for particulars. Michener & Carscallen, Red Deer, Alta.

WESTERN farm lands for sale. Correspondence solicited McKee & Demaray, Regina, Sask.

WANTED—MEN—Railroads in Canada, passenger brakemen, firemen, electric motor conductors. Experience unnecessary. Particulars for stamp. Dept. 75, Inter. Ry. Inst., Indianapolis, Ind., U. S. A.

200,000 Strawberry plants for sale. H. T. Stevens, Hillcrest Fruit Farm, Norwich, Ont.

50 PER DAY selling the "Auto-Spray." Best automatic hand sprayer made. Sample machine free to approved agents. Covers Bros., Galt.

\$12,000—300-acre block in Enniskillen. Over 100 acres ready for plow. Good water well. All windmill. And 60 steers. Pay as you please. Box 125, Petrolia.

For Sale: Two Ayrshire Bulls 9 and 15 months old, of choice breeding and quality. Price and terms easy.

Geo. McCormack, Rookton, Ontario.

WEDDING stationery. Young ladies who are interested in what is proper in the matter of stationery for weddings, should send for our booklet. Free for the asking. Latest type faces. Best imported stock. Lynn Side Press, Dept. 5, Simcoe, Ontario.

PROUSE & INNIS' CLYDESDALE SALE

The auction sale of 40 imported Clydesdale mares and fillies, advertised by Prouse & Innis to take place at Woodstock, Ont., on Friday, April 6th, will afford a fine opportunity to secure big, useful breeding and working mares of the best breeding and quality. These have been personally selected by one of the firm, with a view to meeting the wants of the trade in this country, and will fill the bill for size, type and quality. The importation left Scotland, March 17, and will arrive at Woodstock about April 1st. The time for preparation of catalogue, after the arrival of the mares, will be so short that it may not be possible to mail it in time to reach applicants before the sale; but, if so, no one need remain away on that account, as it is understood that all are registered, and pedigrees will be on hand on sale day. There is surely great need for many more good breeding mares in this country to raise stock to supply the urgent demand for heavy-draft horses, and the prospect for high prices for many years is practically assured.

Samson - Lock FENCE

appeals to all who want a fence that is extra strong, permanent, handsome and economical.

In the **SAMSON** system all laterals are No. 9 spiral coiled wire of the highest grade. The stays are No. 7 steel—hard, springy and heavily galvanized. The **Samson Lock** speaks for itself; it holds all the line wires rigidly in place. It holds more securely, and is many times stronger than any other fence lock yet produced.

Write for a sample and see for yourself.

The Samson Lock does not kink the lateral wire.

Locked Wire Fence Co., Limited.
LONDON, ONT.

Glengarry School Days.

(Continued from our "Home Magazine" Department.)

"Do you like him" asked Thomas, bluntly.

"Dunno. I'd like to, but he won't let you, somehow. Just smiles at you, and you feel kind of small."

The reports about the master were conflicting and disquieting, and although Hughie was himself doubtful, he stood up vehemently for him at home.

"But, Hughie," protested the minister, discussing these reports, "I am told that he actually smokes in school."

Hughie was silent. "Answer me! Does he smoke in school hours?"

"Well," confessed Hughie, reluctantly, "he does sometimes, but only after he gives us all our work to do."

"Smoke in school hours!" ejaculated Mrs. Murray, horrified.

"Well, what's the harm in that? Father smokes."

"But he doesn't smoke when he is preaching," said the mother.

"No, but he smokes right afterwards."

"But not in church."

"Well, perhaps not in church, but school's different. And anyway, he makes them read better, and write better, too," said Hughie, stoutly.

"Certainly," said his father, "he is a most remarkable man. A most unusual man."

"What about your sums, Hughie?" asked his mother.

"Don't know. He doesn't bother much with that sort of thing, and I'm just as glad."

"You ought really to speak to him about it," said Mrs. Murray, after Hughie had left the room.

"Well, my dear," said the minister, smiling, "you heard what Hughie said. It would be rather awkward for me to speak to him about smoking. I think, perhaps, you had better do it."

"I am afraid," said his wife, with a slight laugh, "it would be just as awkward for me. I wonder what those Friday afternoons of his mean," she continued.

"I am sure I don't know, but everywhere throughout the section I hear the children speak of them. We'll just drop in and see. I ought to visit the school, you know, very soon."

And so they did. The master was surprised, and for a moment appeared uncertain what to do. He offered to put the classes through their regular lessons, but at once there was a noisy outcry against this on the part of the school, which, however, was effectually and immediately quelled by the quiet suggestion on the master's part that anything but perfect order would be fatal to the programme. And upon the minister requesting that the usual exercises proceed, the master smilingly agreed.

"We make Friday afternoons," he said, "at once a kind of reward day for good work during the week, and an opportunity for the cultivation of some of the finer arts."

And certainly he was a master in this business. He had strong dramatic instincts, and a remarkable power to stimulate and draw forth the emotions.

When the programme of singing, recitations and violin-playing was finished, there were insistent calls on every side for "Mark Antony." It appeared to be the piece de resistance in the minds of the children.

"What does this mean?" inquired the minister, as the master stood smiling at his pupils.

"Oh, they are demanding a little high tragedy," he said, "which I sometimes give them. It assists in their reading lessons," he explained, apologetically, and with that he gave them what Hughie called, "that rig-

marole beginning, 'Friends, Romans, countrymen,' Mark Antony's immortal oration.

"Well," said the minister, as they drove away from the school, "what do you think of that, now?"

"Marvellous!" exclaimed his wife. "What dramatic power, what insight, what interpretation!"

"You may say so," exclaimed her husband. "What an actor he would make!"

"Yes," said his wife, "or what a minister he would make. I understand, now, his wonderful influence over Hughie, and I am afraid."

"O, he can't do Hughie any harm with things like that," replied her husband, emphatically.

"No, but Hughie now and then repeats some of his sayings about—about religion and religious convictions that I don't like. And then he is hanging about that Twentieth store altogether too much, and I fancied I noticed something strange about him last Friday evening when he came home so late."

"O, nonsense," said the minister. "His reputation has prejudiced you, and that is not fair, and your imagination does the rest."

"Well, it is a great pity that he should not do something with himself," replied his wife. "There are great possibilities in that young man."

"He does not take himself seriously enough," said her husband. "That is the chief trouble with him."

And this was apparently Jack Craven's opinion of himself, as is evident from his letter to his college friend, Ned Maitland.

"Dear Ned:

"For the last two months I have been seeking to adjust myself to my surroundings, and find it no easy business. I have struck the land of the Anakim, for the inhabitants are all of 'tremenjous' size, and, indeed, 'tremenjous' in all their ways, more particularly in their religion. Religion is all over the place. You are liable to come upon a boy anywhere perched on a fence corner with a New Testament in his hand, and on Sunday the 'tremenjousness' of their religion is overwhelming. Every other interest in life, as meat, drink, and dress, are purely incidental to the main business of the day, which is the delivering, hearing, and discussing of sermons.

"The padre, at whose house I am very happily quartered, is a 'tremenjous' preacher. He has visions, and gives them to me. He gives me chills, and thrills as well, and has discovered to me a conscience, a portion of my anatomy that I had no suspicion of possessing.

"The congregation is like the preacher. They will sit for two hours, and, after a break of a few minutes, they will sit again for two hours, listening to sermons; and even the interval is somewhat evenly divided between their bread and cheese in the churchyard and the discussion of the sermon they have just listened to. They are great on theology. One worthy old party tackled me on my views of the sermon we had just heard; after a little preliminary sparring I went to my corner. I often wonder in what continent I am.

"The school, a primitive little log affair, has much run to seed, but offers opportunity for repose. I shall avoid any unnecessary excitement in this connection.

"In private life the padre is really very decent. We have great smokes together, and talks. On all subjects he has very decided opinions, and in everything but religion, liberal views. I lure him into philosophic discussions, and overwhelm him with my newest and biggest metaphysical terms, which always reduce his enormous cocksurenness to more reasonable dimensions.

"The minister's wife is quite another proposition. She argues, too, but, unfortunately, she asks questions, in the meekest way possible, acknowledging her ignorance of my big terms, and insisting upon definitions and exact meanings, and then

(Continued on next page.)

Beware of Imitations!

If You Make Butter for Profit Use **WELLS, RICHARDSON & CO.'S IMPROVED BUTTER COLOR.**

Never allow a merchant or dealer to foist on you some poor substitute when you ask for Wells, Richardson & Co.'s Improved Butter Color. When you use Improved Butter Color your butter will command the highest market price. The Government creameries of Canada use Wells, Richardson & Co.'s Improved Butter Color; the prize buttermarkers of Canada and the United States will not allow any other kind in their creameries. No Mud or Impurities in Wells, Richardson & Co.'s Improved Butter Color. It gives the true June tint at all seasons.

UNION PACIFIC

The Short Line to **OREGON** and **WASHINGTON**

Every day, Feb. 15 to April 7, 1906. Colonist rates to all points in these States, from

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QUICKEST TIME

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J. O. GOODSSELL, Trav. Passenger Agent
14 James Bldg., Toronto, Ont.

SEED OATS FOR SALE.
Scottishman's Pride, \$3 per bush; in bag lots \$3.50 per bush, bags included. Yield 85 bush. per acre; test, 45 lbs. per bush. Write **John A. Govanlock, Forest, Ontario.**

\$9,000 Poultry Catalogue
40 kinds Turkeys, Geese, Ducks, Chickens, Poultry and eggs cheap. The grand catalogue, 32 large pages, 16 color plates, 1000 illustrations, etc. Send 10c for mailing catalogue. **Prepared by J. E. Robinson & Co., Box 21, Delavan, Wis.**

The Quincy Incubator, THE HATCHER YOU WANT.
Because it is easy to operate, being self-regulating, self-maintaining and self-cleaning. The ventilation is perfect. Nothing left to chance. Recommended by the U.S. Dept. of Ag.
30 DAYS TRIAL.
Don't fail to investigate the Quincy. It's the best incubator on the market. Prices low. Send for Free Catalogue. It will help make more poultry profit.
QUINCY INCUBATOR CO., Box 35, QUINCY, ILL.

CANADIAN PACIFIC

A CHEAP TRIP TO THE COAST

\$42.25 will buy a second-class one-way ticket from London to Vancouver, Victoria, Seattle, Tacoma or Portland any day now until April 7.

\$8.50 in addition will secure you a roomy berth in a clean and comfortable tourist car—right from Toronto to Vancouver without change. Bedding and cooking range and a smart porter in charge.

Also low rates to B. C. points. Secure tickets and

Full information at London offices: **W. Fulton, 131 Dundas St., J. Houston, C.P.R. Station,** or write **C. B. Foster, D.P.A., C.P.R., Toronto.**

"How do you like this weather?"
"Most disagreeable."
"And how's your wife?"
"Just the same, thanks."

ESTABLISHED 1869.

"Everything for the Garden, Greenhouse and Farm."

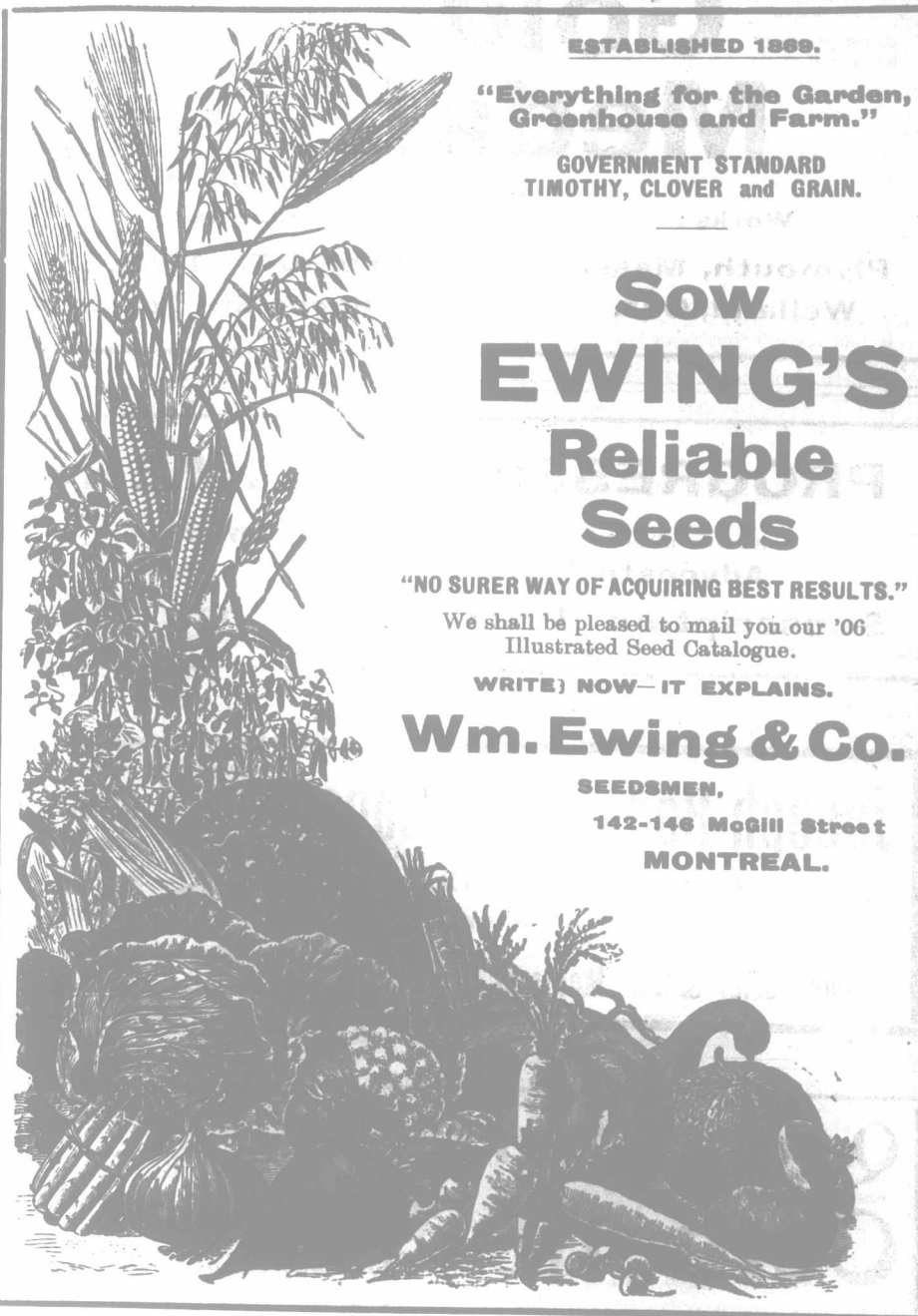
GOVERNMENT STANDARD **TIMOTHY, CLOVER and GRAIN.**

Sow EWING'S Reliable Seeds

"NO Surer Way of Acquiring Best Results."
We shall be pleased to mail you our '06 Illustrated Seed Catalogue.

WRITE NOW—IT EXPLAINS.

Wm. Ewing & Co.
SEEDSMEN,
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MONTREAL.



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"SUCCESS" MANURE SPREADER



Is the Result of 28 Years' Experience, and Is Now a Perfect Machine for this Work.

Is made in four sizes, with 30, 40, 50 and 70 bushels capacity.
Has the lightest draft of any spreader made—the direct chain-drive makes draft 25 per cent. less.
Drive chain is extra heavy and steel pinned—a link has never been known to break.
The Beater Freeing Device insures an easy and safe start, and dispenses with the cumbersome end-board.
The adjustable rake spreads the manure fine or coarse, as desired.
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Spreads all kinds of manure, lime, plaster, ashes, salt, fertilizers, etc., and will spread a load in from three to five minutes.
This is only a partial list of the good features of the "SUCCESS." Many more are explained in our catalogue. It's free. Write for it. Manufactured by

The PARIS PLOW COMPANY, Ltd.
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EASTERN AGENTS:
THE FROST & WOOD CO., LIMITED, Montreal, Quebec, St. John, Truro.

Plymouth Gold Medal

Let us know by post card if

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is **NOT** represented in your district. Agents wanted. Territory given.

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PROGRESSIVE FARMERS

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Joseph Rodgers & Sons
Limited,
SHEFFIELD, ENGLAND.

Please see that this EXACT MARK is on each blade.

James Hutten & Co., Montreal, SOLE AGENTS IN CANADA.

REGISTERED TRADE MARK



GRANTED 1882

Queenston Cement

Successfully used by the farmers of Ontario for over 20 years. Direct from manufacturer to consumer. Positively the best and cheapest cement you can buy. Get our prices, etc., before purchasing for 1906. All information cheerfully given. Write us.

Isaac Usher, Queenston, Ont.

it's all over with me. How she ever came to this far land, heaven knows, and none but heaven can explain such waste. Having no kindred soul to talk with, I fancy she enjoys conversation with myself (sic), revels in music, is transported to the fifth heaven by my performance on the violin, but evidently pities me, and regards me as dangerous. But, my dear Maitland, after a somewhat wide and varied experience of fine ladies, I give you my verdict that here, among the Anakim, and in this wild, woody land, is a lady fine and fair and saintly. She will bother me, I know. Her son, Hughie (he of the bear), of whom I told you, the lad with the face of an angel, and the temper of an angel, but of a different color—her son Hughie she must make into a scholar. And no wonder, for already he has attained a remarkable degree of excellence, by the grace, not of the little log school, however, I venture to say. His mother has been at him. But now she feels that something more is needed, and for that she turns to me. You will be able to see the humor of it, but not the pathos. She wants to make a man out of her boy, 'a noble, pure-hearted gentleman,' and this she lays upon me! Did I hear you laugh? Smile not, it is the most tragic of pathos. Upon me, Jack Craven, the despair of the professors, the terror of the watch, the—alas! you know only too well. My tongue clave to the roof of my mouth, and before I could cry, 'Heaven forbid that I should have a hand in the making of your boy!' she accepted my pledge to do her desire for her young angel with the other-angelic temper.

"And now, my dear Ned, is it for my sins that I am thus pursued? What is awaiting me I know not. What I shall do with the young cub I have not the ghostliest shadow of an idea. Shall I begin by thrashing him soundly? I have refrained so far; I hate the role of executioner. Or shall I teach him boxing? The gloves are a great educator, and are, at times, what the padre would call means of grace."

"But what will become of me? Shall I become prematurely aged, or shall I become a saint? Expect anything from your most devoted, but most sorely bored and perplexed, J. C."

CHAPTER XII.

The Downfall.

In one point the master was a great disappointment to Hughie; he could not be persuaded to play shinny. The usual challenge had come up from the front, with its more than usual insolence, and Hughie, who now ranked himself among the big boys, felt the shame and humiliation to be intolerable. By the most strenuous exertions he started the game going with the first fall of snow, but it was difficult to work up any enthusiasm for the game in the face of Foxy's very determined and weighty opposition, backed by the master's lazy indifference. For, in spite of Hughie's contempt and open sneers, Foxy had determined to reopen his store with new and glowing attractions. He seemed to have a larger command of capital than ever, and he added several very important departments to his financial undertaking.

The rivalry between Hughie and Foxy had become acute, but besides this, there was in Hughie's heart a pent-up fierceness and longing for revenge that he could with difficulty control. And though he felt pretty certain that in an encounter with Foxy he would come off second best, and though, in consequence, he delayed that encounter as long as possible, he never let Foxy suspect his fear of him, and waited with some anxiety, for the inevitable crisis.

Upon one thing Hughie was resolved, that the challenge from the front should be accepted, and that they should no longer bear the taint of cowardice, but should make a try, even though it meant certain defeat. His first step had been the organization of the shinny club. His next step was to awaken the interest of

the master. But in vain he enlarged upon the boastfulness and insolence of the Front; in vain he recounted the achievements of their heroes of old, who in those brave days had won victory and fame over all comers for their school and county; the master would not be roused to anything more than a languid interest in the game. And this was hardly to be wondered at, for shinny in the snow upon the roadway in front of the school was none too exciting. But from the day when the game was transferred to the mill-pond, one Saturday afternoon, when the North and South met in battle, the master's indifference vanished, for it turned out that he was an enthusiastic skater, and, as Hughie said, "a whirlwind on the ice."

After that day shinny was played only upon the ice, and the master, assuming the position of coach, instituted a more scientific style of game, and worked out a system of combined play that made even small boys dangerous opponents to boys twice their size and weight. Under his guidance, it was that the challenge to the Front was so worded as to make the contest a game on ice, and to limit the number of the team to eleven. Formerly the number had been somewhat indefinite, varying from fifteen to twenty, and the style of play a general melee. Hughie was made captain of the shinny team, and set himself, under the master's direction, to perfect their combination and team play.

The master's unexpected interest in the shinny game was the first and chief cause of Foxy's downfall as leader of the school, and if Hughie had possessed his soul in patience he might have enjoyed the spectacle of Foxy's overthrow without involving himself in the painful consequences which his thirst for vengeance and his vehement desire to accomplish Foxy's ruin brought upon him.

The story of the culmination of the rivalry between Hughie and Foxy is preserved in John Craven's second letter to his friend Edward Maitland. The letter also gives an account of the master's own undoing—an undoing which bore fruit to the end of his life.

"Dear Ned,—I hasten to correct the false impression my previous letter must have conveyed to you. It occurs to me that I suggested that this school afforded unrivalled opportunities for repose. Further acquaintance reveals to me the fact that it is the seething center of the most nerve-racking excitement. The life of the school is reflected in the life of the community, and the throbs of excitement that vibrate from the school are felt in every home of the section. We are in the thick of preparations for a deadly contest with the insolent, beighted, boastful, but hitherto triumphant Front, in the matter of shinny. You know my antipathy to violent sports, and you will find some difficulty in picturing me an enthusiastic trainer and general director of the Twentieth team, lying about, wildly gesticulating with a club, and shrieking orders, imprecations, cautions, encouragements, in the most frantic manner, at as furious a company of little devils as ever went joyously to battle.

"Then, as if this were not excitement enough, I am made the unwitting spectator of a truly Homeric contest, bloodier by far than any of those fought on the plains of windy Troy, between the rival leaders of the school, to wit, Hughie of the Angelic face and other angelic temper, and an older and much heavier boy, who rejoices in the cognomen of 'Foxy,' as being accurately descriptive at once of the brilliance of his foliage and of his financial tactics.

"It appears that for many months this rivalry has existed, but I am convinced that there is more in the struggle than appears on the surface. There is some dark and deadly mystery behind it all that only adds, of course, to the thrilling interest it holds for me.

(To be continued.)

QUESTIONS AND ANSWERS.
Miscellaneous.

PROPERTY IN TREES.

A rented farm to B; B not allowed to remove cedar off farm. C then bought the farm from A. Some cedar trees fell in on B, which he cut off at the line, also at the stump, rolling the balance on his side of the line. Could C claim those trees, this being done before B's time was out, and after A sold place to C?
Ans.—No.

NON-PAYMENT OF WAGES.

A hired with B for a year for \$225. A dispute arose over their work on different occasions, and, as a consequence, B threatened to reduce A's wages. At the end of the year, he paid him \$175, and now refuses to pay the rest. Can he legally do so?
FAIRNESS.
Ont.
Ans.—No.

A PURCHASE OF TIMBER.

A goes to B and buys all lying timber, except cedar, on a vacant lot belonging to B. B sells said lot to C before A gets all timber off, and without giving A any warning or notice. A's agreement with B was but a verbal one, but B's wife and son heard the agreement. There was no limited time stated to have said timber off. What course should A take?
ONTARIO.

Ans.—A is probably still entitled to the timber, but he ought to remove it without any further delay. He was entitled by the agreement to a reasonable time only for its removal, and non-removal within that period might be regarded as evidence of abandonment by him—of his right to the balance.

A STALE CLAIM.

A and B's farms join each other. About eight years ago there was a tree growing in the neighborhood of the line, probably a few feet on B's side of the line, if staked out. Said tree fell in on A's side, bringing with it another tree. Said tree laid for six or eight months. So A, when cutting his wood, cut the tree, not trespassing the least on B's side of the line, nor removing the tree to do so. B, then, shortly afterwards, hinted that the tree belonged to him, but took no steps to claim wood. Can B now claim pay for the tree?
Ont.

Ans.—B was, at the outset, entitled to the fallen tree in question, and could legally have removed same; but he did not choose to do so, and at this late date we consider that he is not in a position to legally claim payment for it.

GOSSIP.

SALE OF THE ROYAL SHORTHORNS.

Canadians will be gratified to learn of the successful result of the sale, held at Wolferton, at which the three-year-old, two-year-old and one-year-old heifers and bulls from the Sandringham Herd of the King were sold by Messrs. J. Thornton & Co., on March 6th. Three heifers, born in 1902, averaged £51 2s.; Gloaming and her heifer calf realizing the top price, 80 guineas, Messrs. S. E. Dean & Sons taking the cow, and Mr. R. W. Hudson the calf, at 40 guineas each. Lord Wolverton and Mr. H. Dudding gave 33 guineas each for the other two heifers. Ten heifers, born in 1903, with one calf, realized an average of £72 6s. 10d. Mr. F. Miller, for the Argentine, got King Cup, a splendid roan, by Pride of Clippers, at 185 guineas, the top price of the females. Mr. Andre, also for the Argentine, paid 130 guineas for Chrystal Constance, and the same purchaser took Griselda and her bull calf at 78 guineas. The top price of the twenty-three heifers born in 1904, was 130 guineas, paid by Sir Oswald Mosley and Mr. Andre, for Duchess of Craggs and Lancastrian Baroness, respectively. Messrs. Dean & Sons got a grand heifer, at 85 guineas, in Oxford May. Lord Sherborne took Lassie at 56 guineas, and Lord Calthorpe, Baroness Cinderella at 63 guineas. Nine of the older bulls averaged £109 8s. 8d. Mr. Andre, for the Argentine, it is thought, took Pride of Sunshine, a grand roan bull, at 400 guineas. Mr. Gravins gave 160 guineas for Heirloom; Captain Whitting, 100 guineas for King's Guard, and Mr. Stackburn, 81 guineas for Clipper Guard. The younger bulls, six in num-

ber, realized prices that averaged out at £36 4s. 6d. The general average for 51 head sold was £61 1s. 6d.

A NEW IMPORTATION OF CLYDESDALES AND HACKNEYS.

Mr. W. J. McCallum, Brampton, Ont., writes: "My first importation of Clydesdales and Hackneys will arrive here on Tuesday, March 26th, if weather permits. They were selected by two of the best judges in Ontario. The Clydesdales, young stallions and fillies, weigh from 1,500 to 1,700 pounds. They are got by such sires as Baron's Pride, Hiawatha, Marcellus, Sir Simon, Royal Chattan, Sir Hugo, Pride of Blacou, and Baron o' Buchlyvie. Anyone wanting such horses will need be on hand, as their quality is ahead of anything ever imported to this country. Watch for advertisement next week."

During the period from March 1st to March 15th, 1906, records made by 90 Holstein-Friesian cows have been accepted, four of which were begun more than eight months after freshening. All made seven-day records, six made thirty-day, two made fourteen-day, and five made records varying in length from twenty-one to forty-one days. The averages, by ages, were as follows:

Thirty-seven full-aged cows averaged: age, 6 years 10 months 14 days; days from calving, 24; milk, 417.2 lbs.; per cent. fat, 3.42; fat, 14.289 lbs. Nine four-year-olds averaged: age, 4 years 5 months 10 days; days from calving, 27; milk, 397.7 lbs.; per cent. fat, 3.32; fat, 13.232 lbs. Eleven three-year-olds averaged: age, 3 years 8 months; days from calving, 38; milk, 412.1 lbs.; per cent. fat, 3.55; fat, 14.612 lbs. Twenty-nine heifers classed as two-year-olds averaged: age, 2 years 4 months 2 days; days from calving, 21; milk, 298.5 lbs.; per cent. fat, 3.36; fat, 10.03 lbs.

Two miles east of Dutton, on the M. C. R. and P. M. Railways, lies Greenock Stoch Farm, the property of John McFarlane and W. H. Ford, breeders of Shorthorn cattle, Oxford Down and Lincoln sheep, Berkshire swine and Clydesdale horses. For a number of years these breeders' attention has been centered on their splendid herd of Shorthorns, which now number about 40 head, representing such noted and fashionable families as Marr Beautys, Crimson Flowers, Strathallans, Strawberries, Floras and Berthas, many of which are noted for their heavy-milking qualities; others are the heavy-fleshed kind. At the head of the herd is the royally-bred and up-to-date bull, Royal Prince (imp.), bred by A. Campbell, sired by the great Golden Fame. Second in service is Abbotsford Star, which is a noted bull, his sire being Evening Star, which was purchased for Argentina at a long figure, and his dam, Lady Hess, by Abbotsford Star 2nd (imp.), a Duthie-bred bull. Among the females are several imported ones. They are richly bred, being from such noted sires as Imp. Royal Prince, Prince of Archers, Abbotsford Star, Sol. Prince and others. Choice Lustre (imp.), a very noted cow of a family bred by Duke of Northumberland, has a dark red bull calf named Choice Goods. Tidy Lass (imp.), by Morello, a Duthie-bred bull, also has a nice bull calf by her side, by Royal Prince. Another cow, worthy of note, is Alexandria (imp.), of the Marr Alexandria family, which has a beautiful bull calf by her side; also Lustre's Choice, a very fine heifer, sire being Nonpareil Archer. There are a number of other females which are good ones. There are for sale bull calves from six to fourteen months old, from imported dams and sires. The recent sales are: A roan bull to Charles Ford, a red one to Alexander Erskine, and a beautiful dark red bull of exceptionally good quality, fit to head any herd, namely, Royal McDonald, being from Royal Prince, to Alexander Kelly, of Rodney, Ont. We have also sold to Herbert Clark, Iona, our Berkshire stock pig, Colins, and a number of Oxford Down sheep to H. D. McLoughry, of Markdale, Ont.

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Dear Sir,—

After trying an incubator for two years, and spoiling eight hatches of eggs, I threw the incubator away in disgust, never meaning to try again, knowing that it was not the fault of the eggs, as I raised over 400 under hens. Last December I read Chas. A. Cyphers' book, "Incubation and Its Natural Laws," after which I ordered a Model, which I had to work under trying conditions. First, I only had eggs from pullets mated with cockerels, mated up only five days before I set incubator. Second, the location in a room that varied from 65 to 28; for two days and nights the temperature was at 30 to 32, and your Model only lost one-half degree—from 103 to 102. The results are just grand. Out of 71 eggs I got 65 of the strongest chicks I ever saw. All came out on the 20th of February, 1906, within five hours of each other. Two of the eggs I broke. The other four must have died about the 16th day (weak germ). They are now all safe in a Model Colony Brooder, and all 65 as healthy and well as though it were summer. Temperature inside brooder steady night and day at 90. Outside blowing and snowing as hard as it can.
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AGENTS WANTED EVERYWHERE.

When Writing, Mention this Paper.

The Union Trust Co., Ltd.
TEMPLE BUILDING, TORONTO.

GOSSIP.

Mr. W. B. Roberts, Sparta, Ont., writes: "The seed corn 'Smut Nose,' advertised in another column of this issue, is thoroughly dried and tested. Those who want good corn for silage and feed will find it good and early for the northern parts."

GLEN PARK SHORTHORNS.

Glen Park Stock Farm is the property of Mr. W. Doherty, the well-known piano and organ manufacturer of Clinton, Ont. A few years ago, as a diversion from the strenuous duties incident to looking after his large manufacturing business, Mr. Doherty decided to go into the breeding of Shorthorn cattle, and to that end purchased a number of high-class animals, bred on fashionable lines, and up-to-date in type, representing such noted families as the Stamfords, Jilts, Winsome Beautys, Wimples, Matchlesses, Nonpareils and Rosedales, the get of such noted bulls as Lord James (imp.), Fancy's Pride (imp.), Broadhook's Golden Fame (imp.), Royal Emperor (imp.), Royal Don (imp.), Baron Camperdown (imp.) and Village Squire, breeding unexcelled in the herdbooks and individually—an exceedingly nice lot of the thick-fleshed, early-maturing, good-doing sort. The present stock bull is Imp. Pride of Scotland, bred by Mr. A. Watson, of Aberdeenshire, sired by the Crescent-bred bull, Clifton, by Prince of Fashion, by Scottish Archer, dam Roan Bessie, by Sittytown Sort, by Gondomar. Pride of Scotland is about as near perfection as any bull we have seen in our travels—very evenly fleshed, thick, straight-lined, with smooth shoulders and level quarters and a model head, full of character, a soft, mossy handler, and as a sire has few equals. We look for excellent results from such a sire on the herd. In young bulls there is an eleven-months-old red, by Imp. Scottish Peer, out of Clinton Jilt, by Royal Emperor (imp.), and another ten-months-old red, by Imp. Fancy's Pride, out of Matchless Royal, by Imp. Royal Don. These are an excellent pair, and will develop into useful sires. There are also several heifers, two of them being twins, by Broadhook's Golden Fame (imp.), and out of Nonpareil 78th, as near alike as two pins. Another is a two-year-old Jilt, a very thick-fleshed heifer; one, a yearling roan Duchess of Gloster, the making of something extra. Another is a roan yearling, Winsome Beauty. Any of these are for sale. Mr. Doherty has just got out a new catalogue of his herd (tabulated, descriptive and illustrative), which is the most complete we have seen, and, we think, should this form of catalogue become general, it would be a great convenience to purchasers, as it would entirely do away with the inconvenience of looking up the herdbooks to trace a sire's breeding.

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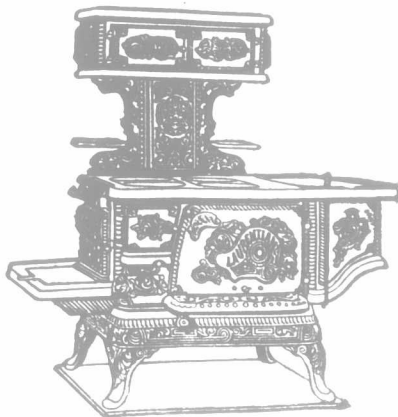
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ADVERTISE IN THE ADVOCATE.

GOSSIP.

"I wish to give a present to a young lady. Can you suggest something that's cheap, but doesn't exactly appear so?"
"Take a look at this mirror, sir!"

Here is the latest automobile story: A physician started a model insane asylum, and set apart one ward especially for crazy motorists and chauffeurs. Taking a friend through the building, he pointed out with particular pride the automobile ward, and called attention to its elegant furnishings and equipment.

"But," said the friend, "the place is empty; I don't see any patients."
"Oh, they are all under the cots fixing the slats," explained the physician.

Mr. J. A. Lattimer, of Woodstock, Ont., writes: "Since last writing, we have made the following sales of Shorthorns: To Mr. Wm. Cole, Glen Williams, the Kinellar Mina bull, sired by Bapton Chancellor (imp.). Mr. F. W. Ramsay, Warden of Haldimand Co., paid us a visit, came intending to buy the Mina bull, but, as he was already sold, we were fortunate in securing just what Mr. Ramsay was looking for from Mr. J. Gibb, an extra good red calf, just past a year old, and exceedingly well bred, being sired by Brave Ythan (imp.), and from Rustic Beauty (imp.), by Clan Alpine. We still have for sale two Scotch-topped bulls, nearly a year old, a dark red and a roan, both are sired by imported bulls, and are from heavy-milking dams, and will be sold at prices within reach of all. We have recently added to our herd two young females; one, a Kinellar Ury, sired by Chief of Stars (imp.); the other, a Cruickshank Mysie, by Rosy Morning (imp.)."

THE OWEN SOUND SHORTHORN SALE.

The catalogue of the clearing sale, on April 4th, of Shorthorn cattle and Clydesdale stallions, mares and fillies, belonging to Messrs. W. J. Shean & Co., of Owen Sound, Ont., shows that the stock is exceedingly well bred. The Shorthorns number 39 head, not including young calves. Thirty of these are females, and nine are bulls, including the herd bull, Imp. Derby, a massive roan, of the Cruickshank Secret tribe, thick-fleshed and full of quality, and a proven sire of the first rank. Among the young bulls is the seventeen-months-old Missie Marquis, a roan son of the Marr-bred Marquis of Zenda, and on his dam's side of the Uppermill Missie tribe. Village Lavender will be a year old the day after the sale. He is a roan son of Imp. Langford Eclipse, of the Cruickshank Lavender family, sold for \$1,425 at the dispersion sale of the late Mr. John Miller's herd. On his dam's side, this young bull is of the Cruickshank Village family, one of the best breeding tribes bred at Sittytown. Derby's Missie, a dark roan nine-months-old calf, is a son of Imp. Derby, and his dam is of the famous Marr Missie tribe. Among the females is the Marr Flora cow, Flora, by Highfield Prince, by Imp. Prince Louis, a richly-bred Cruickshank Lancaster. Another richly-bred cow of the same family is Snowball, a white three-year-old daughter of Prince Claret, of the excellent Kinellar tribe of that name. Melrose Queen is another of the Missie tribe, by Imp. Grand Sweep, of the prizewinning Ythan tribe. Of the favorite Marr Roan Lady family is the roan five-year-old, Orange Blossom 2nd (imp.), by Scottish Prince. She is due to calve before the sale to service of Imp. Derby, and should prove a very attractive number. The imported five-year-old cow, Sweet Briar, of the Duke of Richmond's favorite Marchioness family, is richly bred, and should be eagerly sought after. Salem Stamford, a roan cow, of the Marr Stamford tribe, is also bred in the purple, as also is Village Lairy 2nd, of the Cruickshank Village family. Buchan Lassie (imp.) is a roan five-year-old of the best Scotch breeding, and she has a nice red yearling daughter in the sale, by Imp. Famous Pride. These are but sample numbers of the offering, but sufficient to indicate the character of the herd.

The Clydesdales number 10, principally young mares and fillies, three of which are supported, and the others by noted imported sires, such as Macqueen, Monarch, Chief, Harmony and Prince of



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One imported aged bull, grandly bred and a great sire.
One imported bull, three years old, a show bull and good sire.
Four good big young bulls, from imported sires and dams, the kind we all want.
Three young bulls, with size and substance to get great feeders. Price very low.
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Will import **Show and Breeding Sheep** of all the mutton breeds, and am taking orders now.

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GOSSIP.

QUEENSTON SHORTHORNS.

One of the leading herds of high-class Ontario Shorthorns is the Queenston Heights herd, the property of Mr. Hudson Usher, whose beautiful farm lies on Queenston Heights overlooking Niagara plains and river. This splendid herd at present number 35 head, nearly all of the Bessie, Veronica and Nonpareil tribes, and another strain tracing to Imp. Louisiana; practically all the younger ones being sired by that prince of sires, Imp. Derby, a Cruickshank Secret, without doubt one of the greatest stock bulls ever imported to Canada. The present stock bull is the Bessie-bred youngster, Queenston Comet, by Imp. Derby, dam Bessie's Maid, by Imp. Royal Prince. This is the thickest, nicest-quality bull we have seen, and will certainly be a show bull of a high order. For sale, there is only one bull of serviceable age, Queenston Chief 3rd, by Imp. Derby, dam Monument Rose, by Mysie's Chief, a grandson of Indian Chief (imp.). He is eighteen months of age, will weigh 1,700 lbs., very evenly built, of grand quality, put up in proper shape at both ends—an all-round good one—and he can be bought right. There are several nice young bulls coming on, about five months of age, two of them sired by Queenston Montalis, a son of Lord Montalis, and another sired by Queenston Silver, a son of Imp. Derby; rare, nice youngsters that give promise of being the right type. Among the many good females is Imp. Veronica, a daughter of the \$5,000 bull, Brave Archer. There is a splendid yearling heifer out of her, by Imp. Derby, and a bull calf at foot, by Queenston Montalis. There are also several extra good heifers, all by Derby, and out of Bessie and Mina dams, and one out of a Nonpareil dam. All the herd are recorded in the American herdbook, and are in the pink of condition. Mr. Usher reports the demand for high-class Shorthorns as in an exceedingly healthy condition. The herd is a high-class one, and anything can be bought.

Mr. H. Noel Gibson, manager of Tuleyries Farm, White Post, Va., writes "The Farmer's Advocate": "This farm, which is owned by Graham F. Blandy, Esq., contains in all 1,000 acres. It is one of the famous old Southern places that we have all heard so much about, and Mr. Blandy showed his keen foresight when he made this place his home. Land here is all being settled by good men from nearly every part of the United States, and is worth from \$100 to \$150 per acre. The land, which is rolling, is especially adapted to the growing of corn, wheat and clover. It is Mr. Blandy's intention to make this the foremost stock farm of the South. "The Shropshires, which were purchased from Mr. Wardwell, number some fifty head. Their breeding is second to none, having for their sires the best rams in the flocks of Wardwell and Davison. The Berkshires are from the herds of the Vanderbilt and Gedney farms, and are as good as money could buy. But what Mr. Blandy was most desirous of doing was to establish a herd of Herefords, not only the best in the South, but equal to any in the Union. With this end in view he has purchased the entire Rosemont Herd from C. E. Clapp, Esq., Berryville, Va. This herd, in addition to what he already had purchased from W. G. Conrad, of Va. and Montana, places him in a position to cope with any breeder on the continent. The herd numbers in all about 100 head. The stock bulls are Acrobat, one of the greatest living Hereford sires, for which \$8,500 was paid when ten years old; Christmas Beau Donald, one of the best sons of that famous old sire, Beau Donald, and out of an Acrobat cow; Marquis of Salisbury 16th, sired by Imp. Salisbury, and out of Shadeland Amber, by Earl of Shadeland 22nd. These are three stock bulls that have proven themselves worthy sires. I like this part very much. The scenery is simply beautiful. I hope some day to bring a herd over to Toronto and London shows, just to let the boys see what we have down here in Virginia."

Messrs. Jas. Hewer & Son, Guelph, Ont., have an advertisement of a large variety of seed grain, potatoes, etc., in this issue. Look it up.

Attention is directed to the auction sale, on April 4th, advertised in this issue, of pure-bred registered Yorkshires, farm and other farm stock, by Geo. M. Smith, Haysville, Waterloo Co., Ont., New Hamburg and Bright station, where trains will be met on morning of sale. Yorkshire hogs, dairy stock and land are in great demand, and this will afford a rare opportunity for securing good value for the money invested, with quick returns.

Attention is again called to the auction sale on April 6th of 20 head of pure-bred Aberdeen-Angus cattle, belonging to Mr. J. W. Burt, Coningsby, Ont., near Erin Station (C. P. R., Orangeville and Elora branch), where trains will be met the morning of sale. These hornless cattle are high-class beef producers, early-maturing, good feeders, fattening rapidly on grass, shipping well and selling for the highest market prices.

Mr. H. W. Truman, Manager London, Ont., branch of Trumans' Pioneer Stud, writes: "I am glad to say that our last importation arrived in fine condition, and are all fit and ready for sale. Our barns are full of choice ones, which will be sold at reasonable prices for the next 30 days. I have just sold to Mr. T. A. Petz, Capac, Mich., the fine dappled-bay Clydesdale stallion, Warrior Rover (2835), to head his stud of registered Clydesdale mares, and he should certainly improve the stock where he is going, as he has great style and action, and weighs 2,010 lbs. Business is very brisk just now for the right kind."

The London Hackney Show.

At the London (England) Hackney Show, March 6 to 9, the number of entries was 660, constituting a record heretofore unequalled. In the class for stallions five years or over, and over 15 hands 2 in., the eight-year-old chestnut, horse, Diplomatist, the champion of last year, shown by Mr. Iain Ramsay, Inverurie, Scotland, was placed first, followed by Mr. A. Benson's seven-year-old chestnut, Copper King; Mr. Waterhouse's seven-year-old chestnut, Forest Star, and Mr. Buttle's five-year-old chestnut, Kirkburn Toreador, in the order named. Stallions five years and over, not exceeding 15 hands 2 in., were led by Mr. T. C. McKibbin's Langton, followed by Sir Walter Gilbey's Bonny Danegelt, Mr. Bennington's Dalton King, Messrs. Frohock & Son's Prickwillow Connaught, and Mr. Dale's Bassett Squire. In stallions four years old, over 15 hands, 2 inches, Sir Walter Gilbey was first with Kirkburn Sensation, a chestnut son of Rosador. Mr. Wray, second with Warrington; Mr. Batchelor, third with Hopwood Admiral. In stallions three years old, over 15 hands 1 inch, Mr. C. Robinson was first with Craven Monte Carlo; Mr. Cliff, second with New Gold; Mr. Haley, third with Yapham Matchless. In three-year-old stallions, not over 15 hands 1 inch, Sir Walter Gilbey was first with Dashing Lad; Mr. Waud, second with Ferniehurst Bridegroom; Mr. Lysaght, third with Royal Ophelion. In stallions two years old, Mr. A. Hall won first with Copmanthorpe Performer; Mr. R. P. Evans, second with Gartonius; Mr. McAlister, third with Dictator of Inverness, and Sir Walter Gilbey, fourth with Bouncing Danegelt.

The championship for best stallion went to Mr. Ramsay's Diplomatist, by His Majesty, dam Garton Birthday, the reserve being Mr. Benson's Copper King, by Mathias, dam Primrose. The championship cup for the best mare went to Mr. R. W. Jay's Knowle Halma, a dark chestnut, by His Majesty. She was the first-prize winner in the class four years and over, exceeding 15 hands 2 inches. The reserve champion was Mr. F. W. Buttle's Boquhan Sunrise, the first-prize three-year-old mare, over 15 hands, a chestnut, by Rosador.

The former champion, Rosadora, was barred from this competition, having twice won the trophy, but she won the adult mare cup, for mares four years old and over, exceeding 15 hands 2 inches, in foal, or with foal at foot. Knowle Halma was second in this class, and Knowle Belinda, third.

What Colds Lead To.

NOT THE LUNGS ONLY, BUT EVERY ORGAN OF THE BODY IN DANGER FROM NEGLECTED COLDS.

DR. CHASE'S SYRUP OF LINSEED AND TURPENTINE

Most people know that such ailments as pneumonia and consumption have their beginning in a cold, but all do not realize that other vital organs of the body are almost equally liable.

Not infrequently colds settle on the liver and kidneys, causing serious disease of these organs.

In other cases, colds hang on until the system is run down and exhausted, and so left in a fit state to fall prey to contagious diseases.

The only safe way is to speedily get rid of all colds before they become fastened on the system.

This can best be accomplished by the use of Dr. Chase's Syrup of Linseed and Turpentine.

This medicine has come to be considered indispensable in the home as a cure for colds, bronchitis, croup, asthma and whooping cough.

Mr. John Clark, coachman, Port Hope, Ont., writes: "Being exposed to all sorts of weather, I frequently catch cold. Last winter I was so bad with a cold that I could not speak above a whisper, and had great pains in the chest. At last I feared it would develop into consumption if I did not succeed in getting proper treatment. A friend advised me to try Dr. Chase's Syrup of Linseed and Turpentine, and I began to improve before I had taken half a bottle. One bottle cured my cold, which, I believe, would have proven very serious if I had not used this medicine."

Dr. Chase's Syrup of Linseed and Turpentine, 25 cents a bottle, at all dealers, or Edmanson, Bates & Co., Toronto. To protect you against imitations, the portrait and signature of Dr. A. W. Chase, the famous recipe-book author, are on every bottle.

Asthma CURED TO STAY CURED.

We give prompt relief and permanent freedom from Asthma. Our latest Book, No. 57F, will be mailed on request.

DR. HAYES, Buffalo, N. Y.

CLYDESDALE COLT

Earl of Columbus (6532), bay, rising two years; sire Pearl of Burnhead, imp. (3745) (10830). In good growing condition, clean bone, good disposition. Write or call on

JOS. W. HOLMAN, Columbus, Ont.
Brooklin Stn., G.T.R.; Myrtle, C.P.R.

For Sale: A grand registered CLYDESDALE Bay, Small strip. Two white feet. Sound and sure foot-getter. Come and see his stock. Apply to **Ryan Bros. & Switzer, Riceville, Ont.**

CLYDESDALES

Imported Clyde stallions for sale. The choicest breeding and good individuals. Prices low for good horses.

ALEX. McGREGOR, Uxbridge, Ontario.

23 Imported Clydesdale Stallions

for sale; also 6 Hackney Stallions. Inspection invited and prices right.

O. SORBY, GUELPH, ONTARIO.

For Sale: Clydesdale Stallion, Rob Roy (2392), 9 years old, color black, face, right fore foot and both hind feet white; good style and action, and an A1 stock horse.

A. S. MORRISON, V.S., Chesterville, Ont.

ADVERTISE IN THE ADVOCATE.

Fistula and Poll Evil



Any person, however inexperienced, can readily cure either disease with Fleming's

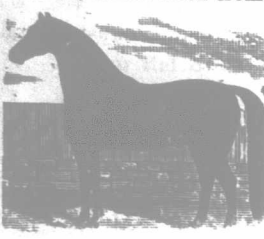
Fleming's Fistula and Poll Evil Cure

—even bad old cases that skilled doctors have abandoned. Easy and simple; no cutting; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in Fleming's Vest-Pocket Veterinary Advisor. Write us for a free copy. Fifty-six pages, covering more than a hundred veterinary subjects. Durable bound, indexed and illustrated.

FLEMING BROS., Chemists, 45 Church Street, Toronto, Ontario

Dr. Page's English Spavin Cure.

For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements. This preparation (unlike others) acts by absorbing rather than blistering. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by Dr. Fredrick A. Page & Son, 7 and 9 Yorkshire Road, London, E. C. Mailed to any address upon receipt of price, \$1.00. Canadian agents: om



J. A. JOHNSTON & CO., Druggists, 171 King St. E., Toronto, Ont.

HACKNEYS and CLYDESDALES



From such noted champions as Baron's Pride, Hiawatha, Marcellus, Macgregor, Baron's Fashion and Lord Lothian, etc. Inspection invited.

For fuller description and prices, write **T. H. HASSARD, Millbrook, Ont.**

NEW IMPORTATION

I have landed one of the best importations of

CLYDESDALES, SHIRES and HACKNEY STALLIONS,

males and fillies ever landed in America. They are got by such sires as Baron's Pride, Everlasting, Up-to-Time, Marcellus, Pride of Beacon and others, Scotland's greatest sires. Mares and fillies all bred in Scotland to the best sires obtainable. Have size and quantity, and I am offering these at just one half less than other importers are asking for theirs. For full particulars write

DUGALD ROSS, Streetsville, Ontario.

J. A. LATTIMER, box 16, Woodstock, Ont.

BREEDER OF

Clydesdales and Shorthorns

Has now to offer some good young bulls, sired by Imp. Bapton Chancellor. Speak quick if in need of such, as they will soon go at the price asked.

My motto: "The Best is None too Good." Imported and home-bred Clydesdale and Shire Horses, Scotch Shorthorn Cattle, Leicester Sheep. A choice lot of reg. fillies and Shorthorn calves to choose from. Our stock exhibited have won the highest honors at the largest shows in America.

WESTON P.O., C.P.R. and G.T.R. 10 miles west Toronto. Telephone at house and farm.

J. M. GARDHOUSE.

Shire Stallions (Imp.)—A few stallions of this excellent breed for sale. Easy terms. These horses are great individuals, immense weight, and the best blood in England.

J. JACOBS, Sawdon House, Peterboro, Ont.

For Sale Clydesdale Stallions rising four and five years, one 2,100 lbs. Both choicely bred, sound and sure getters.

Wm. Meharey, Russell, Ontario

QUESTIONS AND ANSWERS. Miscellaneous.

QUANTITY OF CEMENT.

What quantity of Portland cement will it require for one cubic yard of concrete, proportions being 1, 3, 6?

P. M. S.
Ans.—A cubic yard of concrete, mixed 1, 3, 6, would require a trifle less than a barrel of cement.

PROTECTING TREES AGAINST MICE.

Will tar paper hurt young trees when wrapped about the trunks (two feet up) to protect from mice? If it is injurious, what is a good thing to prevent mice from girdling the trees?

J. F. S.
Ans.—Tar paper is liable to injure the bark, especially of young trees, if tied on, or if left on in warm weather. Wooden veneer, wrapped loosely about the trunk and tied, is, probably, the best means of protection, and is at the same time an excellent preventive of sunscald. Ordinary building paper may be used; it is cheap, but not considered of much value to protect against sunscald. A mound of earth about a foot high around the base of the trunk will often turn mice, and even careful and timely tramping of snow has proved effectual.

WILL BEES ACCEPT SULPHUR-SMOKED COMBS?

1. Will bees accept combs this summer that were smoked with sulphur last fall for moths?
2. Is this winter hard on bees that are being wintered outside? In this part they are flying about every week.

J. A. P.
Ans.—1. Yes; but would not recommend hiving swarms on them, as, if they smell of sulphur, it might cause swarm to leave them. Give them to established colonies.

2. Not necessarily; but when bees fly, as mentioned, they consume much more honey than when cold weather keeps them quiet through the winter, and unless well supplied there is danger of starvation. Slip a comb of honey into the hive in place of an empty comb, or lay a cake of sugar candy on top of frames, if they appear short. Be sure you give them enough, or a little too much.

E. G. HAND.

FERTILIZERS FOR ROOT CROPS—WHITE-WASH.

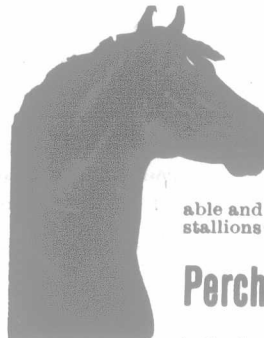
1. Is fertilizer beneficial to root crop? If so, what kind and quantity per acre?
2. What is your opinion of salt for root crop?
3. What would be a good mixture to whitewash the stabling of basement? Can you recommend a wash that will not rub off?

J. L. K.
Ans.—1. Fertilizer is beneficial to any crop if the right kind is used in the right way. Everything depends on the crop, the kind and condition of soil, other manuring, if any, and, most important of all, the adaptability of the fertilizer to supply the particular element or elements deficient in the soil. Whether it pays to apply fertilizer under farm conditions is an open question. In the Maritime Provinces the farmers find a moderate dressing of complete fertilizer a great aid to secure an early, vigorous growth, which insures a profitable crop. In Ontario, where the precipitation is less, and the soil heavier, there is less likelihood of the land being exhausted of its available plant food by winter and spring leaching, and the economy of fertilizers, only under exceptional conditions, is doubtful. The use of a couple hundred pounds per acre of acid phosphate might prove profitable on turnips, and three or four hundred pounds per acre of a 2-8-4 or 2-8-6 fertilizer might be worth trying on mangel ground. We advise experiment before extensive investment in any commercial manure. Barnyard manure is the thing if you have it.

2. A couple hundred pounds of salt per acre is claimed by some to give profitable results with mangels. Its use for other root crops is not recommended.

3. We cannot give a recipe for a white-wash that we know will not rub off, but you might try the one published in our "Dairy" department, last issue.

OAKLAWN QUALITY



Counts when you are through with your stallion. Last year at the Bloomington sale the record price, \$1,995 (\$985 more than the next highest animal brought) was paid for Kimberly, imported and sold by us in 1901 to his then owner. Last week at Robinson's sale Lena was sold for \$2,200 (\$700 more than any other animal brought). This colt was bred by us, and we sold him for \$1,000. So far as we know, these were the only Oaklawn animals in either sale. Can you ask for better evidence of the value you get here for your money?


Our stallions are the best, our prices the most reasonable and our guarantee the safest for you to be found anywhere. Our stallions now on hand form the choicest collection to be seen in America.

Percherons, Belgians and French Coachers

is the large assortment. You can certainly suit yourself here. Write for catalogue, which gives the facts, and state your wants.

DUNHAM & FLETCHER, DU PAGE COUNTY, ILLINOIS.

WAYNE,



Clydesdales and Hackneys

DALGETY BROS., Dundee, Scotland, and London, Ont., have on hand just now at their stables, London, Ont., a choice selection of above, including several prizewinners in this country and Scotland. All combining size and quality. Come and see them.

JAMES DALGETY, Gloucoe, Ont.




J. B. HOGATE'S

Shires, Clydes, Percherons, Hackneys and Spanish Jacks.

My latest importation includes 45 head of Shire stallions and fillies, Clyde stallions and fillies, Hackney and Percheron stallions and Spanish jacks, many of them prizewinners in England, Scotland and France. This is a gilt-edged lot and the best we ever imported, combining size and quality.

Stables at WESTON, ONT. Telephone connection.

J. B. HOGATE, Proprietor. om



GRAHAM BROS.

"Cairnbrogie," CLAREMONT, IMPORTERS OF

HACKNEYS and CLYDESDALES


Established 30 years, and winners at all large shows in Canada and United States. Best of stock always on hand for sale. New importation of Royal winners just arrived.



Clydesdales & French Coachers, Imp.

Scottish and Canadian winners at the leading shows of both countries. The Clydes represent the blood of such noted sires as Baron's Pride, Up-to-Time, Royal Favorite, Ethiopia and Aeme. They combine size, quality and action. The French Coachers are a big, flashy, high-stepping lot, and are winners in both France and Canada. Our prices are right, and our horses as good as the best.


ROBT. NESS & SON, Howick, Quebec. Long-distance Telephone.



Clydesdales & Hackneys

Our new importation of Clydes (stallions and fillies) combine size and quality to a marked degree. Their breeding is unsurpassed. Their individuality cannot be duplicated on the continent. Come and see them. We sell cheaper than any other importer. Also, we have a few gilt-edged Hackneys on hand.

G. & J. HAY, Lachute, Que. A few miles from Ottawa.



GRAHAM & RENFREW'S

CLYDESDALES and HACKNEYS

Our Clydes now on hand are all prizewinners, their breeding is gilt-edged. Our Hackneys, both stallions and mares, are an exceedingly high-class lot. We also have a few high-steppers and carriage horses.

Yonge Street cars pass the door every hour. Phone North 418.

GRAHAM & RENFREW, Bedford Park, Ont.

PROGRESSIVE FARMERS

all the country over read "The Farmer's Advocate." Some have read it for 40 years.

SUBSCRIPTION PRICE, \$1.50 PER YEAR IN ADVANCE.

Trumans' Pioneer Stud Farm

Bushnell, Illinois.

AMERICA'S GREATEST IMPORTING FIRM

Come and see the grandest lot of

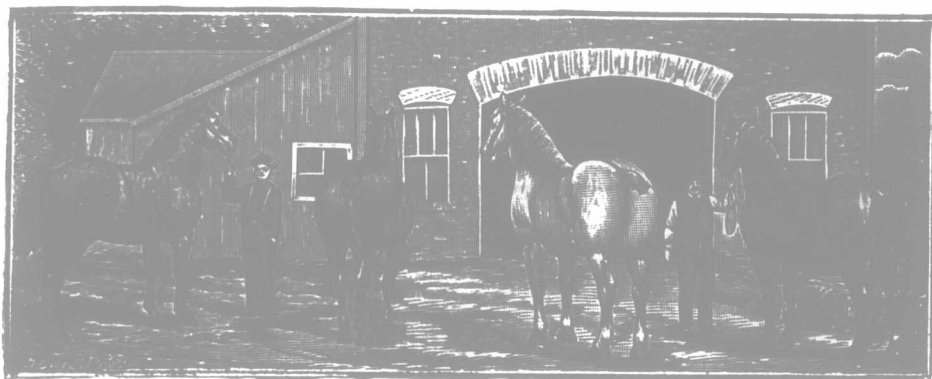
Shire, Percheron & Hackney Stallions

Ever seen in Canada, and which, for the next thirty days, will be sold at very reasonable prices. Insurance against death from any cause, if you so desire.

WE LEAD, OTHERS FOLLOW.

Don't buy a stallion until you see what we can do for you. Address:

H. W. TRUMAN, City Hotel, London, Ont.



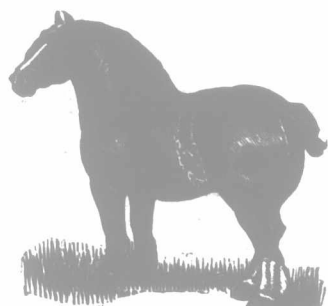
25 Percherons, also French Coachers, Hackney and Clyde Stallions

Have just arrived, Aug. 16, 1905, from Great Britain and France with our new importation of high-class stallions, many of them prizewinners in their native lands, bred by the best breeders. The Percherons are large blocky fellows, 3 to 5 years old, descendants of such noted champions as Brilliant, Bestique and Romulus. Blacks and dark dapple greys, weighing from 1,600 to 2,100 lbs., with the right kind of legs and feet, and can go like trotters. We personally selected every horse ourselves, using extraordinary caution to select nothing but good sound serviceable horses that will do our customers and the country good. The French Coachers, Hackneys and Clydes are also of the best breeding, some of them prizewinners in England, Ireland and Paris. We will sell you a better stallion for less money than any other importers in America, with a guarantee as good as gold. Intending purchasers should visit our stables before buying elsewhere. Inspect our stock and get our prices. Terms made to suit purchasers.

Hamilton & Hawthorne, Simcoe, Ont. 83 miles S.W. of Toronto, on G.T.R. & Wabash

THE VERY BEST SHIRE STALLIONS

and High-class Pedigree Colts



can now be seen at H. E. George's farm, Crampton, Ont. They are imported direct from Clement Keevil's Blagdon Stud, England. You are wanting a sound stallion and a sure stock-getter—I can suit you.

R. KEEVIL, Prop., Crampton, Ont., Seven miles from Ingersoll and two miles from Putnam, C.P.R.

125 Percheron, Shire and Hackney Stallions & Mares

At the World's Fair at St. Louis I won more Premier Championships than any other exhibitor.

At the Chicago International, 1905, I won more first prizes than any other exhibitor.

For the next 90 days I will sell the best in America at prices below competition.

LEW W. COCHRAN, 109 1/2 South Washington Street, CRAWFORDSVILLE, IND. OFFICE:

HODGKINSON & TISDALE

Breeders of High-Class Clydesdales and Hackneys BEAVERTON, ONT.

Our present stock of mares and fillies are the best lot we ever had together. Among them are championship, first, second and third prize-winners at Toronto. Our prices are consistent with quality. We have something that will suit you.

BEAVERTON P. O. & STATION. Long Distance Telephone.

QUESTIONS AND ANSWERS. Veterinary.

UNTHRIFTY HEIFER.

Yearling heifer does not eat well, and is quite thin. She drinks little; she will not eat her meal half of the time. I feed mixed hay and oats, bran middlings and corn meal, with stock food. W. H. B.

Ans.—Purge her with 1/2-lb. Epsom salts and 1 oz. ginger. Take equal parts, sulphate of iron, gentian, ginger, nuxvomica, and bicarbonate of soda; mix, and give a heaped tablespoonful three times daily in a pint of cold water as a drench. Feed in small quantities and often, and gradually increase the amount as her appetite improves. V.

WEAK IN STIFLES.

Three-year-old colt is weak in his stifles. J. S. T.

Ans.—Take 1 1/2 drams each, biniodide of mercury and cantharides, and mix with 2 ozs. vaseline. Clip the hair off front and inside of joints, and rub the blister well in. Tie so that he cannot bite the parts. In 24 hours rub well again with the blister, and in 24 hours longer wash off and apply sweet oil. Let him loose in a well-bedded box stall now; keep as quiet as possible, and apply sweet oil every day. Blister once every month in this way for four or five times. V.

MISCELLANEOUS.

1. Six-year-old does not lift fore feet right. Sometimes she stubs her toes and stumbles; at other times she will lift them very high with a springy gait.

2. Yearling colt walks on his heels. The toes do not touch the floor when he stands.

3. Give recipe for drying a cow. C. H. B.

Ans.—1. This is a nervous affection that affects the muscles in different ways at different times, and it is not probable that treatment will do much good. Blister the muscles in front of the forearm, and give her 2 drams bromide of potash twice daily. Blister once every month.

2. All that can be done for this is to keep the heels rasped well down. It is possible he may improve when he gets on pasture. Special appliances might be attached to the limb, but this would cost a great deal, as they would have to be made especially to fit by a mechanic who understands such things.

3. Give a purgative of 2 lbs. Epsom salts and 2 ozs. ginger. Feed on dry food only, and draw a little milk when the udder becomes filled. V.

LUMPS ON CATTLE'S LEGS.

I have had a number of cattle at different times with lumps from the size of the end of a man's finger to that of a hen's egg on their legs, usually below the knees, but occasionally above.

1. What causes these lumps?
2. Are they contagious or hereditary?
3. Are all lumps on cattle's legs of the same nature?
4. Do they injure the beef or milk?

E. O. H.

Ans.—1. They are caused in different ways. They may be caused by direct injury, but are usually due to an impure condition of the blood, and are often tubercular. In many cases they contain pus; in others, the characteristic cheesy matter of tuberculosis, and in most cases are very hard or impossible to cure. Where pus is present the lumps should be lanced and the cavities flushed out with an antiseptic daily until healed, and the patient should be given about 20 to 30 drops carbolic acid three times daily.

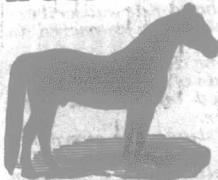
2. The predisposition appears to be hereditary in many cases. In others contagion may exist.

3. No.

4. If the trouble is confined to the legs, the beef will not be affected, but if other organs are affected it is different. I do not consider the milk of an animal with a chronic eruptive disease is healthful. V.

Attention is called to the advertisement of registered Holsteins by Howard Wilson, of Russell, Ont. The three-year-old bull is a grandson of Sarcastic Lad, the St. Louis World's Fair champion, and his dam is in Advanced Registry.

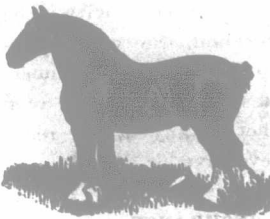
HORSE OWNERS! USE GOMBAULT'S CAUSTIC BALSAM.



A safe, speedy and positive cure. The safest, best BLISTER ever used. Removes all bunches from horses' legs. Impossible to produce scar or blemish. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Toronto, Can.

Shire Horses



We breed the very best and soundest, which from birth are kept in their natural condition, neither forcing nor overfeeding for showing purposes.

Canadian buyers visiting England are invited to call and see what we have.

No fancy prices, and all delivered free Liverpool landing stage. Correspondence invited. om

Station: Aithorp Park, L. & N.-W. Ry.

JOHN CHAMBERS & SONS, Holdenby, Northampton, England

The Repository

BURNS & SHEPPARD, Props.



Cor. Simcoe and Nelson Sts., Toronto

Auction Sales of

Horses, Carriages, Buggies, Harness, etc., every Tuesday and Friday, at 11 o'clock.

Special Sales of Thoroughbred Stock conducted

Consignments solicited. Correspondence will receive prompt attention.

This is the best market in Canada for either buyer or seller. Nearly two hundred horses sold each week.

SHOE BOILS

Are hard to cure, yet



ABSORBINE

Will remove them and leave no blemish. Does not blister or remove the hair. Cures any puff or swelling. \$2.00 per bottle, delivered. Book 7-B free.

ABSORBINE, JR., for manking, \$1.00 per bottle. Cures Boils, Bruises, Old Sores, Swellings, Etc. Manufactured only by W. F. Young, P.O. F., 79 Monmouth St., Springfield, Mass. Canadian Agents, Lyman, Sons & Co., Montreal.

Hackney Stallion

Ridgewood Danegelt—160—, rising four years, first at Western Fair, London, 1904 and 1905, sire Langton's Danegelt, dam by Barthorpe Performer (imp.).

Shire Stallion

Desford Marquis (imp.) first at Western Fair, 1904 and 1905, a proved sire of quick-selling stock at highest prices.

These will be sold well worth the money, as the owner, Mr. E. C. Attrill, is giving up farming. For prices, apply to

Mr. Chas. Garrow, Agent, Coderich, Ont.

CLYDESDALES

Imp. Stallions and Fillies. The got of such notables as Baron's Pride, Prince Alexander, Moncrieffe Marquis, The Deane, Montrave Mac and Battle Arc; they combine size and quality, their breeding is unsurpassed, and I will sell them cheap. GEO. S. STEWART, Hewick, Que. Long-distance Phone.

\$500 Reward

Offered for the conviction of the party or parties that blistered my horse, Knight of Glamis, at recent Spring Stallion Show, held in Grand's Repository.

THOS. MERCER, Markdale, Ontario.

No more blind horses—For Specific Ophthalmia, Moon Blindness and other sore eyes, BARRY CO., Iowa City, Iowa, have sure cure.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the "Farmer's Advocate" are answered in this department free.

Miscellaneous.

FLEAS.

A reader who is bothered with the presence of fleas around the wood piles and outbuildings or barns in summer, would like to ask through "The Farmer's Advocate" whether any of our readers know of a preventive or a means of getting rid of this nuisance.

HORSE INSURANCE.

Where can a mare that is in foal be insured to tide her over foaling time, say for two or three months?

HALTON SUBSCRIBER.

Ans.—Write Burnett, Ormsby & Clapp, 7 Melinda St., Toronto, or Major C. C. Harbottle, Confederation Life Building, Toronto.

MALLEIN TEST FOR GLANDERS.

Would you give your opinion of the mallein test, and also the exact amount of mallein injected into the horse in Ontario?

A. N. M.

Ans.—The mallein test is considered a reliable diagnosis for glanders. The mallein may be obtained prepared in doses and with full instruction for using from Dr. J. G. Rutherford, Dominion Veterinary Director-General, Ottawa, Ont.

CONDITION POWDERS FOR CATTLE.

Are there any veterinary surgeons practicing in Canada that put up medicines for cattle?

H. D.

Ans.—Any veterinary worthy of the name will prescribe for cattle when called upon, and they will have recipes for condition powders. Some put up proprietary compositions of various sorts, but we could hardly publish their names, except in our advertising columns.

SQUABS AND ANGORA GOATS.

Where can I procure Plymouth Rock squabs and Angora goats in Canada?

C. M. W.

Ans.—Those having Angora goats for sale should use our advertising columns. We know of no such thing as Plymouth Rock squabs. Squabs are pigeons. There is an American firm named the Plymouth Rock Squab Co., "Plymouth Rock" designating the name of the place. This has probably given our inquirer a confused impression.

SOILING VS. BUYING MORE LAND.

I have a 50-acre, good sand farm, mostly high, rolling land, and wish to keep more stock. Is it best to purchase more land or adopt a system of feeding stock (cows mostly) through the summer months? What is the best system to adopt as regards the kind of green foods for cows in summer? Is alfalfa a good food for cows as a green food, and would it be wise to make it the main food to be fed green? Is it good food when cured as hay for stock?

A NEW SUBSCRIBER.

Ans.—To advise explicitly, we should be fully acquainted with conditions. In all probability, it will pay to adopt a partial soiling system. Grow corn, and make it into silage, not only for winter, but carrying over for summer feeding as well. Alfalfa is a soiling crop par excellence, and five or ten acres would help out the summer-feed problem wonderfully. It also makes the best of hay when well cured. Sometimes the curing of the first crop is rather precarious. In the fall, corn may be cut and fed green, along with a little bran to balance the ration. Mixtures of oats and peas may be sown in small plots at two-week intervals to provide summer feed, and any surplus may be cured as hay, or ripened for grain. Our main reliance, however, would be corn and alfalfa. In carrying on a soiling system, care should be exercised lest the herdsman drop into a pottering habit. Conducted with business-like enterprise, partial soiling greatly increases, not only the returns, but the profits per acre, and, also, per cow.

IMPORTANT AUCTION SALE OF IMPORTED Clydesdale Mares and Fillies

At the Royal Hotel Stables, in the City of Woodstock,

FRIDAY, APRIL 6th, 1906.

40 Imported Clydesdale mares and fillies, carefully selected for size, quality and breeding by one of the proprietors. Sale to commence at 1 o'clock sharp. For catalogues apply to owners:

S. J. PROUSE, Ingersoll, Ont. J. W. INNIS, Woodstock, Ont.

Auctioneers: T. E. Robson, Ilderton; Peter Irving, Woodstock.

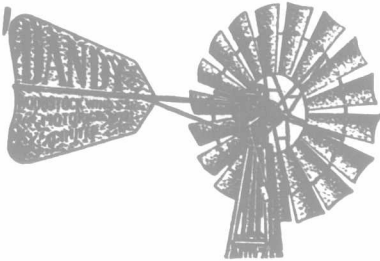
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Regina, - Saskatchewan, Box 317.

We make it a point to handle only the Best Land in the Best Wheat Country.

Improved farms at reasonable rates. Wild lands in the Saskatchewan Valley.

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Grain Grinders, Tanks, Water Boxes and Foundry Supplies. Write for our free catalogue. Estimates cheerfully given.

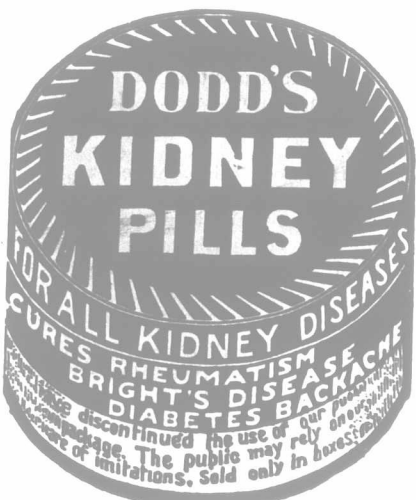
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ALL the leading and best varieties of all kinds of Seed Grain, Potatoes and Seeds of all kinds. Some of our leaders in Oats are: White Early Jewel, White Marvel, English Glory, Irish White, Big Four, Banner and Black Joquette. In Peas: Golden Vine, Lake Field White, Canadian Beauty and Multipliers. Barley: Mandscheuri, Six-rowed Duckbill, Two-rowed Black Barley and Japanese Barley. All the leading and best varieties of Seed Potatoes. Write us for samples and prices, also for one of our Seed Catalogues. It is free. We have everything in Seeds, and make it our specialty.

The Leading Seed House in Guelph. JAMES HEWER & SON, 45 Macdonnell Street, East

The one serviceable, safe, certain, remunerative, attainable quality in every study and pursuit is the quality of attention.—Charles Dickens.



MANURE FOR OATS OR CORN.

Would you advise plowing down long straw manure for oats on fall plowing in spring, or rather for corn on an alsike meadow in spring?

A SUBSCRIBER.

Ans.—Manure is in most cases applied to best advantage for corn, roots and fodder crops. Long strawy manure does not work in well without plowing, and plowing land twice for one crop is out-of-date. Use the manure on alsike sod for corn.

VARIETIES OF APPLES—GRAFTING.

I have a lot of Ben Davis and Bottle Greening apple trees about ten years old.

- 1. Would it be advisable to graft other fruit in these trees?
2. What varieties would do the best?
3. What is the best method of top-grafting?
4. When is the best time for grafting?
5. Give a recipe for grafting wax?

J. R. T.

Ans.—1. In the neighborhood of St. Thomas you should be able to grow much better apples than Ben Davis and Bottle Greening. I would certainly recommend top-working these with varieties of better quality, such as Blenheim, King, Northern Spy, or Ribston. Thrifty-growing trees, ten years old, should make good stock upon which to do top-grafting.
2. Probably some of the varieties mentioned might, in time, somewhat out-grow the varieties on which they were top-worked, but this would not be a serious fault. Both Ben Davis and Bottle Greening are somewhat slower in growth than the other varieties mentioned, and the effect of such grafting would be to somewhat check the growth of the varieties grafted upon them, and thus bring them into earlier and more productive fruiting.

3. The best method of top-grafting would be by the cleft method; that is, cut off the branches where they are an inch or more in diameter, split the stump with a grafting chisel, and insert two scions in each, being careful to place the inner bark of both stock and scion in perfect contact. It would be a rather severe check to the tree to graft all the branches the first season. It would be safer to graft the main branches the first year, and take one or two years to complete the work.

4. The best time for top-grafting is in the spring, after severe frosts are over and before the trees begin to make growth.

5. A good grafting wax can be made of four parts of resin, two of beeswax, and one of tallow (by weight), all being melted together. When cool this can be worked till it becomes soft and pliable, or it may be used in the melted condition with a paint brush. H. L. HULL, O. A. C., Guelph.

AUCTION SALE OF PURE-BRED

Aberdeen - Angus Cattle

At Aberdeen Farm, about 3 miles from Erin Station, C.P.R., on

APRIL 6th, 1906,

20 Head of Pure-bred Aberdeen-Angus Cattle SALE TO COMMENCE AT 2 O'CLOCK.

Trains met at Erin Station morning of sale. For catalogues and full particulars address

MR. W. HULL, Auctioneer.

J. W. BURT, Proprietor, Coningsby P.O., Ont.

Ranches and Wheat Farms FOR SALE

Cochrane Land Company, COCHRANE - ALBERTA.

Correspondence solicited.

BROXWOOD HEREFORDS.

A few choice bull calves from my imported stock.

R. J. PENHALL, NOBER P. O., ONT.

FIVE NICE, SMOOTH

HEREFORD BULLS FOR SALE.

Two about 16 months and three from 8 to 10 months old. Priced right to do business.

W. BENNETT,

Box 428, Chatham, Ont.

THE SUNNYSIDE HEREFORDS

Twelve high-class bull calves and 4 yearling and 2-year-old bull, we will place at a price that will move them quick. Some choice cows and heifers are yet left for sale. Address: A. F. O'NEIL, Maple Grove P.O. or M. H. O'NEIL, Southgate P.O. Ilderton Sta., L. H. & B.; Lucan Sta., G. T.

HEREFORDS—We are now offering a few thick, smooth young bulls and a number of females—a low-down, even, beefy lot. If in want of something extra good, correspond with us. We can please you. J. A. LOVERING, Coldwater P.O. and Sta.

Aberdeen-Angus cattle and Chester White Hogs. Principal prizewinners at Ottawa and Sherbrooke. Breeding stock and young things for sale. Write for prices. A. G. SPAFFORD, Compton, Que.

For ABERDEEN-ANGUS CATTLE or a two-year-old CLYDESDALE STALLION, write

JAMES BOWMAN, Elm Park, Guelph, Ontario.

For Aberdeen - Angus,

Young bulls and females—all ages, write

JAMES SHARP, ROCKSIDE, ONTARIO, Cheltenham Station, C.P.R. and G.T.R.

GREAT CLEARING SALE

OF IMPORTED AND HOME-BRED

Shorthorns

and CLYDESDALES

W. J. SHEAN & CO., Props., Rosevale Stock Farm, Owen Sound, Ont., will offer for sale on

WEDNESDAY, APRIL 4th, 1906,

Their entire herd of **Scotch Shorthorns** and imported and home-bred **Clydesdales**. All Shorthorn females of breeding age have been bred to or have calves at foot by the great imported stock bull Derby.

Catalogues forwarded on application.

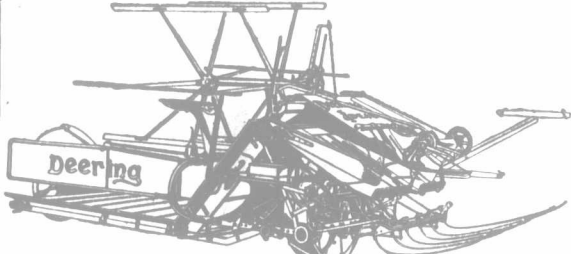
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It Pays to Buy a Deering

Gets All the Grain



Increases Crop Returns

YOU realize this when you come to figure up crop returns.

Preparing a good seed bed, sowing good grain, and propitious weather are not all that is necessary.

You must have a machine that will harvest your grain so that you will realize every dollar possible out of the crop.

A Deering binder does this. It's built to get all the grain.

The reel will bring tall or short, down and tangled grain to the sickle without fail; the elevators will handle it whether it be light or heavy, and the binding attachment will throw out nice even butted bundles.

When a field of grain is harvested with a Deering, you won't find crow's feed scattered all about; you won't find the grain lying in patches where the reel never picked it up.

CANADA BRANCHES: Calgary, London, Montreal, Toronto, Ottawa, Regina, St. John, Winnipeg. INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, ILL. (INCORPORATED.)

The Deering is built to harvest the crop in the right way.

The Deering wide cut binder is particularly adaptable for use where there are large fields of grain to harvest.

During harvest, time is worth money.

The loss of a day's cutting may mean the loss of many dollars, and no farmer can afford to take a chance on purchasing a poor binder.

The Deering line of harvesting machines is complete and includes, besides grain and corn harvesting machines, a complete line of haying machines, comprising mowers, tedders, sweep rakes and hay stackers.

Call on the Deering agent and let him explain why a Deering machine harvests in the right way. These local agents are found everywhere, and will be pleased to give information and a catalog concerning the Deering machines.

AUCTION SALE OF 55 Imported Large Yorkshires

ON WEDNESDAY, APRIL 4th, 1906,

At **NORTH COT FARM**. Also 100 acres of rich loam, with buildings. Morning trains met at New Hamburg and Bright stations.

GEO. M. SMITH, Haysville, Ont.

DIDSBURY FARM LANDS

A SAMPLE OF WHAT WE HAVE

320 acres, level land, partly fenced; some improvements; good spring; within 1/2 mile of store, creamery and post office. This is only a sample, we have scores of others. Write us for full particulars of Alberta Lands.

COLLISON & REED, Didsbury, Alta.

Saskatchewan Farm Lands.

12,000 Acres Prairie Lands for Sale on Easy Terms.

One of Our Bargains.—Improved farm, 640 acres; six miles from Regina; two miles from four elevators; 500 acres under cultivation. No waste land. New buildings worth \$3,000. Walls, fencing, \$6,000 cash handles it. Price and terms easy. This is absolutely the best proposition on the market. **Clark & Sebolt, Regina, Sask.**

DON JERSEYS

Don Jerseys rank second to none in Canada. Present offering is 3 year-old bulls, bred from prizewinners and producers, and are a grand lot; as herd headers they have few equals. A few females could be spared.

D. DUNCAN, Don P.O., Close to Toronto.

For Sale.—Fine young **JERSEY** and **GUERNSEY** bulls. Six to fourteen months old. From stock of exceptional breeding and individuality. Full particulars on application to **DENTONIA PARK FARM, Coleman P. O., Ontario.**

HIGHGROVE JERSEY HERD.

Our present offering is a few choice heifer calves from 2 to 8 months old, which, considering quality, will be sold reasonable.

ROBT. TUFTS & SON, Tweed P.O. & Sta. Brantford, Ont.

Brampton Jersey herd.—We have now for immediate sale 10 bulls, from 6 to 18 months old, descended from St Lambert or imported stock; also females of all ages. In order to reduce our stock, we are making a special offer. For full particulars address, **B. H. BULL & SON, Brampton, Ont.**

An extra nice yearling Jersey Bull, fit for service, vice. Also two bull calves. Prices reasonable. **F. S. WETHERALL, - Rushton Farm, Cookshire, Que.**

GOSSIP.

Messrs. R. A. & J. A. Watt, Salem, Ont., write: "The following are one week's sales: To Mr. John Ewen, for shipment to Saskatchewan, the two-year-old Clydesdale stallion, Lord Darnley, by Red Duke (imp.). This is a handsome colt with the best of breeding. Mr. Geo. Armstrong, Speedside, Ont., took the young bull, Claret Beau, by Scottish Beau (imp.), and out of Crocus (imp.). He is a particularly good calf, and will certainly prove a good investment. White bulls seem to be wanted, as we have had at least a dozen enquiries for Imperial Beau, which we have sold to Mr. Peter Stuart, Everton, Ont. Mr. Stuart took with him Mildred 13th and a heifer calf, and Red Beauty, by Royal Sailor (imp.). They will be a great foundation for a herd."

H. K. Fairbairn, Thedford, Ont., writes: "Have made the following sales of Shorthorns: To Thos. Stoddill, & Son, Plympton, the red bull, Royal George, by Royal Prince; to Charles H. Wilson, Greenway, Minnie Maxwell, in calf. These are sired by our stock bull, Royal Prince 31241, and both out of the same dam, Miss Maxwell. Calves by our Sir Tatton Sykes are coming right and will be heard from later. The December calf, a roan bull, full brother to the champions, Fair Queen and Queen Ideal, is quite promising. The young bull, Nonpareil Kuroki, purchased at the Nicholson-Taylor sale, March 14th, is a fine calf, and going on well. His dam is Nonpareil Victoria, and he is sired by Spicy Count (imp.). This calf will be fitted for Toronto, along with my other calves—ten head in all."

DON JERSEY HERD.

Excellence excelled is a fitting description of the 75 head of Jerseys known as the Don herd, the property of Mr. David Duncan, Don P. O., a few miles east of Toronto. This great herd represents not only the richest blood known to the breed, but is one of the highest-class show herds in Canada, and is made up of a class that, from their type and development of udder and teats, stamp them at once as enormous producers. The stock bull is Golden Lad of Thorncliffe 62318, by Distinction's Golden (imp.), whose dam, Distinction's Pearl (imp.), won the challenge cup at St. Martins in 1894 and 1896, and whose sire, Golden Lad 2nd, is a grandson of the noted Golden Lad; dam Nita Belle D. (imp.) 125593, whose test showed 21 lbs. 1 1/2 ozs. of butter in seven days, and who, as a two-year-old, won first at Toronto, London and Ottawa, she by the champion, Golden Hero. Second in service is Fancy's Flying Fox 69249, by Arthur's Golden Fox, a son of the \$7,500 bull, Flying Fox (imp.), dam Fancy Maid (imp.). Prominently among the many choice cows is Cussie Curtner 133373, by Majoram's King, dam Pauline Curtner. This great cow won first and sweepstakes at Toronto and London last fall, and has to her credit 47 1/2 lbs. of milk a day, which showed butter-fat equivalent to 22 lbs. 3 ozs. of butter in seven days. Out of her is a seven-months-old bull, by the stock bull, that is a beauty. Lady Primrose of Don 183309, by Blue Blood of Dentonia (imp.), is another heavy and persistent milker that won second at Toronto and first at London last year as a three-year-old, first at Toronto as a two-year-old. Blue Blood's Fancy of Don is another that won first at Toronto and London as a two-year-old. Mermaid of Don 184921, by Blue Blood of Dentonia, is another of the crackers that is the dam of a yearling bull by the stock bull. Another yearling bull is out of Lady Don, a daughter of Costa Rica's Son, by the stock bull. These young bulls are an ideal lot, and should soon go as herd headers. This is claimed to be the oldest established Jersey herd in Canada, and one of the best and most noted, as the active demand for stock proves. They are all in prime condition. The youngsters are an ideal lot, and show that Golden Lad of Thorncliffe is a sire of a very high order. Write Mr. Duncan to Don P. O. for what you want.

Heart Trouble

The heart itself has no power—no self-control. It is made to beat by a tender nerve so tiny that it is scarcely visible to the naked eye. Yet ten thousand times a day this delicate nerve must assist the heart to expand and contract.

This nerve is only one of the branches of the great sympathetic, or INSIDE, nerve system. Each branch of this system is so closely allied with the others that weakness or irregularity at any point is apt to spread. Heart trouble frequently arises from stomach trouble through sympathy, and kidney trouble may also follow. For each of these organs is operated by a branch of these same sympathetic nerves—the INSIDE NERVES.

In Heart, Kidney or Stomach troubles, it is of but little use to attempt to doctor the organ itself—the most permanent relief lies in restoring the INSIDE NERVES. Dr. Shoop regards these nerves to be the real cause of such troubles. The remedy—known by physicians and druggists everywhere as Dr. Shoop's Restorative—is the result of years of endeavor along this very line. It does not dose the organ to deaden the pain—but it aims to go at once to the nerve—the inside nerve—the power nerve—and builds it up, and strengthens it and makes it well.

Every heart sufferer may have Dr. Shoop's book on the Heart. It will be sent free, and with it you will receive the "Health Token," an intended passport to good health.

For the free book and the "Health Token" you must address Dr. Shoop, Box 93, Racine, Wis. State which book you want. Book 1 on Dyspepsia. Book 2 on the Heart. Book 3 on the Kidneys. Book 4 for Women. Book 5 for Men. Book 6 on Rheumatism.

Dr. Shoop's Restorative Tablets—five full three weeks treatment. Each form—liquid or tablet—have equal merit. Druggists everywhere.

Dr. Shoop's Restorative.



FOR SALE: ONE CHOICE Holstein Bull

3 years old, and three young cows, due to calve June 15th. All choice individuals and all backed by A. E. stock. Also one 4-year-old Clydesdale Mare (in foal), and one 3-year-old stallion.

HOWARD WILSON, - Russell, Ont.

SHORTHORNS

Will sell or exchange Kinellar Stamp, my famous Golden Drop show bull. Have for sale also young heifers and bulls got by him. Tracing Imp. Fanny Lily and Beauty.

SOLOMON SHANTZ, Haysville, Ont. Plum Grove Stock Farm. Baden Station.

Shorthorns FOR SALE

Two red bull calves; 6 heifers, sired by that grand bull sire of unbeaten Fair Queen and sister, Queen Ideal. First prize senior heifer calf at the International, 1904. Also first prize and junior champion, and reserve grand champion at Winnipeg, 1905.

H. K. FAIRBAIRN, - Thedford, Ont.

PEARSGROVE SHORTHORNS & SHROPSHIRE

We are now offering 20 Shropshire ewes, one and two shear, imp. and from imp. stock, a big, strong, well-covered lot; also a few Shorthorn heifers. No fancy prices asked, for quick sales.

T. H. MEDCRAFT & SON, Sparta P.O. St. Thomas station. o Long-distance telephone.

SMITHFIELD FARM SHORTHORNS.

Herd headed by the Missie bull, Aberdeen Beau, by Imp. Scottish Beau. Present offering: Two choice young bulls, one full brother to first-prize and highest-priced calf at Ottawa sale of 1905

R. E. WHITE, BALDERSON, ONTARIO Tanark Co.

Shorthorn Bulls—Imp. Scottish Peer—4024—

4 years old, sure and a good sire. Also 3 excellent young bulls of his get, and an 8-year-old Clyde stallion. Come and see, or address,

JAMES SNELL, Clinton, Ont.

SHORTHORNS, LINCOLNS & OXFORD DOWNS.

Herds headed by imp. Royal Prince and imp. Abbotsford Star. For sale: Nine bulls, six months to one year, three from imp. dams and imp. sires; also females. Oxford Down sheep and Barred Rock cockerels. **John McFarlane & W. H. Ford, Dutton, Ont., Elgin County.**

C. C. C.

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District Certificate: For simplicity and thoroughness, I do not think your work could be excelled. MISS ANNIE O. BANKS, Stoneleigh.
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Gentlemen:—Please send me full particulars as to how I can qualify for the position marked "X" in the list below, or written on the extra line at bottom.

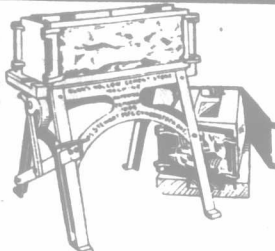
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To Teachers: We prepare you for any examination in any Province of the Dominion. Ask us for information.

Extra Line

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DUNN HOLLOW CONCRETE BLOCK MACHINES

are in use from coast to coast, and every one giving the best of satisfaction. Concrete blocks make the handsomest, most durable and cheapest building material. They are simply and quickly made on the Dunn Machine; and the cost of outfit is very moderate. Full directions furnished.

Write for catalogue to Dept. O.



THE JAS. STEWART MFG. CO., LIMITED, Woodstock, Ont.

CEDARDALE SHORTHORNS



For immediate sale: Four young bulls and a few heifers, a nice thick, well-put-up lot, and bred on heavy-milking lines. Will be sold cheap.

DR. T. S. SPROULE, M.P., Markdale, Ont.

Shorthorn Cattle and Lincoln Sheep

Shorthorn bulls, cows and heifers for sale at greatly reduced prices for the next 60 days. om

J. T. GIBSON, Denfield, Ont.

Shorthorns, Cotswolds, Berkshires

Present offerings: Calves of both sexes, from 1 to 7 months; also cows and heifers, 56 head to select from. Nothing to offer in Berkshires or Cotswolds.

CHAS. E. BONNYCASTLE, Campbellford, Ont.

CEDAR YALE SCOTCH SHORTHORNS

Present offering: A few Scotch-bred heifers, sired by Scott's Choice =43670= For particulars write to JOHN SCOTT, Dumblane P.O. Port Elgin station and telegraph.

HIGH-CLASS SHORTHORNS.

The great Duthie-bred bull, Scottish Beau imp. (36099), formerly at head of R. A. & J. A. Watt's herd, now heads my herd.

Present offerings: two bulls seven months old, and females of different ages. Also for sale, Clydesdale mare and foal.

N. S. ROBERTSON, Ampprior, Ont.

MAPLE + GROVE + STOCK + FARM Scotch and Scotch-Topped SHORTHORNS

Present offering: Two choice nine-months-old bulls, by Captain Mayfly 2nd; also young cows and heifers at very reasonable prices. For particulars write to

L. B. POWELL, Wallenstein P.O. Elmira Stn. and Tel.

SCOTCH SHORTHORNS.

RIVER VIEW STOCK FARM is offering young stock for sale from Marr Stamford, Scottish Maid and Rosemary dams, and sired by Scott's Choice=43670=

A. J. ROWAND, Dumblane, Ont.

SHORTHORNS AND LEICESTERS.

4 extra choice young bulls ready for service 4 Also bull calves, all from imp. sires. Leicester ewes and lambs of both sexes for sale. Address

W. A. DOUGLAS, Caledonia Station, Tuscarora P.O.

Scotch-bred Shorthorns—Four young bulls fit for service; also several cows and heifers in calf to Good Morning (imp.), now heading the herd, at let-live prices. L. K. WEBER, Hawkesville P.O.

GOSSIP.

GOOD PRICE FOR A HACKNEY.

B. F. Gregory, Toronto, recently closed a deal for a Hackney stallion, owned by J. B. Hogate, of Weston, for the Princess de Montlyoa of Austria, who is at present in the city. The price paid was \$5,000. The Princess purposes establishing a stock farm in Canada.

ROWAN HILL SHORTHORNS.

One of the nicest little bunches of 21 head of Scotch Shorthorns in Ontario are owned by Alex. Duncan & Sons, of Rowan Hill Stock Farm, Carluke, Ont., a few miles out from Caledonia Station, G. T. R., and 12 miles south-west of Hamilton. At the head of the herd is the massive, richly-bred and typically-built bull, Imp. Greengill Archer, by Archer's Heir; dam Cranberry 4th, by Nurchison. His predecessor in service was Imp. Major Alpine, by Count Amaranth (imp.); dam Lady Alpine, by Clan Alpine, a bull that stamped his get with a type so even, low-set and thick as to place him as one of the great sires. The females are a rare nice lot, smooth, thick, level, and good doers. Lady Lorne is a show cow of a high order, sired by Imp. Christopher; dam Jewel =27701=, by Greenhouse Chief. She is a Roan Duchess, and has a wonderfully nice four-months-old bull calf by the stock bull; another good one is her full sister, Louisa. She is the dam of a rare nice yearling heifer by the stock bull, and of a three-months-old bull calf by the same sire. A Bracelet-bred cow, and a good one, is Lady Bracelet 3rd, by the Minabred bull, Golden Hero =31613=, a son of Imp. Royal Prince; dam Royal Bracelet, by Imp. Invincible. She, too, has an extra nice yearling daughter by the stock bull. Miss Alpine, by Imp. Major Alpine, dam Maggie, by Golden Boy, is a nice, thick two-year-old. Lady of Rowan Hill is another two-year-old, by Major Alpine. Space forbids individual mention of all, but Mr. Duncan certainly is to be congratulated on the excellent herd he has gotten together, and also on the splendid condition in which we found them. Anything is for sale.

HUGH THOMPSON'S SHORTHORNS.

Mr. Hugh Thompson, of St. Mary's, Ont., is one of the oldest Shorthorn importers in Canada, and what Mr. Thompson does not know about a Shorthorn or a Shorthorn pedigree is scarcely worth knowing. Anyone looking for something choice in that line will always find about what he wants in Mr. Thompson's stables. At the present time he has on hand a small but select bunch, any of which are for sale. Miss Cloud, Vol. 18, by the Dryden-bred Brawith King =12910=, traces to Imp. Snowdrop. She is an excellent type of the modern Shorthorn. A daughter of hers, Lady Cloud, Vol. 18, by the noted show bull, Roan Cloud 31317, is something extra—a big, thick, level cow. Her dam, Miss Cloud, is now suckling a beautiful heifer calf, by Imp. Scottish Hero. Golden Drop, Vol. 19, by King of Wales =14657=; dam Golden Countess, by Imp. Count of the Empire, is another big level cow. Her daughter, Golden Queen, by Imp. Scotchman, is a show cow of a high order, and is suckling a heifer calf, by Imp. Scottish Hero, until lately Mr. Thompson's stock bull, now sold to Mr. Henry Fisher, of Carlingford, who is to be congratulated on securing so high-classed a sire. Lovely Oak Leaf, Vol. 21, is a yearling, of the Cruickshank Lovely tribe, by Springhurst =44864=; dam by Jocelyn 17438. She is the making of a good one, and is a capital doer. Irene is a yearling Mayflower, by Dundee; dam by Red Cloud. Then there is a pair of seven-months-old bulls, twins, by Imp. Rustic Chief; dam a Butterfly-bred cow, by a Wimple bull; sire a Matchless—breeding rich enough for anybody, and a very sweet pair, that from present indications will make extra good ones, and should be picked up quickly at the price asked. Mr. Thompson has lately sold to Wm. Lawrence, of Mitchell, a rare good heifer, out of Miss Cloud, and to F. Daurant, of the same place, a yearling bull out of Golden Queen, that has the form of a prize-winner.



ARTHUR JOHNSTON Greenwood, Ont.

Offers for sale, at moderate prices,

12 high-class yearling BULLS

All sired by imported bulls, and most of them from imported dams. Also imported and home-bred cows and heifers of all ages.

ROWAN HILL SHORTHORNS

Herd bull for sale: Greengill Archer, imp., 45184, as some of his heifers are of breeding age, and herd is not large enough to keep more than one bull; also a few young bulls and heifers.

A. DUNCAN & SONS, Carluke, Ont.

SHORTHORNS and BERKSHIRES

Present offering: Several good young bulls, and a choice lot of young pigs.

JOHN RACEY, JR., Lennoxville, Que.

SHORTHORNS AND DORSETS

We are offering at living prices two 2-year-old and two 1-year-old heifers, a couple of young bulls and the stock bull, White Count 37871. The offering is a lot of good stuff and in good condition. Also a few Horned Dorsets.

D. BARTLETT & SONS, Smithville P.O. and Sta.

SCOTCH-TOPPED SHORTHORNS.

Three young bulls, from nine to thirteen months old; also several young heifers by Scottish Baron (imp.) for sale. Prices reasonable.

H. GOLDING & SONS, Thamesford, Ont. Stations, Thamesford, C.P.R.; Ingersoll, G.T.R.

Young Shorthorn Bulls for Sale—One 2 years old and several under one year. Also a number of females. Good milking strain. Prices right.

GEORGE LEWIS, Ballymote, Ontario.

SHE KNEW.

Mrs. Hightthought: "Do you not think in every nature there is a sealed room, a holy of holies, to which the world is not admitted?"
 Mrs. Plainthought: "Yes, I know; my cook won't allow me in the kitchen."

CURE THE MOST EXTREME CASES

Stone in the Kidneys Cannot Stand Before Dodd's Kidney Pills.

Mrs. S. A. Cassidy, of Ottawa, Permanently Cured After Years of Suffering by the Great Canadian Kidney Remedy.

Ottawa, Ont., March 26.—(Special.)—While all Canada knows that Dodd's Kidney Pills are the standard remedy for all Kidney Complaints, it may surprise some people to know they cure such extreme cases as Stone in the Kidneys. Yet that is what they have done right here in Ottawa.

Mr. S. A. Cassidy, the man cured, is the well-known proprietor of the Bijou Hotel on Metcalf St., and in an interview he says: "My friends all know that I have been a martyr to Stone in the Kidneys for years. They know that besides consulting the best doctors in the city, and trying every medicine I could think of, I was unable to get better. Some time ago, a friend told me Dodd's Kidney Pills would cure me. As a last resort, I tried them, and they have cured me."

"I could not imagine more severe suffering than one endures who has Stone in the Kidneys, and I feel the greatest gratitude to Dodd's Kidney Pills."

If the disease is of the Kidneys or from the Kidneys, Dodd's Kidney Pills will cure it.



**PURE SEEDS
STAND INSPECTION.**

BUY RENNIE'S XXX CLOVER and TIMOTHY SEEDS

Acknowledged by leading authorities to be the highest qualities obtainable. Sold at a moderate price. Guaranteed to pass the highest standard set by the Government.

In Sealed Bags Only. Ask Your Dealer.

Get Rennie's XXX. Wm. RENNIE CO., Limited, TORONTO. Take No Other. WINNIPEG AND VANCOUVER.

MAPLE LEAF STOCK FARM
4 Choice Young Bulls for Sale. Also some cows and heifers, and prizewinning Berkshire pigs. Terms reasonable.
ISRAEL GROFF, Alma P.O. & Stn., G.T.R.

SHORTHORNS
Young bulls for sale, sired by Spectator, imp. Prices reasonable. Apply to
JOHN McCALLUM, Springbank Stock Farm, M. C. R. and P. M. R. Box 21. Iona Station.

GOSSIP.

The Clydesdale stallion advertised for sale in this issue by Jos. W. Holman, Columbus, Ont., is a grand, growthy young Clydesdale; color, bay and star. His sire, Pearl of Burnhead, was imported by Mr. Wm. Colquhoun, of Mitchell, a sufficient guarantee as to quality and breeding. The dam is an excellent type of a Clydesdale, and has such noted sires on her side as Bold Buccleuch and Joe the Banker, etc.

D. Bartlett & Sons, breeders of Short-horn cattle, reside in Lincoln County, Ont., about four miles west of Smithville station, C.P.R., on the Toronto, Hamilton and Buffalo line, about 20 miles from Hamilton. The herd at the present time numbers about 28 head of Charlottes, Britannias and others, tracing to Imp. Beauty, by Snowball. They are an up-to-date lot, the bulk of them in fine condition, and a few of them extra good ones, particularly the younger things, nearly all of which are by the present stock bull, White Count =37871=, bred by H. Cargill & Son, sired by Imp. Count Amaranth, a Rosalind-bred bull; dam Rose Fame, by Imp. Indian Chief, g-dam Imp. Rosalind. He is a bull of outstanding excellence, very thick, even, and a grand stock-getter. He is now for sale very reasonably, as his heifers are coming on. Second in service is the splendid young bull, by Imp. Greengill Victor; dam Imp. Lady Greengill, by Master Archer. He is the making of something extra, and can be bought worth the money. Another young bull for sale is nine months old, by Red Christopher, a son of Imp. Christopher; dam Maid Amaranth, by the stock bull. This, too, is the making of a good one. Among the many good females for sale is Countess 2nd, by the herd bull, out of Susan Stanley =16434=. She is two years old, a show heifer, and in calf to the young stock bull. Another is a two-year-old, by the stock bull, also in calf to the younger sire—the making of a very large cow. Then there are two yearling heifers by the stock bull. All these heifers are out of splendid dams, and in shape to be a profitable investment. Anything in the herd is for sale, and no fancy prices asked. Mr. Bartlett also has a high-class flock of horned Dorset sheep, a few of which can be spared. Write for particulars to Smithville P. O., Ont.

TRADE TOPIC.

A SUBSTANTIAL CANADIAN SUCCESS.—The bustling little city of Orillia, Ontario, is widely known as the home of The Tudhope Carriage Company, Limited, who build the carriage "Made in Canada," by Canadians, for Canadians. This company was started away back in 1855, by Mr. Wm. Tudhope. By perseverance, ability, foresight, and a constant determination to win success, the founder of the business won recognition as a master carriage-builder. In after years, Mr. Tudhope turned over the business to his three sons, who had grown up in it. The Tudhope Carriage Company is now composed of Mr. James B. Tudhope, President and Manager; Mr. Wm. H. Tudhope, Vice-President and Superintendent of the works, and Mr. Hugh R. Tudhope, Secretary and Treasurer. The works now cover an entire block, giving employment to a trained corps of workmen, who turn out five complete carriages a day, or an output of 15,000 a year. The carriages are sold by local agents in every section of Canada, and are in constant demand by all who want easy-running, comfortable, stylish carriages that are built so strongly that they will resist any amount of hard driving over the roughest roads. All Tudhope carriages are guaranteed to be free of imperfections in materials and workmanship, and this guarantee is backed, not only by the agent who sells the vehicle, but also by the Tudhope Company. The name Tudhope on a carriage is synonymous with best workmanship, best materials and best service. And that is all that anyone can ask in a carriage.

**Every Hour Delayed
IN CURING A COLD
IS DANGEROUS.**

You have often heard people say: "It's only a cold, a trifling cough," but many a life history would read different if, on the first appearance of a cough, it had been remedied with

DR. WOOD'S NORWAY PINE SYRUP.

It is a pleasant, safe and effectual remedy, that may be confidently relied upon as a specific for Coughs and Colds of all kinds, Hoarseness, Sore Throat, Pains in Chest, Asthma, Bronchitis, Croup, Whooping Cough, Quinsy, and all affections of the Throat and Lungs.

Mrs. Stephen E. Strong, Berwick, N.S., writes: "I have used Dr. Wood's Norway Pine Syrup for Asthma, and have found it to be a grand medicine, always giving quick relief. We would not be without a bottle of it in the house."

Dr. Woods Norway Pine Syrup is put up in a yellow wrapper. Three Pine Trees is the trade mark and the price 25 cents at all dealers. Refuse substitutes. Demand Dr. Wood's and get it.

T. DOUGLAS & SONS,
Strathroy, Ont.
SHORTHORNS and GLYDESDALES

Present offerings: 19 young bulls, of No. 1 quality, ready for immediate service; also cows and heifers of all ages. Also one imp. stallion and two brood mares. Prices reasonable. Visitors welcome. Farm one mile from town.

SHORTHORNS

The champion herd of Canada, 1905, is headed by the great show and breeding bull Mildred's Royal and Springhurst. Cattle of all ages for sale, whether for the breeding herd or the showing.

R. A. & J. A. WATT,
Salem Post and Telegraph Office, Elora Stn.
13 miles north of Guelph, on the G. T. R. & C.P.R.

Shorthorns for Sale

Two real good 12 and 13 months' old bulls, Strathallans, sired by the Brawith Bud bull, "Golden Count" =44787=; also a 4-year-old Strathallan cow, with a choice 2 months' old heifer calf at foot, sired by Golden Count. She has again been bred to same bull. Will sell a few 2-year-old Strathallan heifers, bred since the New Year.

JOHN CAMPBELL, Fairview Farm, Woodville, Ont.

Oak Grove Shorthorns—Present offering: Several imp. cows, heifers and young bulls, all sired by Imp. Nonpareil Duke and out of imp. dams; also the stock bull, Imp. Nonpareil Duke, a choice offering. Prices right. **W. J. ISAAC, Cobourg Station, Harwood P. O.**

Sunnyside Stock Farm—8 superior young Shorthorn bulls for sale. All from imp. bulls, four from imp. cows. Good enough to place at head of any herd. Apply **JAMES GIBB, Brookdale P.O. and Telephone.**

Wm. Grainger & Son, Hawthorn Herd of deep-milking Shorthorns. Aberdeen Hero (imp.) at head of herd. Eight grand young bulls by Prince Misty =37664=. Prices reasonable. **Londeshore Stn. and P.O.**

SHORTHORNS AND DORSETS.

3 bulls, seven to nine months old; also a few ewe lambs and ewes in lamb for sale. Prices reasonable.

R. H. HARDING,
Mapleview Farm, Thorndale, Ont.

SPRING VALLEY SHORTHORNS.

Imp. Bapton Chancellor =40869= (78298) heads the herd. We have for sale a choice lot of young bulls of the very best breeding and prices right. Inspection and correspondence invited.

Address: **KYLE BROS., Ayr, C.P.R.; Paris, G.T.R.**

For Shorthorns—Four young bulls, from 10 to 15 months old; also cows and heifers, all ages. Queenston Archer =48868= at head of herd. Shropshires all ages and sex. Also 1 Clyde filly rising 3 years old, 1 Clyde mare rising 6 years old.

BELL BROS.,
"The Cedars" Stock Farm, Bradford, Ont.

SCOTCH-TOPPED SHORTHORNS

Five choice young bulls, 8 to 12 months; also four heifers. **W. H. WALLACE,**
Woodland Farm, Mt. Forest, Ont.

Shorthorns for Sale—Some choice young bulls and heifers, got by British Flag, imported from deep-milking cows, registered. Prices moderate.

C. & J. CARRUTHERS, Cobourg Stn. and P.O.

Glen Gow Shorthorns—Our present offering is 9 bulls, from 6 to 14 months of age, sired by Imp. Ben Loman and Imp. Joy of Morning, and out of imp. and Canadian-bred cows. Also a number of very choice heifers. No fancy prices asked. Long-distance telephones. **WM. SMITH, Columbus, P.O.**
Brooklin and Myrtle Stns.

Farm Labor Problem

The question with every farmer is what shall be done to solve the Farm Labor Problem?

The scarcity of help has made it necessary that every possible means for facilitating the work be employed.

We would like to help you out and would suggest that you buy a

National Cream Separator

It will save time and labor in your dairy, as well as increase the quantity of your cream.

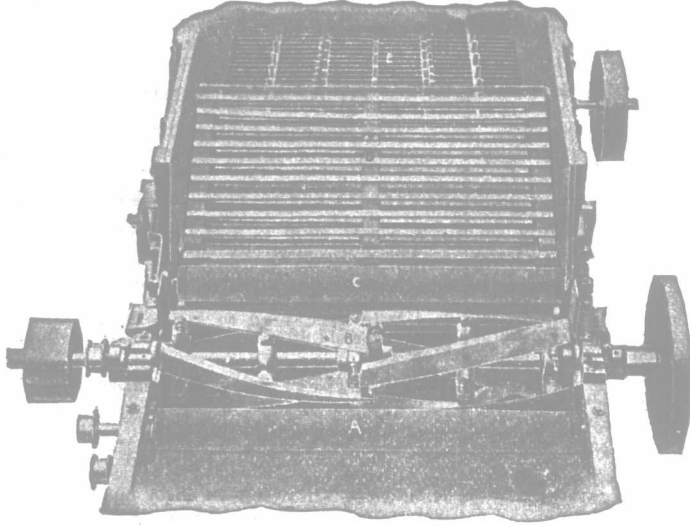
The National
is easily operated, easily cleaned, and a perfect skimmer.

Manufactured by
The RAYMOND MFG. COMPANY OF GUELPH, Limited
GUELPH, CANADA.



4 SIZES:
National style B.
National style No. 1.
National style No. 1A.
National style No. 5.

CUT YOUR STRAW WHEN YOU THRESH



Yes, by all means do so, but thresh it first, don't cut it first and then thresh—the cut straw cannot mix with the kernels of grain if the grain is separated from the straw before the straw is cut.

THE STEWART STRAW CUTTER

does its work after the grain has been separated from the straw. Farmers generally think it better to have the grain separated from the straw—long or short—and that's why they put it through a separator, don't you know? Examine the Stewart Straw Cutter system, or ask a farmer who has used one.

THE STEWART STRAW CUTTER MFG. CO.
Room 19 Aberdeen Chambers, TORONTO.
W. E. ROTHWELL, Manager.

VALLEY FARM



FOR SALE

Red Bull—"Montrose," 16 months, price, \$100.
Red Bull—"Lord Minto," 12 months, price, \$100.
Roan Bull—"Bold Buccleuch," 12 months, price, \$150.
Roan Bull—"Borderer," 15 months, price, \$65.

These bulls are well grown and fit for service, the first three being sired by our imported Scotch bull, "Magistrand."

All registered. These prices much below value, but stock must be sold. Apply to

A. SUMMERS, Aldershot P. O., Ontario.



SCOTCH SHORTHORNS

9 heifers, yearlings. 4 bulls, yearlings.
29 heifers, calves. 27 bulls, calves.

All out of imported sires and dams.
Prices easy. Catalogue.

JOHN CLANCY, H. CARGILL & SON,
Manager. Cargill, Ont.

NOTICE. When writing advertisers please mention the Farmer's Advocate.

QUESTIONS AND ANSWERS. Miscellaneous.

CEMENT, VENEER, OR STEEL SIDING.

Which would be the cheaper way to fix a house, to put four inches of cement around it or to put two thicknesses of building paper and steel siding? What would be the cost of each per hundred sq. ft.? Does the steel siding give good satisfaction? Could it be put over clapboards? What proportion cement and gravel would be required? J. E.

Ans.—There are two methods that might be used in veneering house with cement concrete. One is to make concrete of gravel nine parts, to Portland cement one part. This would have to be plastered over for appearance sake, and the total cost for material alone, not counting hauling or labor in building, would be about \$4 per hundred square feet. Another method would be to use sand or gravel (screened so that nothing larger than wheat grains were left) four parts, to cement one part. This, for material alone, would cost from \$5 to \$6 per hundred square feet. We think that the steel siding would be cheaper, but you can readily find the price by writing to those who advertise it. T. B.

SPRUCE GALL-LOUSE.

I enclose sample of something hurting our spruce trees. What is it, and what can I do to kill it? W. H. B.

Ans.—This is the spruce gall-louse (*Chermes abietis*, L.) which has been the cause of considerable anxiety among growers of ornamental spruces for some years, and is extending its range every year, though in the older sections the parasites are apparently keeping it in check. It undoubtedly renders the trees very unsightly, and gives them an unhealthy appearance, but I know of no actual instance where it has killed trees. The young issue from the cone-like galls about the middle of August, and crawl about on the trees, where later eggs are laid, from which hatch young plant lice that remain on the twigs until the following spring. Their presence in the young buds of the spruces causes slight swellings at the base of the leaves. Each female of the May brood lays about 300 eggs, and the young from these cluster in the swellings begun by their mothers, where they soon cause the galls which later are so conspicuous. No treatment is possible upon forest trees, but upon hedges and ornamental specimen trees good work has been done by spraying them at the times the young plant lice are exposed, and before they are enclosed in the galls, with a tobacco and soap wash, or with kerosene emulsion. The two seasons of the year when the young plant lice may be reached are in the latter part of August and in May. A good soap wash may be made by soaking ten pounds of tobacco leaves in enough hot water to cover them; then strain off the liquid and add two pounds of whale-oil soap. When dissolved, dilute to forty gallons of water. Two or three applications of this spray should be made at short intervals.

GOSSIP.

SPRINGBANK SHORTHORNS.
Springbank Stock Farm, the property of Mr. John McCallum, lies one and one-half miles from Iona station, in Elgin Co., Ont., and just now is the home of about 25 head of Shorthorn cattle, nearly all of which belong to the good old dual-purpose Miss Syme tribe, originally imported from the herd of Mr. R. Syme, Redkirk, Dumfries, Scotland, and which has produced many Provincial prizewinners. They are a large, thick-fleshed, heavy-milking strain, and are fairly early developers. The present stock bull is Imp. Speculator, a Cruickbank Butterfly, got by Scottish Leader, a grandson of Scottish Archer; dam by My Choice, a son of William of Orange. This bull is leaving a grand impression on the herd, the several heifers and two yearling bulls now on hand showing a good type, short-legged, straight loined and evenly covered with good flesh and grand coats; cattle that will do any man good, as they have never been pushed and are in shape to do well. Write Mr. McCallum, to Iona P. O., Ont., for particulars.

What Two Lice Can Do



They can virtually go right down in the poultry keeper's pocket and take the money. If left undisturbed the natural increase is so great

that they soon multiply to a swarm that will sap the life of young chicks, breed disease in the pens and ruin profit.

Instant Louse Killer

(Powder or Liquid)

Kills lice on poultry, lice on stock, and ticks on sheep. It is harmless to use, and will effectively destroy cabbage worms, slugs on rose bushes, and bugs on cucumber, squash and melon vines. Instant Louse Killer is the original powder louse killer put up in round cans with perforated top. Look for the word "Instant" on the can—then you won't get an imitation.

1 lb. 35 cents
3 lbs. 85 cents

If your dealer cannot supply you send your order to us.

Sold on a Written Guarantee.

Manufactured by

DR. HESS & CLARK,
Ashland, Ohio, U. S. A.

CLOVER LEA STOCK FARM SHORTHORNS

We are offering at present, two real choice roan bulls from imp. sires, just ready for service; also one show heifer, 11 months. These are choice animals and are offered at reasonable prices. When you see them, if they are not as represented, we will pay the expense of your trip. Will meet you at Ripley Station.

R. H. REID, Pine River, Ont. Ripley Sta., G.T.R.

SHORTHORNS AND LINCOLNS.

Present offerings: 4 choice young bulls 9 to 14 months; also a few good heifers, Lincolns, descended from the best English stocks.

JOHN LEE & SONS,
Highgate, Ont.
40 miles west St. Thomas, on
o M.O.R.R. & P.M. Ry.

A. EDWARD MEYER

Box 378. Guelph, Ont.

SCOTCH SHORTHORNS

a specialty. Herd bulls—Scottish Hero (imp.), a Shethin Rosemary, Radium, a Cruickbank Mysie. Correspondence solicited. Visitors welcome. Long-distance phone in house.

GEORGE D. FLETCHER, Breeder of Scotch Shorthorn Cattle and Large English Yorkshire Swine.

Herd headed by the Duthie-bred bull (Imp. Joy of Morning, winner of first prize at Dominion Exhibition, Toronto, 1903.

Present offering: young Shorthorns of either sex; also a choice lot of Yorkshires of either sex, six months old, from imp. sire and dam. Prices easy.

Binkham P. O., Ont. Erin Station and Tel.

SHORTHORN BULLS and HEIFERS

Sired by the Scotch bull, Scottish Lad 45061

FOR SALE.

S. DYMENT, Barrie, Ontario.

JOHN GARDHOUSE & SONS, Highfield P.O., Ont.

Breeders of

Scotch and Scotch-topped Shorthorns, Lincoln and Leicester Sheep and Shire Horses.

A good selection of young stock of both sexes always on hand for sale. Scottish Prince (imp.), Vol. 49, at head of herd. Royal Albert (imp.) 2337, at head of stud. Farms 3 1/2 miles from Weston, G. P. R. and C. P. R., and electric cars from Toronto.

Brown Lee Shorthorns—Present offering is

9 to 15 months old, a nice straight, good-doing lot, sired by Blenheim Stamp; also females of all ages, daughters of Imp. Sir Christopher and Imp. Beaucamp. Prices very reasonable.

DOUGLAS BROWN, Ayr P.O. and Station.

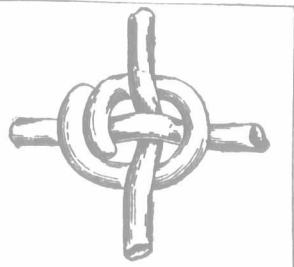
PAGE FENCING

THE BEST IS THE CHEAPEST

When you buy a knife for instance, you consider the quality of the steel in the blade. The biggest and heaviest knife is not necessarily the best. Now there is just as much difference in the quality and strength of steel in fence wire as there is in a knife blade or razor. We use a high carbon steel wire which, though it costs you but little more, is fifty per cent. (50%) stronger than wire in other fences. The lightest fence we make is as strong as the heaviest of other makes.

Notice the lock in our "EMPIRE" FENCE. You may have noticed also that others are imitating it. That is a good recommendation for it. Where we lead, others follow.

All of our wire is "COILED," not crimped. Besides the extra strength and superior workmanship we give you, we furnish PAGE FENCES dipped in a



THE LOCK IN PAGE "EMPIRE" FENCES

special white paint, which on top of the best of galvanizing, will lengthen the life of wire for years. And, also, this white coating makes wire much more sightly.

Owing to the great strength and elasticity of our fencing, one-third less posts are required, thus reducing the cost of the fencing.

As you get in PAGE FENCES one-half more fence strength, greater protection against rust, better workmanship, better appearance, use less posts, can you afford to use other fences, even though you could buy them for one-half the price of ours? But, really ours costs you little if any more.

We are prepared to prove any assertion we make above. Illustrated printed matter furnished for the asking.

THE PAGE WIRE FENCE CO., Limited, Walkerville, Ont.
Branches:—Montreal, Toronto, St. John.



DAIRYMEN

Do you know how much each cow is earning for you? The only way to know this is to buy a

Peerless Babcock Tester

IT WILL TELL YOU ORDER TO-DAY

4-BOTTLE MACHINE, PRICE, \$5.00

C. Richardson & Co.,

Box 500

St. Mary's, Ontario.

Maple Shade

Cruckshank Shorthorns and Shropshire Sheep
16 choice young bulls of Cruckshank breeding, from which you can select high-class herd-headers. If you wish to see the breeding we shall be pleased to mail a catalogue.

JOHN DRYDEN & SON,
Brooklin, Ont.

Stations: Brooklin, G.T.R. Long-distance telephones.
Myrtle, C.P.R.

Pine Grove Stock Farm.

Breeders of High-class Scotch Shorthorns, Choice Shropshire Sheep, Clydesdale and Hackney Horses.
Herd catalogue on application. Address: C. W. WILSON, Supt., Rockland, Ont. W. C. EDWARDS & Co., Limited Proprs. Ont.

Queenston Heights Shorthorns

Choice yearling heifers, Straight Scotch.
Two bull calves at easy prices.

HUDSON USHER, Queenston, Ont.

KENWOOD STOCK FARM. SHORTHORNS.

Headed by (Imp.) Jilt Victor=45187=, 10 grand young bulls; also heifers; from imp. and home-bred cows, for sale. Choice Lincoln sheep; Berkshire and Tamworth hogs offered.

HAINING BROS., Hightate, Ont. Kent Co.

Riverview Shorthorns and Oxords

Shorthorns represent Crimson Flowers, Athelstanes, Lady Janes and Roses.
We have for sale eight bulls, including our stock bull, four yearlings, and the balance calves; also a few one, two and three year-old heifers. A thick, straight, mossy lot. Also some spring and one-year-old Oxford rams.

Peter Cochran, Almonte P. O. and Sta.

BARREN COW CURE

Makes animals breed. Abortive Cow Cure prevents animals aborting. Cures guaranteed or money refunded.

L. F. SELLECK, Morrisburg, Ont.

PURE SCOTCH SHORTHORNS

Herd bulls: Imp. Prime Favorite =45214=, a Marr Princess Royal.
Imp. Scottish Pride =36106=, a Marr Roan Lady.

Present offering:
20 young bulls.
10 imported cows with heifer calves at foot and bred again.
20 one- and two-year-old heifers.
Visitors welcome. New catalogue just issued.

W. G. PETTIT & SONS, Freeman, Ont.
Burlington Jct. Sta. Long-distance telephone in residence.

6 Shorthorn Bulls 6

One two-year-old from imported Mayflower cow, and by an imported Archer bull. Also BERKSHIRES, 4 to 5 months old, bred from large show stock and prolific strains.

S. J. PEARSON, SON & CO., Meadowvale, Ont.
Stations: Streetsville and Meadowvale, C. P. R.

BELMAR PARO SHORTHORNS

10 bull calves, 16 heifers under two years.
All of the choicest breeding and practically all of show-yard quality. You can buy anything in the herd at a reasonable figure.

JOHN DOUGLAS, Manager. PETER WHITE, JR., Pembroke, Ont.

SHORTHORNS

Imp. Keith Baron 35050. Six young bulls from 10 to 18 months old. A lot of 2-year-old heifers in calf and a few young cows. A bunch of heifer calves, cheap.

CLYDESDALES
Just now: One pair of matched geldings 5 and 6 years old; show team.

JAS. McARTHUR, Goble's, Ont.

J. Watt & Son SHORTHORNS

Have still two very nice bull calves for sale; also a number of good young cows and heifers in calf or with calves at foot, of the most up-to-date pedigrees.

SALEM P.O. Elora Stations, G.T.R. and C.P.R.

BONNIE BURN STOCK FARM
Offers Scotch and Scotch-topped bulls, cows and heifers, 50 Shropshire rams and ewes, and Berkshire pigs, from imp. dams and sires, not akin. A bargain for quick sale.

D. H. RUSSELL, Stouffville, Ont.

QUESTIONS AND ANSWERS. Veterinary.

HORSE IS THIN IN FLESH.

Eleven-year-old horse gets thin in the winter. I had his teeth dressed last winter, and got some powders for him this winter, but he still is thin. He eats well.

H. N. E.

Ans.—It is probable his teeth require dressing again, as most horses are the better of having theirs dressed once every year. Get this done, then take 6 ozs. each, sulphate of iron, gentian, nuxvomica, ginger and bicarbonate of soda; mix and make into 48 powders. Give him a purgative of 8 drams aloes and 2 drams ginger. Feed bran only until purgation commences. After the bowels regain their normal condition, give him a powder every night and morning. V.

BRITTLE FOOT.

Thirteen-year-old horse is lame in one fore foot. It appears to be brittle, and will not hold the nails. What can I apply to toughen the foot? K. N.

Ans.—It is very probable the weakness and brittleness of the hoof is due to disease of the coffin-joint, and if so a cure cannot be effected, but the symptoms can be improved. The best treatment that can be adopted is to give him a long rest and blister the coronet once every month. This increases the growth of healthy horn more than any other treatment. Details for blistering are frequently given in these columns. If you cannot give him rest, get an ointment, made of 1 lb. lanolin, 1/2 lb. vaseline, and 1/2 lb. oil of tar. Rub the hoof, especially towards the top, and the heels well with this every day. V.

WARTS ON CORONARY BAND.

Mare got calked above the hoof on hind foot, and a horny wart grew, and now there are about 40 of them, and they discharge a foul-smelling matter, and the leg is considerably swollen. She is a valuable mare.

A. M. B.

Ans.—This is a case that requires the personal attention of a veterinarian, as in all probability an operation will have to be performed, and the parts are very vascular, hence there is danger of excessive bleeding. If you cannot get a veterinarian to attend her, cut the warts off close to the skin with a sharp knife. If much bleeding results, seal the spot with a red-hot iron. It will be necessary to cast and secure her before operating. Dress with a five-per-cent. solution of carbolic acid until healed. As she is in foal, I would advise you to simply use the carbolic acid dressing to try to keep it healthy until after she foals, and then operate, as the operation might cause abortion. V.

GROWTH IN UDDER.

Cow is going dry. She is due to calve in May. One of her teats got hurt, and a movable lump the size of a man's thumb has formed in the udder. A little matter still escapes from the teat. How should I treat her to remove this lump? F. J. W.

Ans.—Continue to milk, or draw the matter from this teat as long as any forms, and it is possible the lump may disappear. Even though it remains, if matter ceases to form and the milk duct remains open, the lump will not materially interfere with her milking qualities. If you are anxious to have it removed after she goes entirely dry, you will have to get your veterinarian to dissect the growth out, but this must not be done while she is milking, but must be done in time to have the wound healed before she calves again. It is very doubtful if an operation is advisable unless the milk duct becomes closed. V.

Miscellaneous.

MEMBERSHIP IN SWINE-BREEDERS' ASSOCIATION.

As I wish to become a member of the Swine-breeders' Association, who is the proper person to communicate with? J. S. M.

Ans.—J. W. Nimmo, Department of Agriculture, Ottawa.

Feeding Condiments.

It is almost universally admitted that for winter and spring feeding, something in the nature of a condiment is required as an aid to the digestion of feed which lacks the aroma and flavor of a good pasture. Various stock foods are flashily and extensively advertised for this purpose. Many of them are altogether useless, but, even with these, the inducements offered by their promoters is so great that feeders from one end of the country to the other have tried them. Of course, a trial has proved their worthlessness, and the consequence is that many country merchants are stocked up with quantities of stock foods for which there is no sale. Advertising will sell a new article, but after that article has been tried by the public and found wanting, no amount of advertising will induce the public to buy it the second time.

With Herbageum, it is different. Herbageum is the true condiment. It has been on the market for twenty-two years, and when a feeder has once fairly tested it, he continues to use it, and always has a good word to say for it. It is the same with the merchant who handles it. He has a friendly feeling towards it. He feels safe when he recommends Herbageum to his customers, and, although he would at times like to have it in a fancy package so that he might make a window display of it, he knows that fancy packages cost money, and with Herbageum the money's worth is in the goods.

Here is a letter from a flour and feed and seed merchant, of Thorold, Ont.: "For a number of years I have been selling Herbageum, and every customer who has tried it has a good word for it. The extensive advertising of some of the stock foods has forced me to handle them, but a test of these always proves them to be far short of Herbageum in results, and customers soon return to Herbageum. I use it in my own stable, and find nothing to equal it." (Signed) A. McClenchy, Thorold, Ont., Feb. 20th, 1906.

GREENGILL HERD of high-class SHORTHORNS

We offer for sale 12 bull calves, 2 yearling bulls, a number of them from imported sire and dam; also high-class females, all ages, either imported or Canadian-bred. The herd is headed by (Imp.) Lord Roseberry.

R. MITCHELL & SONS, Nelson P.O., Ont.; Burlington Junc. Sta. HILLYVIEW STOCK FARM SHORTHORNS, CLYDESDALES and COTSWOLDS

Present offerings: Choice young bulls and heifers. Also a few good young cows. Apply to JOHN E. DISNEY & SON, Greenwood, Ont. STATIONS: Claremont, O.P.R.; Pickering, G.T.R.; Brooklin, G.T.R.

1864 + HILLHURST FARM + 1805 SHORTHORN CATTLE

Herd of thirty. Stock bull: (Scotish Archer 58806), Missie 134th, by William of Orange, Prince Horsa, bred by W. S. Marr, Butterfly 46th (Sixtyton Butterfly).

JAS. A. COCHRANE, Compton, P. Q. GLENAVON STOCK FARM. Shorthorns and Berkshires

Will be sold cheap if sold before the 1st of April, the following: 3 bulls (Shorthorns) and one Berkshire boar.

W. B. ROBERTS, Sparta P. O. Sta.: St. Thomas, C.P.R., M.C.R., G.T.R.

PLEASANT VALLEY SHORTHORNS

Herd headed by imp. Old Lancaster =50068=, Grand champion, Toronto, 1905, and consisting of females of the leading Scotch families; can spare a few young cows bred to imp. Old Lancaster.

GEO. AMOS & SON, Moffat Stn. and P.O., C.P.R. Willow Bank Stock Farm | Established 1885

Shorthorn Cattle, Leicester Sheep. Imp. Rosicrucian of Dalmeny =4220= at head of herd. Choice young stock for sale.

JAMES DOUGLAS, Caledonia, Ont. MAPLE HILL SCOTCH SHORTHORNS

of best families. Herd headed by the grandly bred Lavender bull, Wanderer's Star =49835=, A few choice young bulls.

Box 426. WM. R. ELLIOTT & SONS, Quisp, Ont.

THINGS WORTH KNOWING

If you are going to buy
A MANURE SPREADER

NO machine within his reach is capable of doing so much for the farmer as the modern manure spreader.

But then it must be a machine with features—features of economy and efficiency.

The I. H. C. Manure Spreader has such features.

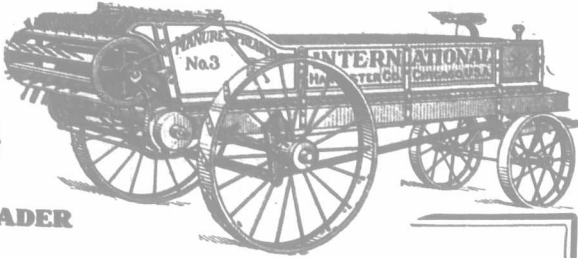
Any man of experience knows that a spreader only works perfectly when the load is level. The I. H. C. Spreader is the only spreader with a vibrating rake in front of the beater or cylinder which levels every load and any load of manure.

Any man knows that the apron operates better when power is applied at both sides. The I. H. C. spreader apron is driven at both sides from both hind wheels.

This saves all torsion, binding, friction and undue strain, and consequently saves breakages and results in lighter draft.

One lever is better than many levers in operating any machine.

The I. H. C. spreader is the only spreader which is controlled and operated entirely with one lever.



It has ten different feeds—can be adjusted instantly while in motion to spread three to thirty loads per acre.

Large, solid, steel axles front and rear—front wheels cut under—turns very short.

Steel wheels—no rotting or drying out. Broad faced tires with turned in flange to keep out dirt, mud, etc. Lightest and strongest.

Provided with traction lugs on rear wheels—will work perfectly on hard, frozen or wet ground.

Made in various sizes to suit all requirements.

The I. H. C. spreader will distribute perfectly manure of all kinds—wet, dry, mixed, straw, full of stalks, frozen, caked, etc.

It may be equipped with special features known as lime and drill attachments for distributing broadcast, or in drills, fine manure, commercial fertilizers, lime, ashes, salt, cotton seed hulls, land plasters, etc.

Remember what we have told you—it is the manure spreader with special features which all make for success.

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TUBULAR
CREAM SEPARATORS

Demand a Look Inside

DAIRY TUBULAR BOWL—All Apart

"Bucket bowl" separator makers falsely claim to make separators with light, simple, easy-to-wash bowls. We are the only makers who dare show a picture of our bowl—all others would betray them. Other makers fear pictures. Our handsome Catalog Z-198 tells these secrets. Write for it today.

THE SHARPLES SEPARATOR CO.
Toronto, Can. West Chester, Pa. Chicago, Ill.

AYRSHIRES

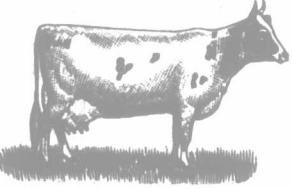
The famous Reford Herd at St. Anne de Bellevue, Que., now owned by Sir William C. Macdonald.

Several yearling bulls for sale; also a number of bull calves, Quality and appearance extra good, bred from the best milking strains, noted for robust constitution and large teats.

For particulars apply to

MACDONALD COLLEGE
St. Anne de Bellevue, Quebec.

AYRSHIRES AND YORKSHIRES



Young bulls, 9 Aug., 1904, sired by Prince of Barckeskie (imp. in dam); 1 Mareh calf, sired by Royal Star (imp.). Heifer calves, 2-yr-old heifers and young cows. Young sows ready to mate. Pigs ready to ship. Prices right. Correspondence solicited.

ALEX. HUME & CO., Menie, Ont.
Meadowside Farm

Ayrshire Cattle, Shropshire sheep, Berkshire pigs, B. P. Rocks and B. Oringtons. Young stock for sale.

A. R. YULL, Prop., Carleton Place, Ont.

Maple Cliff Dairy and Stock Farm

Breeders of Clydesdale Horses, Ayrshire Cattle, Berkshire and Tamworth Pigs. Young stock for sale at all times.

R. REID & CO., Hintonburg, Ont.

Farm adjoins Central Experimental Farm.

AYRSHIRES—Choice stock of either sex, different ages, for sale. Prices reasonable. For particulars apply to

M. DYMONT, Hickory Hill Stock Farm, Dundas St. & Tel. Clapton, Ont.

Registered Ayrshires—Bright Smile of Maple Grove—1898—5 years old; gave 40 lbs. a day last year on grass alone. Due to calve April 1st. Lady Clare, rising two years; sire Signal of Maple Grove; dam Bright Smile, as above; in calf. Joseph Hudson, Lyn Ont.

MAPLE GLEN STOCK FARM

Can now offer one young bull, born last spring, and four bull calves, born in Aug., Sept. and Oct., from select cows, and sired by the great imp. bull, Sir Alta Fosh Beets. Any female in the herd can be secured at their value.

C. J. Gilroy & Son, Glen Buell, Ont.

SPRINGBROOK AYRSHIRES.

Gave over 7,000 lbs. of milk, testing 3.9 per cent, butter-fat, during 1903. For sale: One bull 4 years old, Comrade's Fancy of Glenora 15700; bull calves of this year; also females of all ages.

W. F. STEPHEN, .O. Box 163, Huntingdon, Que.

THREE PRIZEWINNING AYRSHIRE BULLS FOR SALE

One 5-year-old bull, 3rd-prize winner at Central Canada Exposition; one 2-year-old bull, 1st-prize winner at Central Canada Exposition, and one bull calf, 19 months old, 3rd-prize winner at Central Canada Exposition. These bulls are fit to head any herd in Canada. Terms reasonable. Write

A. KENNEDY & SON, Hillview Stock Farm, Winchester Stn., C. P. R. Vernon, Ont.

Ayrshire Bulls

For Sale 12 Ayrshire bulls one to two years old. Bred from deep milking stock, both by sire and dam. Price reasonable. Correspondence and inspection solicited.

W. Owens, Monte Bello, Que. Riverside Farm.

SHANNON BANK STOCK FARM FOR AYRSHIRES AND YORKSHIRES

Young stock of both sexes for sale from imported stock.

W. H. TRAN, Cedar Grove, Ont.

AYRSHIRES FROM A PRIZEWINNING HERD

Have some nice bull and heifer calves for sale at reasonable prices. For particulars, etc., write to

W. M. STEWART & SON, Campbellford Stn. Menie P.O., Ont.

SPRINGBROOK HOLSTEINS & TAMWORTHS

Two choice bulls, 11 and 12 months old, Toronto prizewinners, rich breeding; yearling Tamworth boar, 2nd prize at Toronto, good stock-getter; Tamworth sows, bred, and young pigs, pairs not skin. All high-class stock. Come and make your own choice. Prices right.

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QUEEN CITY HOLSTEINS

If you would like to purchase a young Holstein bull whose sire's dam has an official record of 550 pounds of milk and 26 pounds of butter in seven days, write to R. F. HICKS, Newton Brook P.O., York Co.

Holsteins at Ridgedale—A few choice bull and heifer calves on hand for sale, sired by Prince Pauline DeKol 6th. Ages up to ten months. Write for what you want, or come and see them. Shipping stations: Port Perry, G. T. R., and Myrtle, C. P. R., Ontario Co.

R. W. WALKER, Utica P.O., Ont.

With Cheese at 12c and Butter at 25c, why not

Buy a Holstein Bull

and Improve Your Dairy Herd? I have them Right in Breeding, Right in Quality, Right in Price. Order early if you want one.

G. W. CLEMONS, ST. GEORGE, ONT.

HILL AND CENTRE VIEW HOLSTEINS

95 head. Stock bulls bred on high-producing lines. Official records 15 to 22 1/2 lbs. 20 bulls, 4 to 16 months, by our stock bulls, out of Advanced Registry dams. Females, all ages. Write quick. Guaranteed as represented.

P. D. EDE, Oxford Centre P.O. Woodstock Station.

QUESTIONS AND ANSWERS. Miscellaneous.

WILL CEMENT TILE ROT?

Will cement tile rot where they can't get air, say three feet under ground? A man told me that he heard a man say cement tile will rot where they can't get air. Has anybody had experience to know if that is true?

SUBSCRIBER.

Ans.—We cannot answer this question from experience, as cement tile have not been long in use, but we think it highly improbable that they would be affected by lack of air.

BUILDING ROOT-HOUSE.

I wish to make a root-house in the side of a hill (sandy soil). Should any special kind of wood be used for lining? Should there be bins for the potatoes, apples, etc.? Could you give a plan, and tell how it should be built inside?

W. G. W.

Ans.—For building root-house, cedar, if it can be had, should be used, as the earth outside and the moisture inside tends to rot the lumber or logs used very quickly. Root-houses are often very primitive structures, being made of split or sawn slabs eight feet long, so set up that the lower ends on opposite sides are eight feet apart, and the upper ends resting against each other, and the whole covered with earth. These, though crude, are serviceable, but we presume you wish something better. The walls should be lined with cedar plank, the roof can be of ordinary shingles, but should have a lining a few inches under, and the space filled with sawdust or shavings to keep out frost. The exposed end should also be double and filled between, with double door. Inside it would be well to have center aisle, with bins on either side for the fruit and vegetables to be stored. The floor could be made of cement concrete, which is not costly, and gives good satisfaction. Some provision should be made for ventilating in mild weather. We would recommend if the structure is to be permanent, and especially if it is to be largely underground, not only the floor but the walls also be built of cement concrete. A good cement wall is practically frostproof, and it is clean, strong and indestructible. In this section of country it is also cheaper than a good wooden wall. Roof as before described, or with a cement arch. T. B.

OYSTER-SHELL BARK-LOUSE.

In trimming my apple trees, I found one tree nearly covered with a sort of scale. Am sending sample. What is it? Will it injure the fruit and tree? S. K.

Ans.—This is the oyster-shell bark-louse, for illustrated description of which see "The Farmer's Advocate" of November 9th, 1905. Although destructive in all parts of Canada, the louse is not a particularly hard insect to control where trees are attended to regularly. Invigorate the trees by plowing around them, and feeding them with some quick-acting fertilizer, such as well-rotted manure or a dressing of wood ashes. When trees have been standing in sod, it is well to break this up. Trees which are planted too closely should be pruned and cleaned out, so that they may be easy of access for spraying and other operations. As soon as the winter sets in, the trees should have been sprayed thoroughly with thin lime-wash, one pound of lime in each gallon of water. Two coats must be applied, the second immediately after the first is dry. Where the lime-sulphur or the lime-sulphur-and-salt wash is used to protect trees against fungous and insect enemies, there will never be any trouble with the oyster-shell bark-louse. The young bark lice emerge from their mother's scales during June. The exact date should be watched for, and immediately the dust-like yellow mites are noticed, the trees should be sprayed without delay with weak kerosene emulsion, or a whale-oil soap solution, using one pound to six gallons of water. In southwestern Ontario excellent work has been done in preventing the spread of this scale by a minute chalcid parasite, Aphelinus mytilaspis. It is bright yellow in color, with golden eyes, and measures one-thirtieth of an inch in length, being so small it can hardly be seen with the naked eye. The parasite is sometimes so abundant that it destroys more than half the scales that are formed.

Ring-Bone

There is no case so old or bad that we will not guarantee

Fleming's Spavin and Ringbone Paste

to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cure. Works just as well on Slobber and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of

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Ninety-six pages of veterinary information, with special attention to the treatment of blemishes. Durable bound, indexed and illustrated. Make a right beginning by sending for this book.

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Cows from the

ANNANDALE HOLSTEIN HERD

Have won during the past show season at Ottawa first and sweepstakes on cow, first on 3-year-old, first on 2-year-old class. At Guelph (dairy test) first and sweepstakes on cow, first and second in heifers. At Chicago (National) first and sweepstakes on cow, also second-prize cow, second and third on 2-year-olds, second on 1-year-old heifers, and a host of other prizes (different cows at different shows).

Bull calves, 4 months and under only, for sale from great dams and greatest of sires. Buy young if you want them from Annandale Stock Farm.

GEO. RICE, Tillsonburg, Ont.

You need a HOLSTEIN BULL

to head your herd, sired by such noted sires as

Plebe De Kol," whose dam and sire's dam records average 619.9 lbs. milk, 37.31 lbs. butter in 7 days, or "Duchess Aegle De Kol Beryl Wayne," grandson of the famous "Beryl Wayne," 99 lbs. milk in one day, 27.37 lbs. butter in 7 days, 17.16 lbs. milk in 10 1/2 months. We have 12 imported and home-bred bulls to offer of such breeding; also heifers and young cows. Just imported, 36 head in the past six months. If head from which to select. It will be to your interest to enquire before buying elsewhere.

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Seven miles from Ingersoll.

RIVERSIDE HOLSTEINS

80 head to select from. Six young bulls, from 4 to 7 months old, whose dams have official weekly records from 16 to 31 lbs. butter; sired by Johanna Bue 4th's Lad, a son of Sarcastic Lad, Grand Champion prize bull at World's Fair, St. Louis, 1904.

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Herd headed by Sir Mechtild Poech, absolutely the best official-bred sire in Canada. Dam Ianthe Jewel Mechtild, 25.8 pounds butter in seven days. Champion cow of Canada over all breeds. Sire's dam, Aaltje Poech 4th, holds the world's largest two-day public test record—8.6 pounds butter. Young bulls of the choicest quality for sale.

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Ayr, C.P.R.; Paris, G.T.R.

Lyndale Holsteins. For Sale

A number of bull calves from one to four months old, out of Record of Merit cows, and sired by Beryl Wayne Paul Concordia, whose four nearest dams have official butter records averaging 22 lbs. 11 ozs. each. We also have three young bulls fit for service.

BROWN BROS., LYN, ONT.

MAPLE GROVE HOLSTEIN-FRIESIANS

For Sale: Three bull calves, sired by Lord Wayne Mechtild Calamity, and all out of Advanced Registry cows.

Apply.

WALBURN RIVERS, Folden's Corners.

Grove Hill Holsteins—Herd contains 55 head, in the advanced registry. Our stock bulls have all been backed up by high records. Present offering: Several young bulls and a few females.

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We have for immediate sale several young bulls, and a number of young females, that for ideal type and superior quality, backed up by gifted breeding, are unsurpassed.

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Our Holsteins are producers and prizewinners. Young bulls and a few choice heifers for sale, also some extra good young Chester White pigs, both sexes. D. G. GODDARD, Thornhill P.O., G. T. R., and street cars.

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A first-class herd of imported, officially tested cows. Bulls of all ages for sale, also a few cows. W. H. SIMMONS, New Durham, Ontario.



We Own The Largest Stock Food Factory In The World.

It covers over a city block, contains over 18 acres of floor space, cost \$500,000. Size of our office 360x120, 300 office people, 150 typewriters and we use fifty million letter heads and envelopes every year. A car-load every 30 days. Our chemical laboratory is one of the best. Our office is one of the great sights of the business world. Many very small concerns advertise large buildings. We invite you to visit our factory and see that we have everything we claim.

Manufactured and Guaranteed by International Stock Food Co.


"International Stock Food"	"International Poultry Food"
"International Heave Cure"	"International Louse Killer"
"International Worm Powder"	"International Distemper Cure"
"Silver Fine Healing Oil"	"International Foot Remedy"
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"International Pheno Chloro"	"International Sheep Dip"
"Dan Patch Stable Disinfectant"	"International Hoof Ointment"
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Also "Jewel Incubators" and Brooders, and Jewel Chick and Hen Feed.

DAN PATCH 1.55x MAILED FREE.

We have a Beautiful Color Picture of our Champion Pacer, Dan Patch 1:55 1/4, size 16x24. Free of advertising, fine picture for framing, gives all the records made by our pacing wonder. We will mail you one free, postage prepaid, if you will write us how much stock you own and name this paper. Write at once to

INTERNATIONAL STOCK FOOD CO., TORONTO, CANADA.



IDEAL FENCE
WHEN YOU FENCE, FENCE FOR GOOD.

A good fence adds its price to the value of the land. A poor fence soon becomes unsightly and worthless. The job must be done over again. You must go to all the expense of erecting a fence again. This costs lots of money in time and labor; it means piling expense on top of expense. It pays to do the job right in the first place. Put up the Ideal woven wire fence as shown above, and you will have done with that piece of fencing for many years. It's not going to rust out in a few years because it is heavily galvanized and it always looks well. It stands up. It holds its shape perfectly on any surface, hilly or level. There is a reason for this, and the reason is that Ideal Fence has the weight. It's all made of No. 9 hard steel wire, and has the famous Ideal lock at every wire crossing. Slipping wires are impossible with this lock. Any strain or pressure is distributed and borne by all of the wires. That means strength. There is not a domestic animal living that can go through or over it. And there is no trouble about hot or cold weather. It adjusts itself to all temperatures. If you cannot be sure of these things, investigate. Let us send you a book giving all details about Ideal Fence. It is free; write for it.

THE MCGREGOR-BANWELL FENCE CO., Limited,
Dept. B, WALKERVILLE, ONTARIO.

Lincolns are Booming

We have only a few more ewe and ram lambs and breeding ewes for sale. We have seven choice young bulls, Scotch-topped, and a grand lot of heifers and young cows for sale at reasonable prices. Write or come and see us.

F. H. NEIL & SONS,
Telegraph & R.R. station, LUCAN, ONT.

Sheep Breeders' Associations.

American Shropshire Registry Association, the largest live-stock organization in the world. Hon. John Dryden, President, Toronto, Can. Address correspondence to MORTIMER LEV-ERING, Secretary, Lafayette, Indiana.

Leicester Sheep—Choice ram and ewe lambs; also a few yearlings for sale. For particulars write to **CHAS. F. MAW,** Milton Stn. and Tel. Omagh P.O.

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.

SHROPSHIRE

Choice ram and ewe lambs for sale; also a few aged ewes.

GEO. HINDMARSH, Ailsa Craig Ont.

COTSWOLDS

Some good shearing ewes and ewe lambs, and a few choice ram lambs, right type, for sale. Prices moderate.

E. F. PARK, Burgessville, Ont.

HIDES
SHEEPSKINS, FURS

Consignments Solicited. Top Prices.

E. T. CARTER & CO., TORONTO
COTSWOLD SHEEP

From one of the largest breeders in the home of the breed. We have bred the prizewinners at the leading English shows. Address:

W. HOULTON, Broadfield Farm, Northleach, Glos., ENGLAND; or S. HOULTON, Calgary, ALBERTA, Canadian representative.

SOUTHDOWNS

Having sold short, I am now booking orders for future delivery of show and breeding flocks.

COLLIES

At Stud, Holyrood Clinker. Just imported. Fee \$10.00.

Robt. McEwen, Byron, Ont.

Seed Grains and Dorset Horn Rams

Emmer and Tarter King oats. All grains well cleaned. Write for samples and prices.

Glenairn Farm. **JAMES DICKSON, Orono, Ont.**

Sheep and Cattle Labels.

If you are putting stock out this spring you will need them. Sample and circular free.

F. G. JAMES, Bowmanville, Ont.

QUESTIONS AND ANSWERS.
Miscellaneous.

POULTRY PAPER.

Mention the names of some of the leading poultry journals in Canada.

R. E. O.

Ans.—It is rather a cool proposition to ask us to do a stroke of free advertising of this nature, but we may say the Canadian Poultry Review, published in Toronto, is the leading Canadian poultry paper.

WARMING PIGPEN BY PIPE FROM STABLE.

1. Your answers re lightning-rods are very interesting. Would like to have you explain more thoroughly how they are erected. This is a question which will interest many of your readers very much.

2. We are intending to build a cement hogpen and henhouse, sidewise to our cattle barn, leaving about 16 feet between end of cattle barn and hogpen for driveway. Would like to know if we can run a pipe across from cattle stable to convey the hot air to heat hogpen.

FARMER.

Ans.—1. We will publish, shortly, an article in answer to this question.

2. An overhead pipe of sufficient size, or even an underground one, would, if the wind outside were blowing towards the hogpen from the barn, convey a strong current of heated air into the hogpen. If the wind was in the contrary direction, the current in the pipe would be towards the barn. Would it not be better to have henhouse and hogpen a little cooler than heated by air from stable, which would almost necessarily be used up, and foul?

T. B.

HIGH-LAND PERMANENT PASTURE.

I have twenty-five acres of high, stony land, somewhat difficult to cultivate, being so rough. Said land has quite often given satisfactory grain crops. Fully two-thirds of this land I would consider in condition for giving a fair crop of the ordinary mixture of red clover and timothy seed. Can you recommend a mixture of certain named seeds that will be likely to make a permanent pasture on the above specified land. The one-third of above mentioned land is where the question really is. It will yield a fair straw crop in a favorable season. The above mentioned land is about one mile from buildings, rendering it somewhat difficult to cultivate, in consequence of scarcity of labor. Water in connection with land is easy of access. Probably it would be well to say in reply just how many pounds to the acre of each separate variety should be sown.

SUBSCRIBER.

Ans.—The grasses best adapted for permanent pasture require several years to become thoroughly established. It is, therefore, good policy, in seeding down such a pasture, to use a good proportion of timothy and red clover, as these, though not of much account as permanent-pasture plants, furnish a good growth for a few years, and die out as the others take possession. Orchard grass, Kentucky blue grass, Canadian blue grass (wire grass), meadow fescue, with white clover, are the varieties recommended for high-land pasture. We would advise you to sow two-thirds your ordinary measure of timothy, red clover and alsike clover seed, with two pounds per acre each of orchard grass, Kentucky blue grass and meadow fescue, and six pounds lucerne seed added. We leave out Canadian blue grass and white clover as, probably, these will find their way in of themselves. The fittest will survive.

T. B.

When the Prince of Wales was a little fellow at school, he ran out of money, and knew his parents too well to ask for it. He sat down and laboriously prepared a letter to Queen Victoria, his grandmother, pathetically begging her to send him half a sovereign (about \$2.50). The Queen, instead of forwarding the money, wrote an autograph letter, full of wholesome advice. A few days later she received a brief response, which said: "Dear Granny,—Never mind about that money now. I don't need it. I have sold your letter for £2 (\$10)."

SUFFERING WOMEN
who find life a burden, can have health and strength restored by the use of

Milburn's Heart and Nerve Pills.

The present generation of women and girls have more than their share of misery. With some it is nervousness and palpitation, with others weak, dizzy and fainting spells, while with others there is a general collapse of the system. Milburn's Heart and Nerve Pills tone up the nerves, strengthen the heart and make it beat strong and regular, create new red blood corpuscles, and impart that sense of buoyancy to the spirits that is the result of renewed mental and physical vigor.

Mrs. D. O. Donoghue, Orillia, Ont., writes: "For over a year I was troubled with nervousness and heart trouble. I decided to give Milburn's Heart and Nerve Pills a trial, and after using five boxes I found I was completely cured. I always recommend them to my friends."

Price 50 cents per box or three boxes for \$1.25, all dealers or The T. Milburn Co., Limited Toronto, Ont.

Shropshire & Cotswold Sheep
SCOTCH SHORTHORNS and CLYDESDALES

Choice ram and ewe lambs. Also 50 shearing ewes for sale. Apply to

JOHN BRIGHT,
Myrtle Station, Ontario.

BROAD LEA OXFORDS.

Present offerings are 28 ranch shearing rams, seven shearing ewes, one show ewe four years old. Will also book orders for ewe and ram lambs from imported ram.

Correspondence promptly answered. Visitors always welcome.

R. B. Stations: **Mildmay, G. T. B. Teeswater, C.P.R.** **W. H. ARKELL,** Teeswater, Ont.

DORSET HORN SHEEP and SCOTCH SHORTHORNS

The latter representing the Nonpareil, Miss Ramsden, Missie and Gloster families exclusively, and the former comprising more Royal winners and more St. Louis prizewinners than any other flock in the world. Stock for sale always on hand.

JOHN A. MCGILLIVRAY, North Toronto, Ontario.

100 Shropshires & Cotswolds 100

One hundred head for sale. Ten shearing rams, fifty ram lambs, and sixty shearing ewes. Rams are good enough to head any flock. The ewes are a choice lot and will be bred to imp. ram.

John Miller, - Brougham, Ont

Large White Yorkshires

A choice lot of young boars ready for service, young sows ready to breed, and young pigs all ages; all direct from imported stock of choice quality.

H. J. DAVIS,
Importer & Breeder of Shorthorns & Yorkshires C.P.R. and G.T.R. Woodstock, Ont.

We are offering **Yorkshire Boars** weighing 40 lbs. at \$7 each, registered, f. o. b. cars. Three yearling Shorthorn bulls, good breeding and colors, at \$75, registered, f. o. b. cars. **W. R. BOWMAN, Mt. Forest, Ontario.**

YORKSHIRES

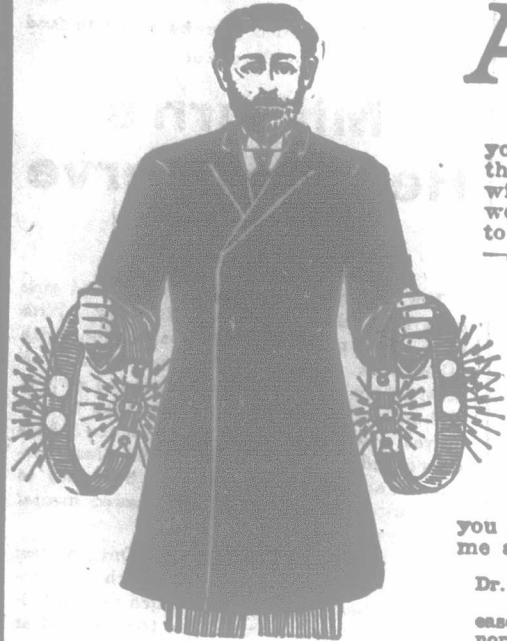
Two grand (imp. in dam) sows, bred to farrow in June, to a show boar; also a young litter ready to ship in April. Orders booked ahead and satisfaction guaranteed.

L. HOOEY, Powie's Corners P.O. Fenelon Falls Station.

Winfield Yorkshires

Have still a few choice young boars from Summer Hill Chester, some young sows from imp. sire and dam; also a fine lot of suckers coming on. A few sows 7 months old, bred again.

G. B. MUMA, Ayr P.O., Ayr and Paris stations.



A FREE CURE!

If you are weak and ailing; have lost the fire and vigor of youth; if you are rheumatic; full of pains and aches, or suffering from any disease that drugs have failed to cure; I want you to come to me. I can cure you with my wonderful Electric Belt, and I'll give it free to any weak man or woman. I want every weak, puny man, every man with a pain or an ache to get the benefit of my invention. Some men have doctored a good deal—some have used other ways of applying electricity—without getting cured, and they are chary about paying money now until they know what they are paying for.

If you are that kind of a man, this Belt is yours without a cent of cost to you until you are cured.

That's trusting you a good deal, and it is showing a good deal of confidence in my Belt. But I know that I have a good thing, and I am willing to take chances, if you will secure me.

As to what my Belt will do, I know that it will cure wherever there is a possible chance, and there is a good chance in nine cases out of ten.

So you can afford to let me try, anyway, and I'll take the chances. If you are not sick don't trifle with me, but if you are, you owe it to yourself and to me, when I make an offer like this, to give me a fair trial.

Dr. McLaughlin:
Dear Sir,—The Belt I purchased from you in August, 1903, cured me of heart disease, and I am able to work and tend to business as well as ever, and my pulse is quite normal. I highly recommend your Belt for indigestion and all stomach troubles, from which I also suffered greatly. If your patients would pay attention to the advice you give them they would not be long ailing. With best wishes, I remain, yours very truly,
JAS. JOHNSTON, J.P.
Ottawa, Ont.

Dr. McLaughlin:
Dear Sir,—I will now make my second report, after wearing your Belt for two months. I find I am still improving in health. The complications are slowly leaving me, that is the Bladder trouble, Stomach trouble, Kidney trouble, and back pains, and I feel better all round. I have had no losses for weeks now, and I find my stomach has improved a lot and I am not troubled with constipation. My stomach is digesting its food much better, and I am getting stronger in every way. I am following your instructions as near as I can, and I am very much pleased so far with your grand Electric Belt. Trusting to hear from you soon, I remain, yours very truly,
GEORGE M. TROHON, Box 361, Digby, N.S., Jan. 24th, 1906.

Dr. M. F. McLaughlin:
Dear Sir,—Five months ago I received your high grade Belt. I was then suffering from the last stage of seminal weakness, and my prospect of getting cured was very small, but I commenced the use of your Belt, by your advice, as a last straw towards saving myself from the dreaded sickness. You can imagine my joy and happiness when I found that after using your Belt a short time, I was improving daily. As my case was very serious, in my estimation hopeless, you can with reason feel very proud of your invention, which is a blessing to humanity. I also wish to compliment you upon the honest dealing and advice patients are receiving from you. That your business may flourish is my sincere wish, as there is no doubt but that your Belt is the proper thing, when doctors and medicine fail. May your name and your invention go around the world, a benefit to suffering humanity. I am, yours very truly, F. Lindblad, Dawson City, Yukon.

If you would believe the thousands of men whom I have already cured, my Belt is worth its weight in gold.

But some men don't believe anything until they see it. That's why I make this offer.

If I don't cure you my Belt comes back to me and we quit friends. You are out the time you spend on it—wearing it while you sleep—nothing more.

But I expect to cure you if I take your case. If I think I can't cure you I'll tell you so, and not waste your time. Anyway, try me, at my expense.

Call or Send for My Free Book.

Come and see me and I'll fix you up or if you can't, then cut out this coupon and send it in. It will bring you a description of my Belt, and a book that will inspire you to be a man among men, all free. My hours, 9 a.m. to 6 p.m. Sundays, 10 to 1.

Dr. M. S. McLaughlin,
130 Yonge St., Toronto.
2-1-6
Please send me your book, free.
NAME
ADDRESS

BERKSHIRES

Imported and Canadian-bred
H. M. VANDERLIP, Cainsville,
on T. H. & B. and B. & G. division of Grand Trunk. Telephone and telegraph, Cainsville, Ont.

HILLCREST HERD OF ENGLISH BERKSHIRES

For Sale: A lot of very choice young things of various ages. We prepay express charges and guarantee satisfaction. Enquiries promptly answered.
Vine Stn., G. T. R., near Barrie.
JOHN LAHMER, Vine P.O., Ont.

NEWCASTLE HERD OF Tamworth Swine and Shorthorn Cattle

Still have a lot of beauties to offer in Tamworths of both sexes, from 2 months to 3 years old; a half-dozen March sows that will be bred in October and November. All for sale at moderate prices. Also four young Shorthorn bulls ready for service, and a half-dozen beautiful heifers.

COLWILL BROS., Newcastle, Ontario.

Mount Pleasant Herd of Tamworths and Holsteins. A large herd of choice pigs of all ages on hand. Mount Pleasant type of hogs are profitable breeders and ideal bacon hogs. Pairs not akin. Herd headed by Colwill's Choice No. 1343. Won sweepstakes and silver medal at Toronto, 1901-2-3. Also a few bulls.
Bertram Hoskin, The Gully

FOR SALE: IMPROVED CHESTER WHITES

Of the long, deep, heavy sort. Breeding stock selected from the most noted families, with a view to size and quality. Booking orders for choice spring pigs; also a few fall pigs for sale. Pairs furnished not akin. Express charges prepaid. Pedigrees and safe arrival guaranteed.

H. E. GEORGE, Crampton, Ont.

Rosebank Herd of LARGE ENGLISH BERKSHIRES

Present offering: Choice stock from 6 weeks to 6 months old, sired by Concord Professor and Willow Lodge Crowa 894. Can supply pairs and trios not akin. Satisfaction guaranteed. Express prepaid.
JOHN BOYES, Jr., Church Hill, Ont.

CHESTER WHITE SWINE

Shropshire Sheep and Mammoth Bronze Turkeys. Write for prices.
W. E. WRIGHT, Glanworth, Ont.

GLENHODSON YORKSHIRES AND POULTRY.

Sows bred or ready to breed, from choice imp. stock, also young pigs, for sale. Buff Orpington, B. P. Rock and White Wyandotte eggs for hatching at \$1 for 15.

GLENHODSON COMPANY, Myrtle Station, Ont.

Long-distance phone at farm. Lorne Foster, Mgr.

LARGE ENGLISH YORKSHIRES

A grand lot of young sows ready for mating, others bred; also young pigs, all from imp. sires and dams. Prices reasonable.

ALFRED E. SHORE, White Oak, Ont.

Glenburn Herd of YORKSHIRES

Now on hand, a number of sows, 5 and 8 months old, for spring farrow; also a large number of September sows and boars. Booking orders for spring pigs. o

DAVID BARR, JR., Box 3, Renfrew, Ont.

Oakdale Berkshires

Of the largest strains. Imported fresh from England. The produce of these and other noted winners for sale reasonable. Let me book your order for a pair or trio not akin.

L. E. MORGAN, Milliken Stn. and P. O.

LARGE ENGLISH YORKSHIRES



Pigs of the most improved type, of both sexes, all ages, for sale at all times. We have more imported animals in our herd than all other breeders in Canada combined. We won more first prizes at the large shows this year than all other breeders combined. We won every first but one and all silver medals and Bacon prizes at Toronto and London, and at St. Louis we furnished all the first-prize hogs in the breeding classes except two; also supplied both champion and grand champions. Prices reasonable.

D. C. FLATT & SON, Millgrove, Ont.

MONKLAND YORKSHIRES

Imported and Canadian-bred.

We keep 35 brood sows, and have constantly on hand between 100 and 200 to choose from. Can supply pairs and trios not akin. Quality and type unsurpassed. Prices right.

JAS. WILSON & SONS, FERGUS, ONT.

G. T. R. and C. P. R. Long-distance Phone

WOODSTOCK HERD OF BERKSHIRES

A few fall pigs left, sired by Imp. Polgate Doctor. Also an book order for spring pigs, for which I can supply pairs not akin at reasonable prices.

DOUGLAS THOMSON, Woodstock, Ont.

ORCHARD HOME HERD OF LARGE ENGLISH YORKSHIRES

Now on hand, Feb. 8th: A choice lot of boars and sows, 3 to 4 months old. We furnish stock of most approved type and high quality. Our record for 1905: Every customer pleased and satisfied. Place orders now for spring pigs. Address,

S. D. CRANDALL & SONS, Cherry Valley, Ont.

For Sale Ohio Improved Chester Whites, the largest strain, oldest established registered herd in Canada; young sows in farrow; choice young pigs, six weeks to six months old; pairs not akin; express charges prepaid; pedigree and safe delivery guaranteed. Address:

E. D. GEORGE, Putnam, Ont.

TRADE TOPICS.

TUTTLE'S ELIXIR.—The following is one of many similar testimonials to the efficacy of Tuttle's Elixir received by Dr. Tuttle:

Chicago, Feb. 10, 1906.
Dr. S. A. Tuttle.—Having tested your Elixir for what you recommended it, I can truthfully say it is the best remedy I have ever used on horses. It will do all that is claimed for it. I have removed three large shoe boils with the aid of Tuttle's Elixir. One had been standing five years. All healed smooth, and no scars were left. No stable should be without some of Tuttle's Elixir always on hand. Very truly yours,
H. WOODS, Mgr.,
Paris Laundry Co.'s barns.

THE BIRD BOOK OF BUILDING PLANS.

—The book of plans for farm buildings and poultry houses, being distributed by F. W. Bird & Son, East Walpole, Mass., is proving, so the company informs us, a popular idea. It is a valuable little book for anyone putting up any kind of farm building. The plans are varied, and the book is full of suggestions for new buildings, or remodelling old ones. If you do not use any plan entire, you may in part. It is the suggestion you want. The little book loses none of its value because you may see fit to change or adapt some of its admirable plans to your own requirements. Cut out this notice, and send it with a two-cent stamp, with your name and address, to F. W. Bird & Son, and they will send you a copy free.

UNLOADING HAY AND GRAIN IN BARN.

—For the past thirty years, it has been one of the problems among both farmers and manufacturers. "How best to unload and stow away the various products of the farm." Years ago, farmers had more help and smaller barns, and it was not so important that their pitching outfit be as perfect as the larger barns of the present day call for. M. T. Buchanan & Co., of Ingersoll, are the pioneer manufacturers in this line of goods, and they make what they call their Double-Angle Steel-Track Pitching Machine, which is a very perfect-working apparatus. All kinds of hay (loose and bound), grain, cornstalks, etc., can be unloaded with perfect ease. One of the special features in connection with their outfit is that there is no climbing necessary, no loose bolts through shrinkage in the track, as in the old style of wood-track machines. Once a farmer has his barn equipped with Buchanan's Steel-Track Pitching Machine, he has no further bother with the apparatus. Farmers who have used them for many years recommend their goods as strictly first class. For further particulars, see their advertisement in this issue, or write the firm of M. T. Buchanan & Co., Ingersoll, Ont.

DOES THIS INTEREST YOU?

The Graham Dermatological Institute, 502 Church Street, Toronto, was established fifteen years ago. A dermatologist is one who treats the skin and its diseases, and the specialists at the Graham Institute have made a lifelong study of their profession. Every woman desires beauty, and this Institute, by assisting nature, does endow its clients with charm. No woman, however regular her features, or effective her coloring, can afford to ignore the advantages of sweetness, brightness, good grooming, delicate toilet habits, or good carriage. Graham's Institute bestows these gifts, together with a beautiful complexion, fine hair, clear eyes, graceful hands, and a bountiful measure of health. The treatment is not confined to women, but is open to men as well. In fact, a large number of young men have been treated, and with success. Personal treatment is given, every facility is provided, amidst congenial surroundings. Home treatment too, has become an important branch, and in this department are patients from all over Canada, the United States, and Great Britain, together with many in Australia, India, and South Africa. Correspondence is invited whether from far or near. An interesting booklet is issued, aptly entitled, "A Study of Your Face and Figure." This is sent to any address on request. Besides treating patients, the Institute gives instruction to students. Afterwards, they practice in various parts of Canada. [Toronto Star.]