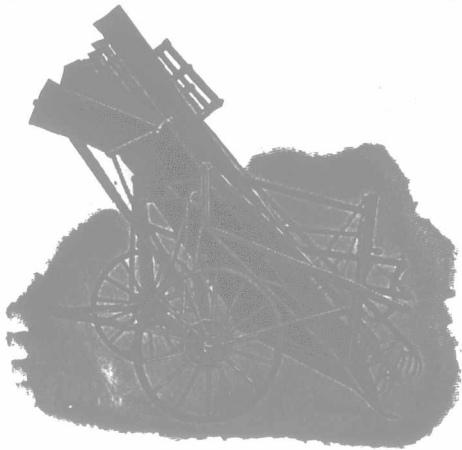


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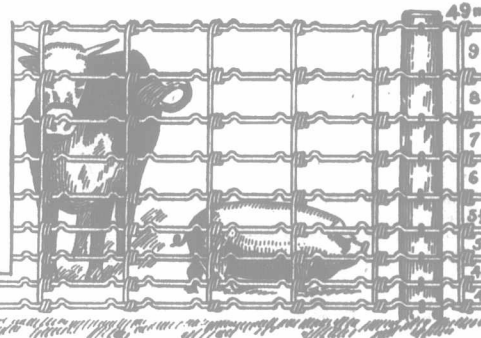
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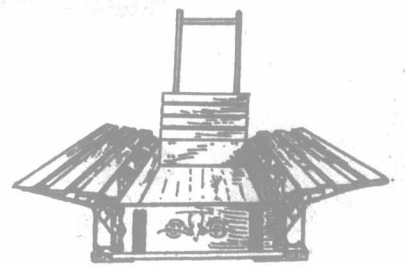
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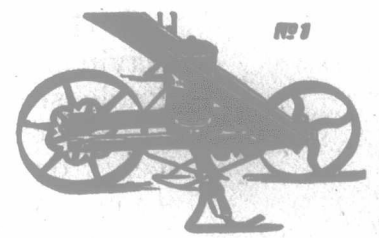
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Branches: Regina, Saskatoon, and Moose Jaw.

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The judicious use of Potash in conjunction with phosphatic and nitrogenous fertilizers cannot, and does not, fail to bring satisfactory results. Testimony to this effect is becoming more frequently heard each day.

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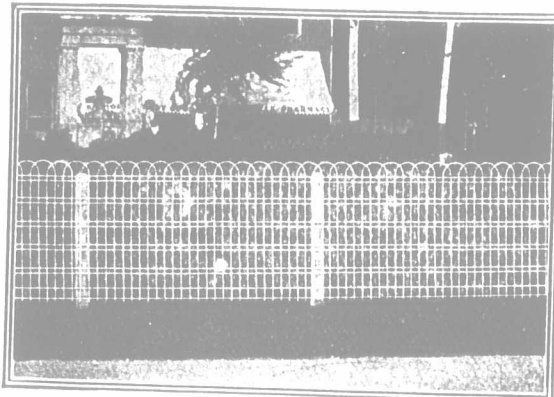
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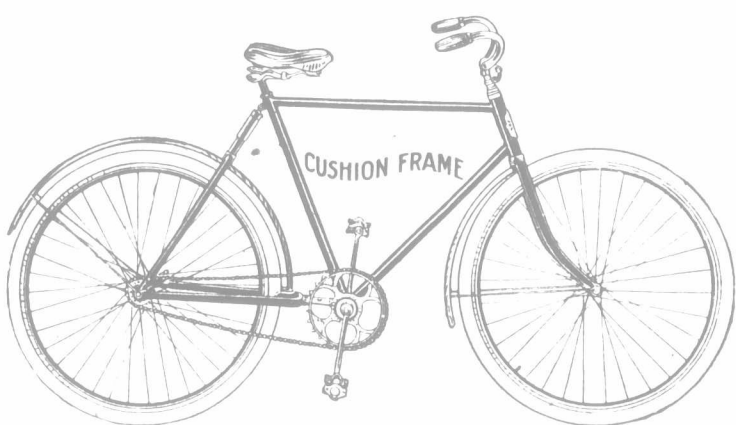
Any height to 8 ft. Any length you say. From 16 cents a foot. Gates to match, from \$2.25. Last longer. Easy to put up. Get booklet.

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The Big Four:

CLEVELAND and BRANTFORD, IMPERIAL, RAMBLER, and BLUE FLYER,

With cushion frame and coaster brake,
"make all roads smooth."

Canada Cycle & Motor Co., LIMITED.

"Makers of the World's Best Bicycles,"
TORONTO JUNCTION, ONT.

Branches: Winnipeg, Vancouver, Melbourne (Aust.).
Write for handsome catalogue.

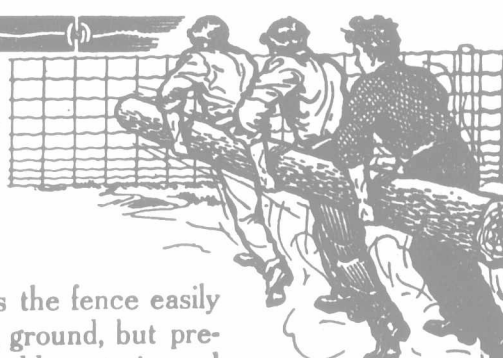
Practical Elasticity

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"Maritime" wire fences need few posts; twenty or thirty feet apart is near enough. Every post saved reduces the cost.

Moreover a long panel between posts enables the fence to better encounter any sudden shock.

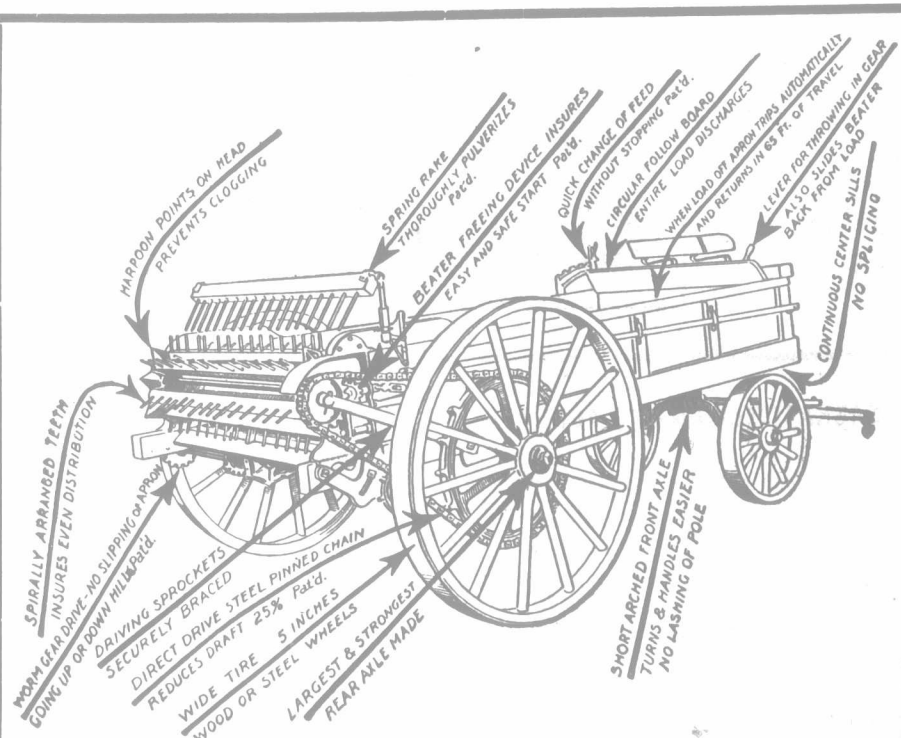
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Wanted Men \$75 to \$150 per month.

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I have the following number of 50-bushel loads of manure per year:

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P. O. Province

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RIGHT NOW

Is the time to decide on what

Binder Twine

to buy for next harvest. Of course you want the best. Then ask for



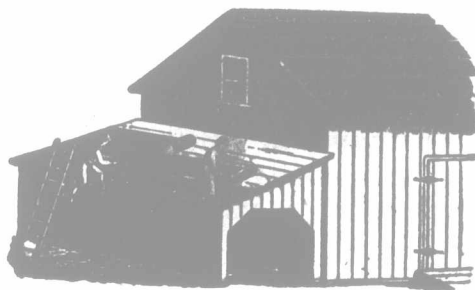
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Maple Leaf, 500 ft., Standard. SATISFACTION GUARANTEED.

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Brantford, Ont.

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For steep or flat roofs, water proof, fireproof, easily laid, cheaper than other roofing. Send stamp for sample and mention this paper.

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Several choice sections on the main line of the Canada Northern Ry. at Humboldt, Quill Lake and Wadena.

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Timber limits on Vancouver Island.

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Thousands of Canadians, Englishmen, and even Americans, are making Victoria their winter home owing to its semi-tropical climate.

The coming two years will see an enormous increase in property values in Victoria.

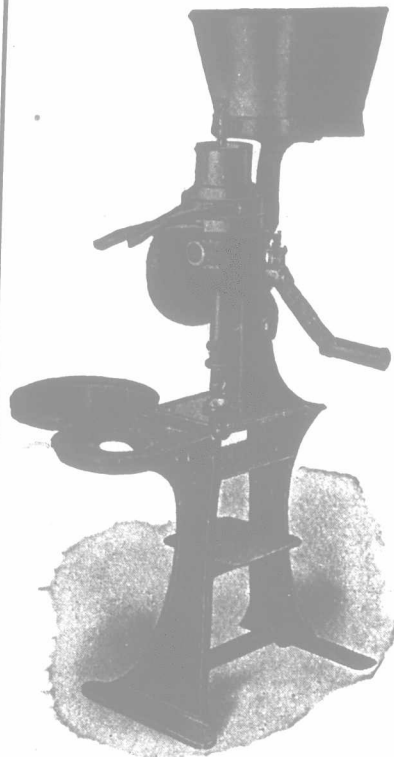
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Read one of many unsolicited letters we receive from our many satisfied customers:

Brantford, Ont., April 8, 1907.
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Dear Sirs.—I am going to let you know what I have done with the Chas. A. Cyphers 1906 and 1907 brooders. Out of 265 Leghorn chicks placed in three brooders, I have lost one only to date, and chicks are very vigorous. I think this is all I need say, except that chicks were started on Model Nursery Food, and that there was 90 degrees of frost with a strong wind some nights.
I am, yours truly, E. C. Arps.
Valley Mills Poultry Ranch, Brantford, Ont.
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MODEL INCUBATOR COMPANY, LIMITED,
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We own thousands of acres of **Choice Selected Land** in this district, which is in the heart of the

GREAT WHEAT PLAINS

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Ample **TIMBER** for All Purposes

Prof. Thos. Shaw, after personal inspection, writes: "This rich and beautiful farming section lying in the vicinity of Last Mountain Lake, embraces one of the finest areas in the Northwest. The land is undulating in this region, mostly open prairie. The soil is rich black vegetable loam, from one to two feet deep, and is underlaid with a clay subsoil. Frost, to injure the wheat, is virtually unknown. Being thus favored so highly by nature, it is not surprising that the production of wheat in this region is phenomenally high; in several instances forty to forty-five bushels per acre have been reaped. Oats, Barley, Flax and all small grains yield relatively as good as those of wheat. Potatoes grow most luxuriantly. Two or three years ago there were not more than thirty-five settlers in the entire area; now there are over a thousand, and others rapidly coming in."

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304 NORTHERN BANK BUILDING, WINNIPEG.

The Farmer's Advocate

and Home Magazine

"Persevere and Succeed."

Established 1866.

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Vol. XLII.

LONDON, ONTARIO, MAY 16, 1907.

No. 764.

EDITORIAL.

GEORGIAN BAY CANAL CONSTRUCTION.

"Happily, Canada is not under the burdens of militarism that afflict Europe. Her chief item of expenditure is in creating routes for her commerce. She has to complete her railway system and build the Georgian Bay Canal."—Sir Wilfrid Laurier, at the National Club Banquet, London, England.

To the Dominion as a whole, and to agriculture in particular, the foregoing announcement ranks first in importance of all the reported declarations of British or Colonial statesmen at the Imperial Conference just held at the metropolis of the Empire, and yet less has been heard about the ship canal through the newspaper press than about tariff or armament, or what the premiers ate and wore. What references the Toronto papers contain, so far as we have seen, to this pregnant declaration of the Canadian Premier, are somewhat microscopic in their character. The project is not a sensation of to-day, and, when completed, will not run through the Toronto yard, but that does not make it any less a mighty national waterway, which will reduce the time and cost of transportation, bind East and West together, and prove an effectual competitive lever in the hands of the people's Government to control railway service and rates.

As a factor in Canadian transportation, what will it do for us? As a piece of engineering, is it feasible? What are the structural difficulties? What financial obligations will it involve? What progress is being made in the Government surveys now in progress? When begun, how long will it take to complete? As the canal will be very largely employed to convey agricultural products at lessened rates, and farmers pay so large a proportion of the taxes, these questions are of deep interest to readers of "The Farmer's Advocate," and we have been at some pains to secure information thereon.

Sir William Van Horne, of the C. P. R., has admitted its great benefit to the general trade and commerce of the country. James J. Hill, the transportation genius of the North-western States, and a Canadian-born to boot, points out that it will bring Montreal 15 miles nearer Duluth than Buffalo is, enable 400,000-bushel vessels to carry grain down at a profit for 3 cents per bushel, and not only convey the wheat of the Canadian North-west to the seaboard, but grain from all parts of the United States north of Kansas City, because traffic will follow the line of least resistance. Between Port Arthur or Fort William and Montreal it will shorten the distance by over 300 miles, compared with the present Welland Canal route, or a three days' saving in navigation time. When we come to Atlantic-ocean transportation, it will shorten the distance from the northern lake ports to Liverpool by 1,000 miles, as compared with the New York route. As Mr. Robt. Reford points out in the Montreal Trade Bulletin, which has persistently championed the project, the Georgian Bay Canal is so superior to anything possessed by the United States, that a proper 22 or 23 foot canal will insure Canada's getting the bulk of the carrying trade of the north-west of this continent. The present freight rates from Lake Superior ports to Montreal or New York range from 6½ to 9 cents per bushel, including rail, while it has been shown that the boats can carry grain at a profit from 1½ to 2 cents per bushel from Lake Superior to Port Colborne or Buffalo; so that, with broken cargoes through the Georgian Bay Canal, the rates would be cut down to one-third their

present cost, every fraction of which should go into the pockets of the wheat producers of the Canadian West. There will be an average of from 5½ to six months a year of navigation by this canal; in other words, from the last week in April to the last in November. Its advantages in solving the transportation problems of the country are simply incalculable.

Eminent civil engineers, such as Marcus Smith, Mr. Wickstead, A. M. Wellington, and others, see no insuperable difficulties in the way, but, on the contrary, are disposed to agree that on the globe there is no more favorable route for a deep-water canal.

The staff of engineers employed on the survey of the proposed route of the canal are still at work, and it is not expected that their report will be ready for perusal by the public much before the reassembling of the Dominion Parliament in November next. But we hear that when the report is issued it will be accompanied by comprehensive data which will demonstrate the immense advantage to Canada of this great enterprise.

The length of this new waterway, from the Upper Lakes to the St. Lawrence, from the mouth of the French River, on the Georgian Bay, via Lake Nipissing, the Mattawa and Ottawa Rivers, will be 430 miles. Of this distance, about 350 miles are already a perfect natural navigation, but as the survey provides for a depth of 22 feet throughout, there will be much blasting and dredging even in those lakes and rivers that, for a 14-foot waterway, could be used with little or no alteration. The magnitude of the new canal can be better understood when it is remembered that the Canal on the Ottawa River between Ottawa and the St. Lawrence River, has a depth of only nine feet, and the length of the lock is 200 feet, and the proposed canal will require 600 or 700-foot locks. The outline map which we give in this issue will afford the reader an idea of the directness of the proposed route to the St. Lawrence, compared with the roundabout Lower-lake passage.

The chief engineering difficulties will be the mass of rock excavation, the providing of the great lift locks necessary for reaching the high level of Lake Nipissing and neighboring lakes. Lake Nipissing is sixty miles in length, and it will be made the summit level of the waterway, being connected by canal with Trout Lake, five miles to the east. Lake Nipissing is deep in parts, but some portions will require to have the channel blasted, but Trout Lake is very deep. The cut between these two lakes will be very expensive work, the difference in levels being over 32 feet. Turtle Lake, still further to the east, is only two feet lower than Trout, so that the levels of all three can be equalized at a height of 648 feet above sea level.

One reason for the delay in issuing the report—the chief reason, we believe—is the work now in progress, and likely to be continued all summer, to accurately ascertain the conditions existing at the headwaters of the Ottawa River, the Gatineau River and other feeders of the Ottawa, so as to learn how best to maintain a sufficiency of water at all seasons for the waterway. There is always ample water in the months of May and June, and sometimes considerably longer, but these are the "flood months," when the northern streams are fed by the accumulated water of the winter, and we are informed that the intention is not only to dam Lake Nipissing where it feeds the French River, but to construct one or more great dams at the headwaters of the Ottawa and other streams, so as to intercept the flood waters of the early spring and conserve them for the feeding of the canal in the fall and early summer. To get the data necessary to estimate the cost and effect

of this dam construction is a special task in itself, which the engineers are determined shall be so complete that no doubt can exist as to the permanency of the great volume of water necessary to insure navigation during the entire shipping year.

The engineers invariably decline to give an estimate of the total cost of the great work. They say they cannot do so while masses of details are unsettled, and while such investigations as we have indicated have yet to be completed and figured on. We have reason for believing, however, that the completed work will probably exceed \$50,000,000, and might require a much larger sum. In this connection, it is apropos to state that the United States are spending \$80,000,000 to \$100,000,000 to improve the old Erie ditch, and from \$200,000,000 to \$250,000,000 on the Panama Canal. The time required to construct will depend on the energy that may be put into the work, and from six to ten years might elapse between the time of beginning the work and the opening of the canal throughout for traffic.

CO-OPERATIVE EXPERIMENTS IN AGRICULTURE.

Manifold indirect benefits accrue to a community from having an agricultural college in its midst. In fact, these, in the aggregate, far outweigh the direct advantage which comes from training a limited number of young men in the college halls, fields and class-rooms. An agricultural college becomes, to a greater or less extent, a center of research. The best educational work is done where investigation is being prosecuted hand-in-hand by the faculty which directs the instruction. Conversely, the most valuable and practical experimentation is liable to be undertaken at the institution whose staff are coming into more or less close contact with the people through the exercise of their professional function. This, at least, has been the experience in Canada.

Moreover, the results of the investigation work at an agricultural college may be extended to great advantage through the medium of co-operative experiments by its ex-students and others. The Ontario Agricultural and Experimental Union is primarily an organization of the alumni of the Ontario Agricultural College. Under its auspices, co-operative experiments, directed by heads of several College Departments, are conducted throughout the Province, and the results are summarized and published upon occasion of the annual December meeting of the Union. Commencing with field crops, the scope has been widened to include horticultural, chemical and poultry investigation. The list of experimenters is by no means confined to members of the Union, any farmer in the Province being invited to participate who is willing to comply with the conditions. The number of co-operative experimenters has been steadily growing, numbering 3,700 in 1907. The general benefits to Canadian agriculture are large, and the advantage to the College authorities of comparing their results with those obtained co-operatively under average farm conditions, are likewise considerable, but the greatest measure of helpfulness is reaped by the experimenters themselves.

In the Maritime Provinces, Mr. F. L. Fuller, Agriculturist, of the Agricultural College, Truro, N. S., is endeavoring to organize a Maritime Experimental Union. In 1906, through this agency, some sixty Eastern farmers experimented with nitro-culture, to most excellent purpose, as explained by Principal Cumming in an article in "The Farmer's Advocate," issue April 4th. Fifty per cent of those who reported had noticed a great

THE FARMER'S ADVOCATE

AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

AGENTS FOR THE FARMER'S ADVOCATE AND HOME JOURNAL,
WINNIPEG, MAN.

LONDON (ENGLAND) OFFICE:
W. W. CHAPMAN, Agent, Mowbray House, Norfolk Street,
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10. **LETTERS** intended for publication should be written on one side of the paper only.

11. **CHANGE OF ADDRESS.**—Subscribers when ordering a change of address should give the old as well as the new P. O. address.

12. **WE INVITE FARMERS** to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve THE FARMER'S ADVOCATE AND HOME MAGAZINE, Descriptions of New Grains, Roots, or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

13. **ALL COMMUNICATIONS** in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

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LONDON, CANADA.

benefit from inoculation, and one-third found fair results. The remaining one-sixth reported no benefit, but it was noticed that all these were able to grow excellent crops without nitro-culture treatment of the seed, showing that their land was already naturally inoculated. Another line of experiments was to compare mixed grains with oats and barley alone. The majority favored mixed grains, while, as a single grain, oats were quite generally preferred to barley.

And this spring, from the prairie, came report of a live organization, which acknowledges the Manitoba Agricultural College as its fount and center. It is called the Manitoba Agricultural College Research Association, and consists of the staff and practically all the first class of students of that institution. Besides these, its ranks will come to include ex-students and others. The most important work it proposes to undertake just now is the growing of clover. As is well known, clover-growing has been little attempted on the Canadian prairie, a general opinion prevailing that it is not practicable or profitable. This summer fifty students in various parts of Manitoba will sow seed supplied by the College, and from their experience it is hoped much will be learned. Attempts will also be made to ascertain the influence of care during and prior to pregnancy on the production of weak and premature foals. Observations will also be made on the wild plum, with a view to its improvement, while other highways and byways of investigative work will also be pursued. It is well to watch what these organizations are doing. They are among the forces that count.

If press reports are to be credited, the elevator companies in the neighborhood of St. Paul, Minn., are not above adulterating screenings. When a supply has been contracted, and the vendor feels that he is not getting a sufficient price, he can even the score by delivering straw roots and chaff.

AGRICULTURAL ORGANIZATION AND OUTLOOK IN NOVA SCOTIA.

The 1906 annual report of the Secretary for Agriculture in Nova Scotia is of special interest, by reason of the fact that it contains the report of the lusty young Agricultural College at Truro, which is essentially a Maritime institution. The report was prepared by Prof. M. Cumming, Principal of the College, who has been acting also as Secretary for Agriculture since the death of Mr. B. W. Chipman, on April 21st, 1906. In his introductory review, Prof. Cumming states that, while owing to lack of intimacy with the executive details of the Agricultural Department, it has been impossible to accomplish so much as he would have liked, yet the temporary union of offices has been, for the most part, a benefit, having served to unify the work of the College and of the Agricultural Department.

The work of the Department has expanded greatly during the past few years. Under its direction there are now 166 agricultural societies, with a membership of 8,498; the Nova Scotia Farmers' Association, with many branch county associations; the Nova Scotia Fruit-growers' Association; the Travelling Dairies, and the Agricultural College. Both at the College and in other ways the Department is doing all in its power to encourage the keeping of a better class of live stock. The breeding of heavy horses is being specially encouraged, though the claims of the light-harness men were recognized by the purchase of two Standard-bred stallions. In order to stimulate the sheep business, a couple of ram sales were held in Eastern Nova Scotia last fall. Agricultural societies are learning the important lesson that pure breeding in itself is nothing unless combined with individual merit, and progressive societies, as well as individuals, are exercising more care in the selection of breeding males. The folly of crossing breeds has also become so apparent that many societies, in purchasing sires, have agreed to adhere to one, or at most two breeds of each kind of stock.

Another line of especially useful work has been the setting out of 28 model orchards, there being one, and in some cases two, in every county outside the recognized fruit counties, viz., Annapolis, King's and Hants. Many of these orchards are doing splendidly, and in many cases are inducing people in their respective localities to set out trees and care for them properly. A few more of these model orchards are to be planted this year.

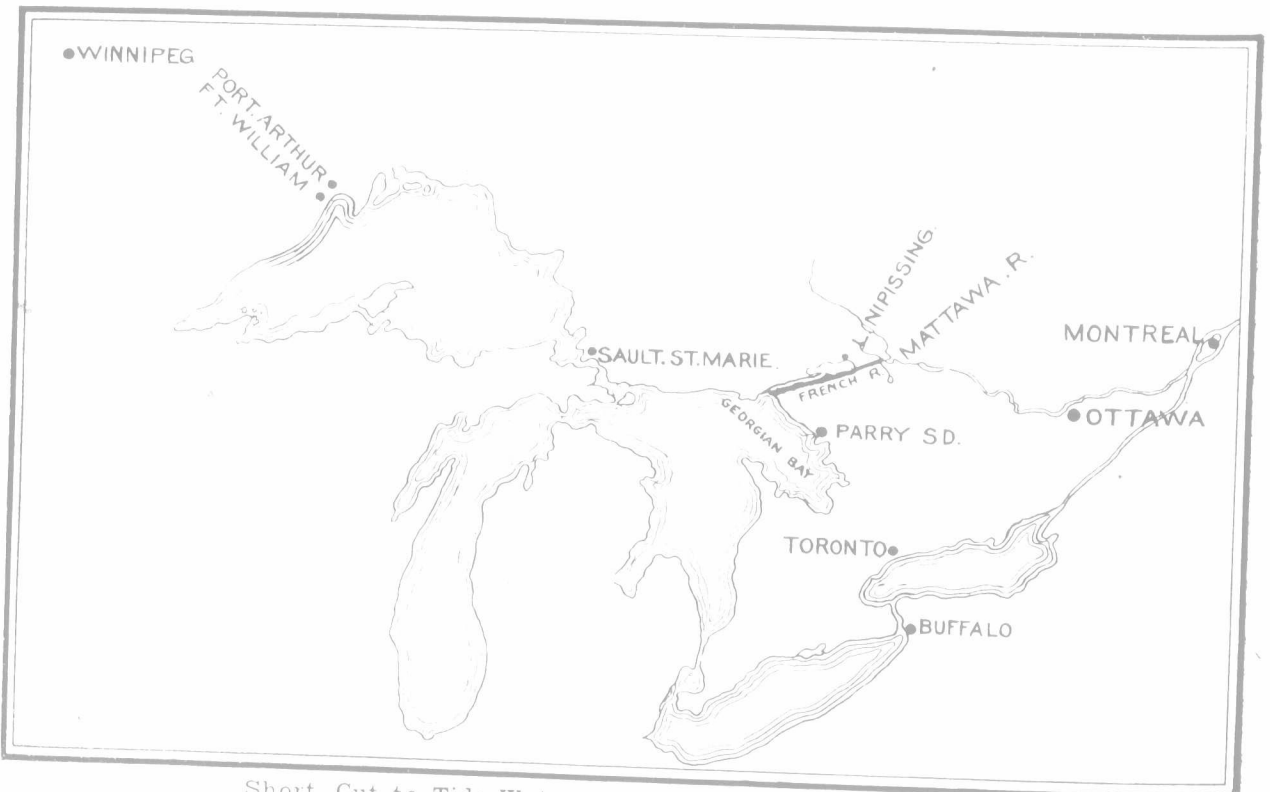
The majority of the agricultural meetings held last year were under the auspices of the County Farmers' Associations. The Department of Agriculture at Ottawa sent three speakers, but greater reliance than heretofore has been placed upon local speakers, including members of the College faculty. This policy is to be very wisely adhered to.

A note of hopefulness in the dairy business is sounded toward the close. Returns from the fac-

ories given in the report indicate an increased make over 1905 of 3,500 pounds of butter and 83,000 pounds of cheese. However, the local markets are so good and easily available, that most of the butter is manufactured in private dairies. The travelling dairies have been greatly appreciated. Last year there were two in operation, one under Miss Shuttleworth in Inverness, Cape Breton and Victoria Counties, and the other under Miss Millar in Pictou, Colchester, Cumberland and Hants. The possibilities of dairying in Nova Scotia have only begun to be realized. The local market is far from being supplied, and access to the export markets is exceedingly easy. The travelling dairies will continue for at least a few more years.

The report of the heads of the Agricultural College is in itself a valuable publication. We shall have occasion to quote from this somewhat, but meantime may observe that the institution is fast being recognized as the fount of agricultural progress in the Atlantic Provinces. The growth in popularity is healthy and solid, and more rapid than we had anticipated. The first regular session was concluded on April 15th, 1906, with an enrolled attendance of 23 young men. The second session commenced October 31st, and numbered on its roll 30—all but one from Nova Scotia. The winter short courses, embodying, as they do, an epitome of the two-year course, are still more widely patronized. The attendance at this two-weeks' course during the first year of the College was 68; last year it was 83, and in 1907 it was 102, of whom 21 came from New Brunswick. In conclusion, we cannot do better than quote the words of the report, which convey a confident but by no means overdrawn impression of the outlook for the College and the value of its work: "Specific instances as to known improvements mentioned in various parts of the report are but a small part of the work that is actually being accomplished. It is as the dignity of agricultural work becomes recognized, as enthusiasm for the calling grows, and as confidence in methods of practice becomes established, that great results may be looked for. Nevertheless, these fruits of the College work are already, in a measure, manifest, and will be, to a greater extent, in the next few years."

One cannot help feeling that the cause of agriculture is now being ably championed in the Maritime Provinces. The results, already marked, will be cumulative. The spirit of disheartening apathy towards agriculture is giving way to one of confidence and hope, and a very large share of the credit is due to the College and its practical, energetic staff. When the history of the Maritime Provinces comes to be written, the impress of its influence will be traceable on many a page. The Maritime Provinces, though not relying on the farm to the same extent as Upper Canada, will never be great without a progressive agriculture, and this depends to a far greater degree than many realize upon the presence of a live agricul-



Short Cut to Tide Water. The Georgian Bay Ship Canal.

tural college for purposes of instruction and the prosecution of local research.

We presume any reader in Canada or elsewhere who writes to Halifax or Truro, requesting a copy of the Secretary for Agriculture's annual report, will be cheerfully favored. Every Nova Scotia farmer should have it.

OUR MARITIME LETTER.

It is expedient that we make an end of the Director's vindication of the establishment and maintenance of the Experimental Farms as having done immensely for Canadian agriculture. We were quoting, April 25th, from this Interim Report, and must resume where we left off—the consideration of improved seeds. It is asserted that from the earliest days of the Farms the Principal himself carried on the experiments of the cerealist, with the success before claimed; now, a regular cerealist, in the person of Dr. C. E. Saunders, whose scholarship and scientific instincts all recognize, is at work not only attempting to breed new and valuable Canadian strains, but as an expert miller and baker, to demonstrate to the commercial side of our national life, the economic advantages of these newly-introduced grains. After careful and prolonged experiment has demonstrated the value of any particular cereal it is distributed by the Director in a way to bring the farmers of the locality best adapted to its growth into new seed quickly. This will be a great advantage. Indeed, almost every corner of the country has been benefited already by the Federal seed distribution which takes place every year.

For the Agricultural Department of the Farms, Dr. Saunders claims the credit of having given the dairy industry its stimulus by the demonstrations made and published on fodder crops, the hay of which was converted into ensilage, to the great benefit of the buttermaking industry especially. Experiments of immense value to Canada have been made, also in the selection of all kinds of cattle, sheep, and swine, their economic feeding, and the turning of them into the best quality of meat. The other farm divisions are credited with many advances. For instance, the important department of horticulture is said to have determined the varieties of small and large fruits which the various sections of the Dominion can grow with advantage. Thus fruit-growing has been extended and promoted. Orchard treatment has been reduced to a science, too, and something done in originating new varieties of fruits and vegetables. Everyone is aware of the splendid services of Dr. Fletcher to the entomological and botanical concerns of the land. The Director thus summarizes them:

"The practical help which has been rendered by the Division of Entomology and Botany has been a source of much satisfaction to the public. The information given by the officers of this division as to the best remedies for the destruction of noxious insects which often rob the farmer of a large part of his profits has been most useful in lessening the loss which would otherwise have occurred. The benefit derived by treatment recommended for the various fungous diseases from which grain, fruit and other crops occasionally suffer has been much appreciated by farmers and fruit-growers. The subject of noxious weeds has also been fully investigated, and the best measures to adopt for their control and subjugation pointed out. Large collections of Canadian insects and plants have been brought together by the officers of this division, and these collections are turned to good account by entomologists and botanists in different parts of the country who desire to name their specimens. Many native and foreign grasses have been tested in the large series of plots in charge of this division, and their relative usefulness for fodder, pasturage and lawns ascertained."

To the patient labors of the efficient National Chemist, Prof. Shutt, many benefits are ascribed. He has analyzed fodder plants and determined their nutrition, constituents and the proper period of their harvest. He determined the value of our weeds and the feeding properties of their straw. He has given valued information on sugar beets, manures, and much good has he done unmistakably, by the analysis of the potable waters of the Dominion from P. E. Island to British Columbia.

In the quondam despised poultry section of

farm economy a great change is noticeable, and much of it is attributed to the Poultry Department at Ottawa:

"In the Poultry Division of the Farms, much useful work has also been done. The relative value of the different breeds of fowls has been tested, and the superiority shown for farmers' use of the best of the utility breeds. The best methods to adopt in connection with the raising of poultry have been demonstrated, and the best rations for the promotion of egg-laying, also for the fattening of chickens, made known. Recent experiments with trap nests have shown great variations in the number of eggs laid by individual fowls of the same age and breed, and it is hoped that by raising chickens from the eggs of the best layers, superior laying strains may be established. There is no doubt that the business in eggs and in dressed fowls for the table has been materially advanced by the publication of the results obtained from experiments conducted in the Poultry Division."

The report then turns to the results from the Branch Farms, and claims for them a large share in the work of sane agricultural extension—the introduction of new trees, plants and seeds; the encouragement of profitable animal husbandry, the adoption of a proper system of agronomics, and, above and beyond all, the spread of agricultural information to the limits of their respective jurisdictions. No doubt some of those branches have produced the results claimed for them, but, so far as we are concerned here in Maritime Canada, we will be excused, we hope, for holding the firm belief that our institution has been but a mil-

A STORY OF FARM LIFE.

"Carmichael," a story of Canadian rural life, by Anison North. Three hundred and thirty-eight pages, 8 full-page pen-and-ink etchings, also many marginal decorations. Price \$1.25. The William Weld Co., Publishers, London, Ont.

"Carmichael" is the name of a new book by a Canadian author, Anison North. It is the story of a family feud arising from that frequent source of trouble—a line fence. These Capulets and Montagues of modern days interfere with the course of true love. The interest is absorbing and well sustained throughout the story, and the characters are drawn with distinctness and fidelity. Any person who understands life on a Canadian farm will appreciate the local coloring of the scene and the naturalness and vividness of the incidents. The language is intense, without the exaggeration of dialect which disfigures so many tales. This book has so many excellent qualities that we can predict a wide sale, which will increase the longer the book is known.

S. J. RADCLIFFE,

Principal Collegiate Institute, London, Ont.

EDUCATIONAL NEEDS ARE CHANGING.

Editor "The Farmer's Advocate":

There are more irrational things in our school system than you have dared to mention. The subject is too large for me to attempt to discuss at present, for I am on the point of departure for Europe for two or three months. I can say in

the meantime, however, that I believe you are substantially correct in maintaining that our systems should be better adapted to the activities of modern life. As winter lingers in the lap of spring, so subjects once deemed suitable for the few continue to be pressed now on the multitude under the mistaken idea of their general mental discipline. It is but another illustration of the general law of inertia. The habit outlasts its usefulness. Educational administrations can do what is reasonable, instead of what has come to be habitual, when there are enough active, reasonable men to back them up. I therefore welcome your discussions as one of the most promising means of getting the masses, who are the most interested, to think. The well-to-do men who already have exploited

the advantages which the customs of the past offer, are not, as a rule, disposed to like change. But the democracy will rule as soon as it obtains exact knowledge and learns to reason out how things really do move on.

Halifax, N. S.

A. H. MACKAY.

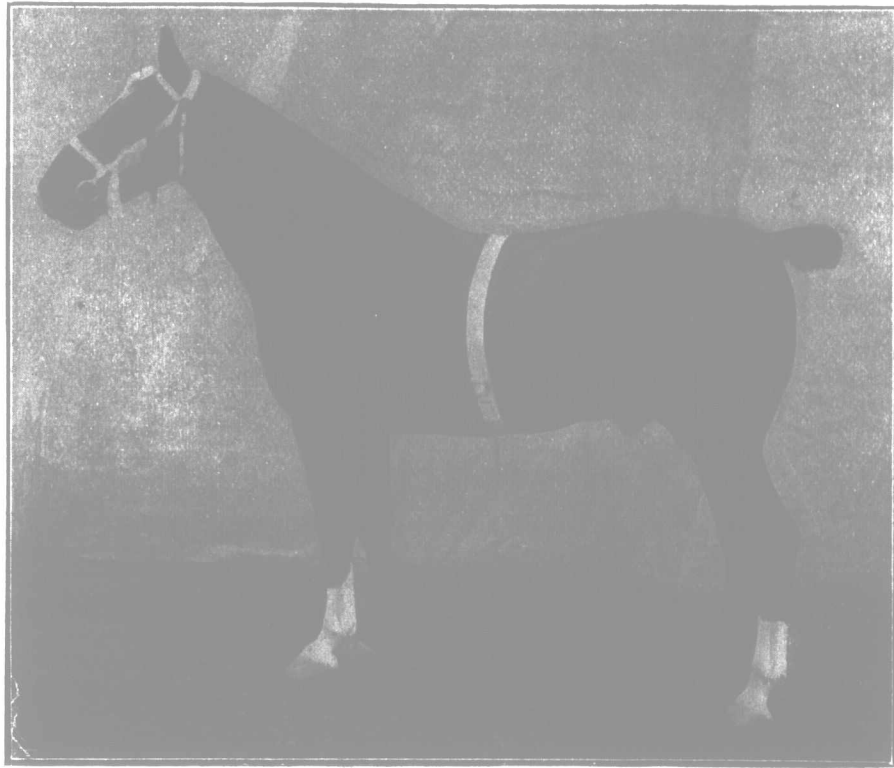
LATITUDE AND QUALITY.

We certainly appreciate the value of "The Farmer's Advocate," and keep it on the shelves of our reading room in the library, to which a thousand students, besides the faculty and other employees of the college, have access. No man can claim to be conversant with the agriculture of to-day who does not know what the Canadians are doing. It is said of sugar beets that the farther north you go up to the limit of their possible production, the sweeter they are. It is said of apples that for high quality you must approach the limit northward of their possible production. I am wondering whether quality in humanity varies with the latitude in the same way.

C. D. SMITH,
Michigan Agricultural College.

Director.

I am more than ever impressed, writes F. L. Fuller, Agriculturist, of the Agricultural College, Truro, N. S., with the advantage of drilling the turnip field two or three weeks before the seed is to be sown. It is not only a means of destroying weeds, but a safeguard in getting a "catch" in dry weather.



Copmanthorpe Performer (9670).

Hackney stallion; chestnut; foaled 1904. Sire Garton Duke of Connaught. Champion in young stallion class, London Hackney Show, 1907.

stone about the neck of intelligent husbandry. Let those who know of the other farms' achievements speak of them as they deserve.

It will thus be seen that in a general way the distinguished Director of the Experimental Farms has made out a strong case for them. We owe him this vindication in his own words, and the encouragement and support which the formal representative of Canada's greatest interest merits when he labors to lift it up to its loftiest plane. We share with him, too, the optimistic sentiments with which he closes his report, and know that they will find a willing echo in every Maritime heart:

"With the rapid settlement of the large areas of rich lands now open to settlers in all parts of the country, the food products available for home use and export will rapidly increase in volume, and some of the wealth laid up in the soil will find its way into commerce and enrich the community. There is no pursuit more noble than that of the advanced agriculturist, who endeavors, by the exercise of skill, to improve the condition of his fellow men and add to their happiness, by making the earth to yield bountifully and to produce food in larger quantity and of better quality, to sustain the teeming millions now occupying the surface of our globe."

A. E. BURKE.

HORSES.

PROVINCIAL HORSE-BREEDERS' ASSOCIATION
DEMANDED IN P. E. ISLAND.

A correspondent, who signs himself "Onward," writes the Prince Edward Island Agriculturist, to commend a suggestion which had appeared in that paper, to the effect that the Island Province should have a Provincial Horse-breeders' organization. "The sooner," he says, "farmers and horsemen get up an organization the better. Put a license on horses that stand for stud business, and cut the throats of a lot of the scrubs."

In the course of his article he comments in no uncertain terms on the common disposition to use stallions of inferior quality because they are cheap. Touching on the advisability of breeding the light-harness horse, he depicts a state of affairs not by any means confined to Prince Edward Island:

"The only trouble with our farmers in breeding the trotter and carriage horse, is that they would go entirely into the breeding of the horse and overlook conformation and size, and when, after breeding to pedigree, they did not get a trotter, they would have some mean thing they would receive nothing for. Then, again, there is the farmer who has the good mare. A traveller drives into the yard with a horse that squeals and makes a great racket; he is called a "Prince Charlie," "Young Chief," or some other fancy name; not a bad looker. Ask his breeding, and it is an old "Island" breed, winding up with old Sallidan. They start on a deal, and it winds up with from three to five dollars, a cow skin, sheep skin, or a few bushels of seed grain, and when the foal comes and you ask the farmer why he bred to that horse, he will tell you he wanted to get a nice roader, and probably the sire was by some Clyde.

"It is awful to see the stupidity of some farmers, especially when they have to wait three years at the least to see the results, and only to find that they have thrown away the chance of breeding to lots of good horses because they can save a dollar or two on the start."

ANOTHER LINED UP WITH MR. McKNIGHT.

Editor "The Farmer's Advocate"

I have read with interest from time to time the different methods advanced through the columns of "The Farmer's Advocate" for the improvement of the horse industry in Ontario, but have seen nothing that conforms so much with my own ideas as the theory advanced by S. J. McKnight (a successful and practical stockman), in your March 28th issue, by making a minimum fee of \$15.00, and imposing a fine of one hundred dollars on every horseman that offered the services of a stallion for less. Such being the case, only good stallions would be kept, and only good mares bred. As a consequence, fewer horses would be raised, and these would be of a much higher standard, and sold at a greater profit. Besides, Ontario would soon enjoy an enviable reputation as a horse-breeding center. Under the present system, in competition with mongrels and culls, the stallion owner is not sufficiently remunerated for the investment made, and risks and chances taken.

Many farmers think the stallion man makes his money fast and easy. Occasionally such is the case, but it is the exception, not the rule. Few realize that it takes from \$500 to \$700 to keep and travel a horse, whether he gets foals or not, and that it is a good horse that gets one hundred mares, a rare horse that foals 60 per cent., and a lucky man that collects for 50 per cent. Yet, in the face of all this, some breeders will jaw and banter with the owner for living colts at starvation prices. Then many of them would keep the stallion owner waiting for his fee until the colts were old enough to sell or break to harness. Make the business remunerative for the horseman, and farmers will profit greatly by it. HENRY M. DOUGLAS.
Grey Co., Ont.

CANADIAN PERCHERON RECORD CALLED FOR.

A Dominion Percheron Record is called for from the West, where, with the coming of so many settlers from the south, a great influx of Percherons has taken place, and several breeding studs have been established. Breeders of the grays and blacks are advised to get together, form a Percheron Association, and register their horses at Ottawa under the National Record System. This move is urged as particularly necessary in the case of Percherons, because in the United States, the source of our importations, there exist more than one record, which induces confusion. A Canadian record is commended, also, because the profits accruing from registration fees would be returned to the breeders in the form of prizes at exhibitions. Finally, it is argued, the establishment of a Canadian Record for this breed would place the Customs Department in a better position with respect to the importation of horses.

The risk of galled shoulders in the spring may be materially lessened if care is taken to bathe the shoulders of the horses three times daily in strong salt water, taking care at the same time to see that the shoulders and collars are kept clean.

OUR SCOTTISH LETTER.

CLYDESDALE REGISTRATION.

The resolution of the Canadian Clydesdale Association to make the registration rules for imported stock in their organization the same as those in the American Clydesdale Association, has fallen like a bombshell into the Clydesdale camp. Nothing so sudden was anticipated, and the fact that the rule comes into force on 1st June, leaves the horse-breeder little time for setting his house in order. While I do not at all blame your Association for putting an embargo on the importation of fillies with short pedigrees, I scarcely think Canadian buyers rightly appreciate the situation. No doubt all Clydesdales in this country should now be registered. The Studbook has been in existence for thirty years. Its thirtieth volume is now opened, yet too many exported fillies and colts have only the bare three crosses which qualify for registration. The Canadian buyer may be forgiven if he thinks this hardly good enough, and no one here who values registration will quarrel with your people for saying this sort of thing must end. Had breeders given attention to registration since the studbook was instituted in 1878, there would now have been few Clydesdales in Great Britain with fewer than six registered crosses. As things are, the majority have the six crosses, or at least five, and are therefore quite fit to show a pedigree with registered dam and grandam.

But where your people err is in supposing that a pedigree is in any way enhanced by insisting on the mere technicality of a numbered dam and grandam. A concrete case is that of the celebrated champion horse Baron's Pride (9122). A Canadian gentleman wrote to me recently that under this new rule Baron's Pride would be in-

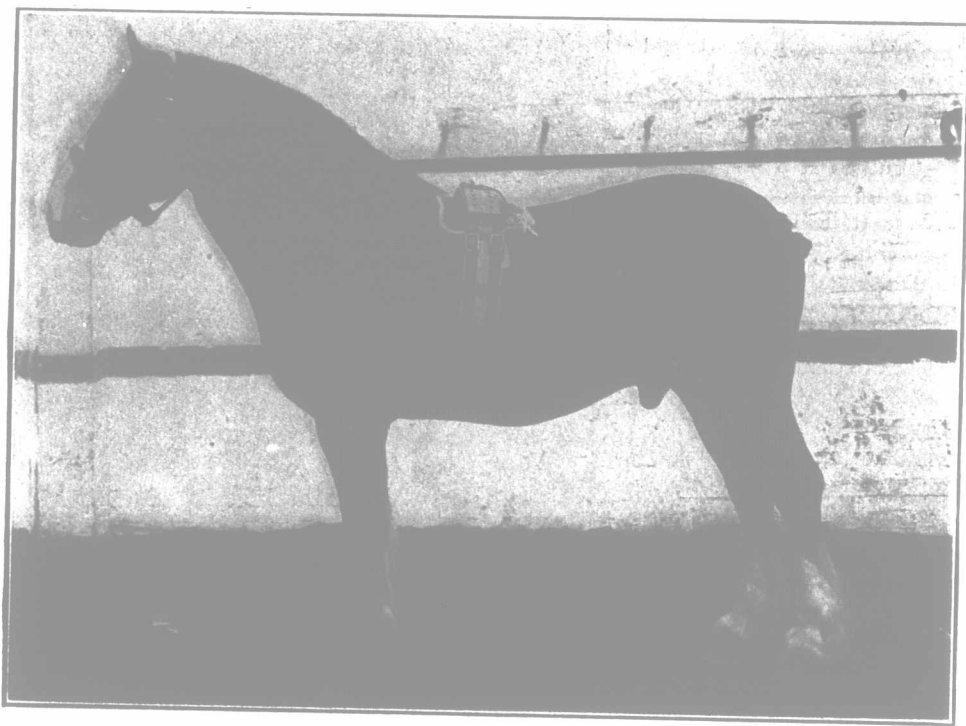
mal of excellent pedigree may have a short pedigree record. There is a considerable difference between the record of a pedigree and the constitution of a pedigree. The foreign or colonial buyer is, however, quite right to insist on having the record, and I, for one, do not regret that the Canadian Association has said the importation of the short-pedigreed filly must cease.

The export trade has been very brisk since the beginning of the year. Every week shipments of fillies, and also of colts, although in much fewer numbers, have been made. I cannot now take up space with details of all the shipments made in March and April, but the quality in the main has been quite satisfactory. Trade at home is also brisk. The great horse Everlasting (4331) was hired on March 8th for the season of 1908 by the Fyvie & Strathbogie breeders in Aberdeenshire.

The Clydesdale Horse Society means to encourage the Canadian export trade. It has resolved to present two gold medals for competition at the following shows or fairs in Canada in 1907: Quebec, Winnipeg, Brandon, Calgary, Regina and New Westminster. Each of these medals costs the parent society \$25, and is inscribed with the particulars of the winning animal and his or her owners. The medals may be competed for by all animals registered in the home Clydesdale Studbook or in the Canadian Clydesdale Studbook. I am glad to learn that already these medals have been competed for and won at the Regina Spring Show, where there seems to have been quite a praiseworthy entry. Mr. W. H. Bryce, Arcola, Sask., deserves great credit for the superior class of stock imported by him. He does nothing by halves, and deserves to succeed.

At home we have got past two of the spring shows, those of Aberdeen and Kilmarnock. Fully

a month intervened between them. The championship of the Clydesdale breed at Kilmarnock was secured by Mr. Taylor's big, solid, massive 3-year-old horse, Sir Spencer, by the same owner's own horse, Sir Hugo. The reserve was the first 3-year-old mare, Minnewawa, got by Hiawatha, out of a Baron's Pride mother, the beautiful prize mare, White Heather. The family prize was won by Royal Favorite, second in this competition going to Revelanta. In the championship competition among the females, all the first-prize winners competed, the first yearling being got by Royal Favorite, the first 2-year-old and the first yeld mare by Baron's Pride, the first 3-year-old by Hiawatha, and the first brood mare by Montrave Ronald. The 3-year-old got the honor. The most



Baron Buchanan (imp.) [6105], Vol. 29, S.

Clydesdale stallion; brown; foaled 1904. Imported by Smith & Richardson, Columbus, Ont. Sire Baron Robgill, by Baron's Pride. Owned by Ambrose Lewis, Ringwood, Ont.

successful exhibitor was Mr. J. Ernest Kerr, of Harviestown, Dollar, who owned the first brood mare and the first two-year-old filly. The first three-year-old and champion female is owned by Mr. Stephen Mitchell, of Boquhan, Kippin, who has built up a splendid stud of Clydesdales and a first-rate herd of Shorthorn cattle. Mr. H. B. Marshall, of Rahan, Peebles, owns the first yeld mare, Mimosa, and the first yearling filly is the property of Mr. James Calder, Ledland, Kinross.

AYRSHIRE RECORDS.

Ayrshires are receiving increasing attention in this country. The show at Kilmarnock was carried out under depressing weather conditions, rain falling very heavily all day, yet the exhibition of Ayrshires was one of the best seen for a time. The commercial, big dairy type is coming into more and more favor, and good results are flowing from the movement in favor of milk records. At Fenwick, in the uplands of Ayrshire, where milk records have been established for a longer period than in any other parish in Ayrshire, there was last week a record entry of cows of the dairy stamp having an authentic milk record. We are gradually getting down to business in this respect, and the publication of the H. & A. S. Records for the season of 1906 will stimulate interest in this most fruitful subject. The day is passing when in Scotland a cow is valued for her appearance alone. It must be proved that she is profitable in the dairy, and an increasing number of herds in which records are kept can now be found. The champion Ayrshire at Kilmarnock was owned by Mr. James Murray, The Muir.

Cumnock, and very fine cattle were exhibited by the brothers McAlister, who farm in the Island of Bute, and at Ardym, in Argyleshire.

A big fight is going forward here in connection with a bill which the Government has introduced to put down the fraudulent sale of butter. The bill contains many excellent provisions, but its whole value is grievously lessened by a proposal to permit the sale of a product called milk-blended butter, containing permissible moisture up to 24 per cent. The bill provides that pure butter and genuine margarine shall not contain more than 16 per cent. moisture, but the man who is engaged in faking genuine dry Colonial or Siberian butter so that it may contain 24 per cent. moisture is protected and his nefarious business legalized, provided he sells his milk-blended butter under a fancy name approved by the Board of Agriculture, of which name butter formed no part. The farmers of Scotland are opposed to this proposal, and have roundly condemned it. The farmers of England, so far as represented by the Chamber of Agriculture, are divided in opinion. The Government appears to have been "nobbled" by the makers of sophisticated butter, and the result is this proposal to legalize a trade engaged in faking butter with moisture, which moisture is sold to the public at 14d., or 28 cents per pound! It is not often such an astonishing travesty in the way of projected legislation is seen as this butter bill. Politics are a very queer game, and little is made by depending on politicians for help in promoting honest trade and commerce. We don't think much of American politics, but it is evident that we can nearly equal them in this country.

"SCOTLAND YET."

Owners of imported Clydesdales will do well to read carefully our Scottish Letter in this issue, which deals plainly with the registration question.

LIVE STOCK.

STALL FEEDING VS. GRAZING.

Prof. Andrew M. Soule, Director, and John R. Fain, of the Virginia Experiment Station, have issued a bulletin dealing with stall feeding and grazing as methods of finishing cattle. In the one case the cattle are placed on feed in late autumn or early winter and pushed till ready for market; in the other they are fed on little more than a maintenance ration through the winter, finishing them on grass in early summer. Where grazing is abundant the latter finds favor. Of late years not a few Canadian feeders have been veering to this system. Financial success in stall feeding requires feeding a minimum grain ration, combined with roughage, that will be palatable and serve as a substitute for grass. To get at the economic merits of these two methods of feeding was the design of the experiment.

PLAN OF THE EXPERIMENT.—Eighty-four animals were used in this work. They were purchased at \$4.25, and consisted of grade Shorthorn steers grown in adjoining counties. The animals were in fair condition, but did not show evidence of high breeding, and cost too much in proportion to quality. They were put on preliminary feed for about ten days, the rations being the same in all cases. They weighed about 1,000 pounds when the experiment commenced, and were divided as evenly as possible into the several groups made necessary by the plan of investigation followed. Forty-eight of the cattle were divided into six groups of eight animals each and fed for 180 days, being finished in the stall. The remaining thirty-six were divided into four groups of nine animals each and fed for 161 days, being carried through the winter as stockers on the rations indicated elsewhere. The object in this instance was to feed a minimum amount of grain with different forms of roughness to ascertain what gains could be made with stockers, and to determine the residual effect of the several foodstuffs on the gains made on grass. The cattle were all fed in a barn facing the south and open on that side. They were allowed as much exercise as they would take, and were kept outdoors when the weather was favorable, and fed and watered regularly night and morning, receiving one-half of the daily ration at each feed.

COST OF FOODSTUFFS.—The cost of the foodstuffs used is shown. The cotton-seed meal contained some hulls, and was not of first grade. The corn was of good quality and grown on the Station farm.

	Per ton.
Cotton-seed meal	\$27 25
Corn and cob meal	15 40
Corn meal	20 00
Shelled corn	19 24
Ear corn	15 00
Split corn	15 00
Silage	2 00
Stover	4 00
Mixed hay	10 00

The actual market price of the concentrates is charged in each instance, corn being rated at 54 cents per bushel, a fact which should be borne in mind. In 1865 experiments recorded corn is not charged at more than 40 cents a bushel, or about 33 per cent. less than in this instance. The silage and stover were charged up at fair prices for Virginia.

CONCLUSIONS.

1. Groups VII., VIII. and IX., which received ear corn, split corn and shelled corn, made an average gain of 1.50, 1.29, and 1.46 pounds, respectively, or an average of 1.42 pounds per head per day. Groups X., XI. and XII., which received corn meal and corn and cob meal fine, and corn and cob meal coarse, made an average gain of 1.74, 1.43 and 1.39 pounds, respectively, or an average of 1.52 pounds per head per day. The hogs following the whole-corn groups increased the gains to an average of 1.63 pounds per head per day, which made it more profitable in this instance to feed whole corn.

2. Between 36 and 55 per cent. of the total gains in live weight were made during the first 60 days. During the second period the percentage of gain varied from 29 to 35.86 per cent., and during the third period from 12.35 to 31.79 per cent. The groups receiving corn and cob meal fine and coarse made as large percentage gains during the first 120 days as any of the cattle, but they fell off materially during the last period, indicating that corn and cob meal did not provide enough carbohydrates for such a long feeding period.

3. Though 3.25 pounds of cotton-seed meal were fed per head per day during the entire feeding period of 180 days, in only one instance did the hogs following show any evidence of ill health. Of the 12 hogs following the cattle, one died suddenly, but the cause could not be determined.

4. The hogs following the groups receiving whole corn made 937 pounds of pork, which, at 5 cents, was worth \$46.85, or \$1.95 per steer. This gave the groups receiving whole corn a material advantage over those fed ground corn.

5. These results indicate that cattle cannot be fed in the stall under a margin of 75 cents where they are charged the full market price for all the foodstuffs fed. On the basis of the actual cost of the foodstuffs on the

gain was 4.12 cents with the silage group; 4.19 cents with the silage and stover group; 6.64 cents with the hay group; and 4.32 cents with the stover group. These figures indicate very clearly the advantage of the succulent rations.

10. It appears from these experiments that cattle can be handled advantageously as stockers and finished on grass on a margin of 25 cents where silage or stover or other inexpensive forms of roughness are used during the winter. Mixed hay proved so expensive that there was a loss with it on a margin of 50 cents.

11. The cost of a pound of gain with the stall-fed cattle varied from 7.33 to 9.01 cents; with the stocker cattle from 4.12 to 6.64 cents. It cost, therefore, nearly twice as much to make a pound of gain in the stall as where the animals were finished on grass.

12. It actually cost \$1.50 to make a ton of silage, and 22 cents to make a bushel of corn, allowing full credit for every operation involved. The silage was charged to the feeders at \$2.00, and the corn at 54 cents a bushel, and even on this basis they would have returned a profit in some instances on a margin of 75 cents.

13. The beef made per acre by the grazers varied from 46 to 60 pounds, or a return of from \$2.12 to \$2.82 per acre. An acre in silage yielding eight tons will provide roughness for four animals for 180 days, which shows the importance of the silo where intensive farming is practiced, and the fact that larger returns can be secured from the land through the medium of the silo than were obtained through grazing in these experiments.

14. The cost of maintaining a stocker through the winter varied from \$7.96, with the stover-fed group, to \$16.24 with the hay-fed group. The average for all groups was \$10.91.

15. The cost of finishing a feeder varied from \$22.33 to \$25.82, or more than twice as much as it cost to carry over a stocker. The difference in food cost is largely offset, however, by rent of land.

16. The deductions to be drawn from the experiments with feeders are as follows: Feed a small grain ration—not over 2 pounds per head per day to commence with, and increase it gradually until the cattle are ultimately consuming 15 pounds per head per day. A liberal ration of silage should be fed throughout the test, decreasing the amount consumed toward the close of the feeding period. Only a minimum amount, not over 2 to 4 pounds, of stover or other dry inexpensive forms of roughness need be fed.

17. It would appear that silage may constitute the chief source of roughness for stockers; that a grain ration of 2 pounds per head per day is sufficient to insure their making substantial and profitable gains during the winter; that the best results will be obtained when the ration consists of equal parts of corn and cob meal and cotton-seed meal, or some other food rich in protein.

18. The feeding value of silage is in a large measure due to its comparative richness in nutrients especially suited for the nourishment of cattle; its ease of digestion as compared with dry foods; its palatability due to its aroma and succulence, and the fact that it aids in cooling the system and keeping it free of effete material and keeping the circulation active.

PROTECTION AGAINST TUBERCULOSIS.

Professor Von Behring, a celebrated German scientist, who has to his credit the discovery of the antitoxins of tetanus (lockjaw) and diphtheria, and who, it is said, considers the milk of tuberculous cattle a source of human consumption, claims to have discovered that a preparation of the attenuated bacillus of human tuberculosis, when injected by means of a hypodermic needle or syringe into the jugular vein of a three-weeks-old calf, and again in three months, will protect that animal, after one year, from contracting bovine tuberculosis. The calf, after this inoculation, is kept away from tuberculous cattle, out of infected places, and is fed milk known to be free from tuberculous bacilli. If tuberculin is used after the year of probation is ended, it fails to cause a reaction (rise in temperature), but injected prior to that time, and before the animal, therefore, has been immunized fully, a reaction may occur, although the calf is not affected by tuberculosis, the reasons being that the injection of the protective substance renders the animal peculiarly sensitive (hypersensitive) to tuberculin. When immunization is complete, the animal, it is claimed, is safe against bovine tuberculosis for the remainder of its life.

It is said that in Germany and Prussia no fewer than 70,000 head of cattle have been treated with this antitubercular substance in less than



A Yearling Shorthorn.

Bred at Pieriesmill, Huntly, Scotland. Exported to the Argentine, 1907.

farm, they could often be fed on a margin of 50 cents and still give the farmer a fair profit on his operations.

6. The cattle fed as stockers on silage and silage and stover made a gain of .85 and .84 pound per head per day, respectively; those receiving hay, .16 pound, and those stover, .12 pound. The average gain on grass was 1.73 pounds for the group receiving silage; 1.67 pounds for the group receiving silage and stover; 2.20 pounds for the group receiving hay; and 2.14 pounds for the group receiving stover; or an average for the 229 days of 1.26 pounds for the silage group; 1.22 pounds for the silage and stover group; 1.10 pounds for the hay group; and 1.05 pounds for the stover group.

7. From these results it appears that the cattle receiving silage as their sole roughness during the winter made the largest average gains, did not drift materially when turned on grass after the first ten days, slaughtered out to better advantage than the dry-fed cattle, and were in a thriffter and better condition throughout the entire feeding period. This is sufficient proof of the fact that succulent foods can be fed to cattle maintained as stockers and finished on grass.

8. The amount of rainfall and the degree of sunshine have a material influence on the gains made by cattle on grass. In August, when there were 8.61 inches of rainfall, the gains per head per day varied between .40 and .65 of a pound. In June, when the rainfall was 4.30 inches, the gains varied from 3.13 to 3.88 pounds per head per day.

9. The cost of a pound of gain with the stockers in the barn was 7.21 cents with the silage group; 7.15 cents with the silage and stover group; 62.47 cents with the hay group; and 42.66 cents with the stover group. For the entire feeding period the cost of a pound of

four years, and that of about 4,000 treated in two districts, of the younger generation of the herds so treated, only a very insignificant percentage are now reacting to the tuberculin test, while three or four years ago 80 to 100 per cent. responded to tuberculin. This, of course, is claiming a good deal, and is here given for what it may be considered worth.

CLOTH WINDOWS TO SECURE VENTILATION.

In view of the fact that poultrymen are finding such good results in ventilating henhouses by reducing the glass area, and having part of the poultry-house front to consist of muslin or cotton, we are not unprepared for the following remarks by John Gould, in a recent number of Hoard's Dairyman. They may contain a suggestion of value in solving the vexing question of stable ventilation, though right here we must caution against any general attempt to carry out the idea of substituting canvas for glass in any part of the already too-limited window space found in the average barn. With larger and more numerous windows the plan might work all right. Those who followed last winter the discussion in our columns on the basement-stable question, will remember that one correspondent proposed to prevent the danger of drafts by covering the mouths of his ventilating flues with muslin, so as to allow a gradual diffusion of air without strong draft. Writes Mr Gould:

"Several new, up-with-the-times cow homes are to be built hereabouts this coming season, and are to be modern in every respect, King ventilators included; but the recently-reported discovery, that if the lower half of the window sash, minus glass, is covered with muslin, the ventilation of the stables in every respect is as practical as with the more-costly King system, may modify plans. This is very important, if true, and should be looked into by every stable owner, for, if the claim holds good, it means that all stables can be made to contain pure air, and at the expense of a dollar and a few hours of the farmer's time, which he never counts in as cash, anyway.

"Mr. H. E. Cook, of New York, has been making some pilgrimages to stables where these muslin ventilators have been put in, and finds little to criticize, beyond that they are a little too airy when a strong winter blast sweeps up against them, but this is easily modified by dropping the lower sash on the wind side until the gale is over—a thing he proved in his own experiments in his stable. His experience would hardly be a criterion for the whole dairy territory, as his county in New York is so far north that it lies adjacent to and is bounded on one side by Labrador.

"In a trial stable, where every test for moisture, pure air, germs, and the like, was made for weeks, the results were surprisingly like that of a model stable with the King system. This could be made a partial compromise in the matter of sunshine in the stable, which all admit is essential in promoting dry floors, hygiene, and germ-killing. Put the muslin over the lower half of the window, and leave the upper half unobstructed, through which the sun's rays would fall, and because of their height, at a greater distance inward. We apprehend, also, that the lower down the muslin is placed, the better the ventilation, because nearer the strata of damp and gas-charged air. The surprising thing brought out by Mr. Cook, in regard to the temperature of the stable, was that when the temperature outside was zero, the air inside registered 40 degrees. What it might have been had the thermometer outside marked 30 degrees below, deponent saith not. This is a fruitful field for investigation, and certainly promises much, and we suggest to Prof. King that it behooves him to get a muslin attachment to that justly excellent ventilator of his, lest he, in an unguarded moment, might be swept off his feet by a muslin-ventilator cyclone. Perish the thought!"

RE DETERMINATION OF SEX.

Editor "The Farmer's Advocate":

In renewing my subscription to "The Farmer's Advocate," would say that I derive a great lot of information from the columns of your paper; in fact, it is read with interest by the whole family, including my father, who is nearing his eightieth birthday. I will give you my experience about an article in the April 25th, 1907, number, re determination of sex. I have three Holstein-Friesian cattle, all registered, in grand good breeding. Last year, 1906, two of these cows dropped bull calves. The one cow was served at time of first heat after calving, and this year again dropped a bull calf. Cow No. 2 was served at time of second heat after calving, and this year dropped a heifer calf. No. 3 is a two-year-old heifer, served at time of first heat without a doubt, and this year, two weeks after, which would be time of third heat, she has not calved yet; will watch with intense interest from No. 3. If anyone would give their experience regarding time of breeding cows which have dropped heifer calves it might benefit those who would like to get heifer calves.

J. M. JOYCE,
Lennox Co., Ont.

IMPORTED HOG PRODUCTS.

Editor "The Farmer's Advocate":

Below you will find a statement showing the amount of hog products imported into Winnipeg during the first three months of this year, during which time the price of hogs was higher in Chicago than in Toronto:

"I have the honor to acknowledge the receipt of your postal of the 15th instant, addressed to Mr. Geo. Smith, M.P., and transferred to this department, in which you ask to be furnished with information as to the imports into Canada of hog products. In reply, I beg to inform you that the imports of the following hog products into Canada during the fiscal year 1906 have been as follows:

	Lbs.	\$
Live hogs	124,759	7,233
Lard	7,529,199	644,920
Bacon and hams	7,079,845	775,876
Pork barrelled in brine	10,726,109	789,905

"The imports into the port of Winnipeg of hog products during the months of January, February and March have been as follows:

	Lbs.	\$
Live hogs		
Lard	676,901	62,624
Bacon and hams	231,152	28,998
Pork in brine	78,900	6,951

"JOHN McDUGALD,
Commissioner of Customs."
Ottawa.

Cannot our packers supply this demand out of the over-size hogs which they get, or are they too busy putting prices down to look into the Western market? You will also see that there was 10,726,109 lbs. of barrel pork imported into Canada during 1906. This pork is made mostly from sows and other heavy hogs, which our packers do not want at anything like Chicago prices for that class of stock.

I am a feeder of bacon hogs, and have made money by staying with them. I have observed two types of Yorkshires, one of which is easy to feed, and is usually found winning at the Guelph Winter Fair. The other kind is set away up on long legs, and is so long in the body that they cannot walk straight. They are hard feeders, and look older than the owner claims them to be. The following story is about one of the second kind. It happened at a township fair, at which one of the "expert judges" officiated. Walking up to the side of the wagon he said, "What have we here?" The ex-

cow," pointing to a certain twelve-year-old cow, "comes in heat always about a month after calving, and she generally gives me a bull every other year." Since then I have been watching my own cows and asking questions of other farmers, and in every case where there was no doubt that the conditions were right the principle has held. For the past three years I have kept my best breeder until the second period, and have had three bull calves in succession. Last year, through carelessness, she went to the third period of heat, and my last calf is a heifer. I meant to get as many proofs as possible for two or three years more, and then give the secret to the world and receive the plaudits of the multitude as an original investigator, but "Spero" has gone one better. I have even dared to theorize as to the causes of such alternation, and have thought it possible that the ova from different ovaries may bring about the different results; e.g., if the ovum from the right ovary descending during one heat should after fertilization develop into a male, the next period would deposit an ovum from the left ovary, and this develop into a female, and so on. The ova from one ovary aiding in the production of possible males, those from the other resulting in females; alternate ovaries doing their work in alternate periods of heat. In the case of animals producing litters, it may be that several ova escape during each period of heat, both ovaries participating in the function, thus accounting for animals of both sexes in the litters. In the case of twins or triplets of various sexes of uniparous animals, it may be put down as an irregularity which may occur in working of any general principle, and may be due to abnormal action of one or both ovaries. It is of course well known that the serum of any one act of copulation contains thousands of possible young, so the number of the progeny must depend on the number of fertilizable ova escaping. I even had the hardihood to tell my local physician that I believed from limited observation that the principle also held good in the human family, since when, in meeting me, he has given evidence of uneasiness and fear, as if he doubted my sanity. However, I am giving you my views, and am ready to stand up against the silent contempt or "I-know-it-all" criticism of the machine-made biologists and veterinarians of the country.

R. J. MESSENGER.

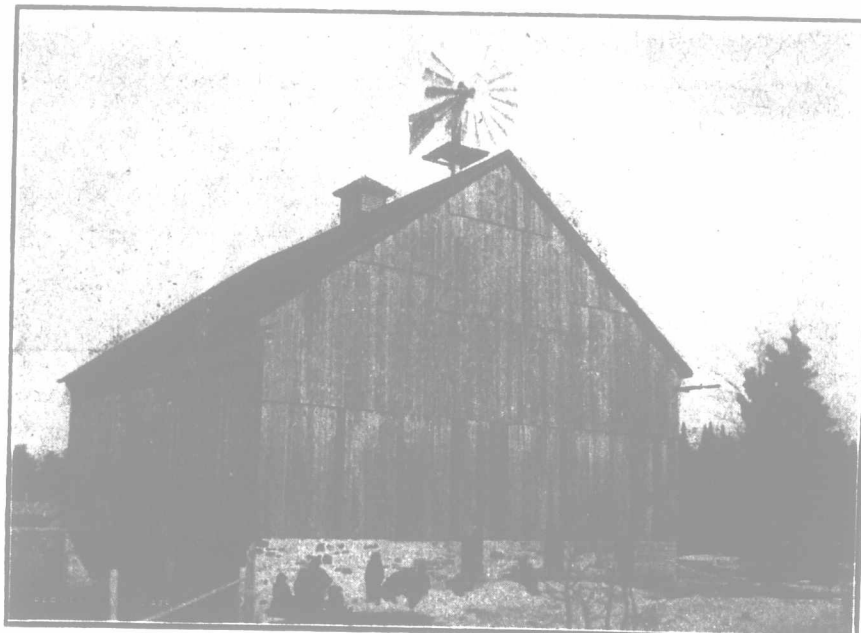
Annapolis Co., N. S.

THE FARM.

EFFECT OF ACID PHOSPHATE ON TURNIPS.

In the Maritime Provinces considerable use is made of commercial fertilizers for root crops. Unfortunately a good deal of money is expended to poor purpose through lack of knowledge of the particular requirements of the crop to be grown and the chief deficiencies of the various soils. A fertilizer which gives marked results on one soil may be of little or no use on another, because the latter may happen to contain a full proportion of the element of fertility which the fertilizer was designed to supply. Again, a fertilizer that is adapted to mangels or cereals may not be the most suitable for turnips. Mangels usually respond well to fertilizers containing a good deal of nitrogen and potash. Turnips, on the other hand, are fairly well able to supply themselves with nitrogen and potash from the soil compounds, but have singularly little power of appropriating the combined phosphoric acid of the soil. Fertilizers rich in phosphoric acid may nearly always be expected to show remarkable results on turnips. Especially is this true of acid phosphate (phosphate which has been rendered more readily soluble by treatment with sulphuric acid). An interesting experiment which serves to point this fact was conducted on the farm of the Nova Scotia Agricultural College at Truro, and described as follows by Agriculturist Fuller in the 1906 annual report. While quoting this, we wish to warn readers against a too sweeping inference, for it does not by any means follow that the results would be so pronounced on other farms, even in the same community. It often happens that a fertilizer containing a reasonable amount of all the three elements of fertility, with, however, a preponderance of phosphoric acid, gives best returns. At Truro, however, the acid phosphate alone was most profitable. Says Mr. Fuller:

A portion of our turnip field was divided into seven equal plots, on which we used muriate of potash, acid phosphate, and nitrate of soda, and various combinations of them, with the following results:



A New Ontario Barn.

Built by Geo. H. Farmer, Algoma District.

hibitor said, "An 'imported' Yorkshire boar." The judge asked, "Who imported him?" and when given the name of the importer said that "he had little to do to import a thing like that."

Waterloo Co., Ont.

GEO. A. SMITH.

TOO LATE TO REAP FAME.

Editor "The Farmer's Advocate":

I noted with some surprise and much satisfaction the article in your issue of April 25th on "Determination of Sex," and was immediately sorry that I did not speak before, for I have noticed the same principle repeating itself for the past five years, and have never yet had the test fail where I was sure of my conditions. The idea was first brought to my mind by the casual remark of a Shorthorn breeder some six years ago. I asked him how his calves came as to sex, and he said, "Oh, about equally heifers and bulls. The cows give me a bull calf one year, it is generally a heifer next year." This set me thinking, and the next time I saw the breeder I asked him some questions. "Yes," he said, "I let the herd bull out with the cows every day for exercise, and I suppose he gets some heat generally at the first heat." That old

Plot No. 1 received at the rate of 257 pounds of muriate of potash and 788 pounds of acid phosphate per acre, at a cost of \$13.11, and gave a yield of 840 bushels per acre.

Plot No. 2 received at the rate of 257 pounds muriate of potash and 252 pounds of nitrate of soda per acre, at a cost of \$12.81, and gave a yield of 483 bushels per acre.

Plot No. 3 received at the rate of 252 pounds nitrate of soda, and 788 pounds of acid phosphate per acre, at a cost of \$14.07, and gave a yield of 882 bushels per acre.

Plot No. 4 received at the rate of 257 pounds muriate of potash, 788 pounds acid phosphate, and 252 pounds of nitrate of soda per acre, at a cost of \$20.06, and gave a yield of 903 bushels per acre.

Plot No. 5 received at the rate of 532 pounds muriate of potash, alone, per acre, at a cost of \$13.06, and gave a yield of 462 bushels per acre.

Plot No. 6 received at the rate of 1,050 pounds acid phosphate, alone, per acre, at a cost of \$9.45, and gave a yield of 770 bushels per acre.

Plot No. 7 received no fertilizer, and gave a yield of 450 bushels per acre.

In summing this matter up, we find that acid phosphate alone gave an increased yield at the rate of 2.09 cents per bushel, while, where potash or nitrate of soda, or both, were added, the increased yield cost nearly double as much. Furthermore, where potash and nitrate of soda were used without acid phosphate, the increase in yield cost 38½ cents per bushel, and where potash alone was used, the increase in yield, as a result, cost \$1.08 per bushel.

PLEASED WITH THE WORK OF THE DRAG.

Editor "The Farmer's Advocate":

Being a member of "The Farmer's Advocate" split-log-drag brigade, I have a few points to advance from the brief experience I have thus far had with the drag. I had been using the old-fashioned road scraper or leveller of several designs for over 40 years, and I have to say that the split-log drag beats them all. A few of the advantages are the following:

It does double the work at one operation that the old-style scraper did.

You can readily adjust it so that it draws at any angle you desire, and are constantly moving the earth towards the center of the road, thus maintaining a uniform grade.

If this drag was used much more extensively, instead of dumping the loose earth in the center of the road, as usually practiced, there would not be so much difficulty during the greater part of the summer on many of our roads in trying to find (but failing) a decent place to drive.

I have had irons put on the face of one side of the first drag I made, which I use when the roads are dry and hard, otherwise I turn the other side down.

In using the drag when the roads are quite soft and muddy, I found that the earth was being carried along in front of the drag, making it very hard work for the team. To overcome this objection I made another drag similar to the first, but instead of having the drags perpendicular, I inclined them forward at an angle of about 45°. By so doing I find the earth passes underneath, and yet does the same work with much less labor for the team, and very much more pleasure for the man who is manipulating this simply and cheaply constructed road-improvement implement.

I believe much more time could be profitably spent on many of our roads with the split-log-drag, just before they are quite dry, and followed up at short intervals, and especially after every rain. I am anticipating that our "brigade" will another year find many converts. I, for one, intend to keep one of the 43 miles in Western Ontario in the competition in respectable travelling condition, and I trust every member of the brigade will do likewise—that it may be an object lesson, a step towards further "good roads" improvement. W. B. RITTENHOUSE. Lincoln Co., Ont.

A HOOP SILO.

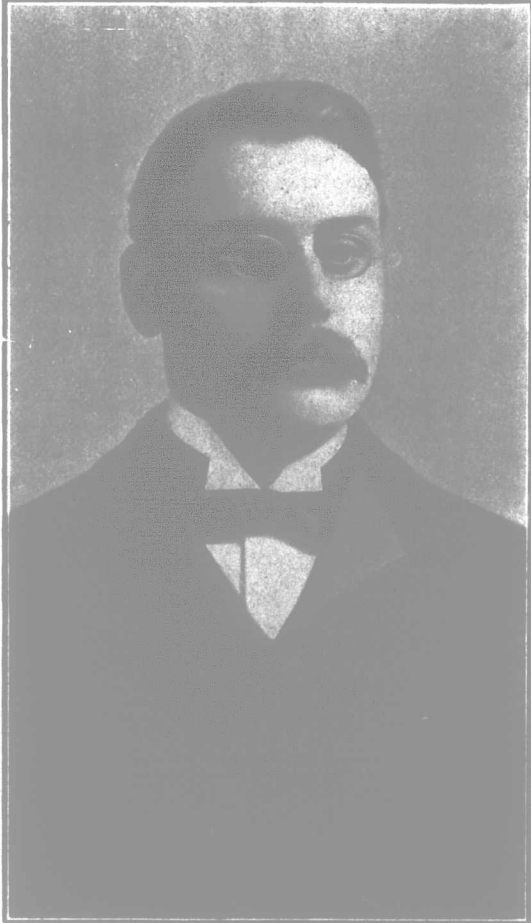
Editor "The Farmer's Advocate":

F. S. asks about stave silo. I built a hoop silo last year, and think it is better than the stave silo, as it will not need tightening when empty, and, by using inch lumber double, breaks joints and makes it almost air-tight. Hoops were made of elm strips, 4 inches wide and ¾ inch thick, four thicknesses nailed together. Nail blocks on barn floor in circle the size of hoop. Every 5 or 6 feet will need some blocks on outside, too. Hoops should be stayed, and marked before taking out of blocks. My silo is 14½ feet across and 35 feet high—33 feet of wood, and 2-foot cement foundation. If I had put hoop on ground and marked for foundation, think I would have had it better, as foundation is a little smaller than woodwork. Whether it will cause more ensilage to spoil, I don't know. About three inches on edge of silo all round has spoiled. Think if I could have had it tramped harder it would have been better. Hoops are three feet apart. Used cedar lumber. WILBER WINTER. Northumberland Co., Ont.

PROF. ANDREW M. SOULE.

"The Farmer's Advocate" of May 9th referred editorially to the extensive experiment in agricultural education in the State of Georgia, where a new agricultural college, costing \$200,000, has been inaugurated, also a system of eleven Agricultural High Schools. Many of our readers will be interested in a few biographical facts about Prof. Soule, the clever Canadian who has been appointed head of the Agricultural College and Experiment Station, and Director of Agricultural High Schools.

Born near Hamilton, Wentworth Co., Ont., in 1872, of U. E. Loyalist stock, and a nephew of Prof. Thomas Shaw, Andrew M. Soule was brought up on one of the best stock and fruit farms in the



Prof. Andrew M. Soule.

Niagara Peninsula, evincing from his earliest childhood a great love for nature and the farm. Educated first at the common school and the Niagara Falls Grammar School, he entered the Ontario Agricultural College at Guelph in 1890, whence he graduated in 1893 with an enviable collegiate record. Returning to his father's farm, he was called in the spring of 1894 to the Missouri Experiment Station as Assistant Director. In the fall of that year he went south, being chosen Assistant Professor of Agriculture and Assistant Agriculturist in the Texas College of Agriculture and Experiment Station, where he remained two years. The spring of 1899 saw him as far back north as the University of Tennessee, where he was made Professor of Agriculture and Director of the Experiment Station. During his connection with this institution he was appointed Collaborator in the U. S. Department of Agriculture, and carried on extensive work with the

Bureau of Plant Industry at Washington. While in Tennessee he branched out in various directions, among other things establishing the first dairy school in the South, promoting agricultural organization and reorganizing the Tennessee Experiment Station, and developing a system of field and feeding experiments that attracted wide attention. In September, 1904, he was called to occupy the position of Dean of the College of Agriculture and Director of the Agricultural Experiment Station in connection with the Virginia Polytechnic Institute. In three years he has entirely reorganized the Experiment Station and established a department of field experiments containing 66 acres of land, through which 2,000 questions are being asked of the soil each year. A superior variety of winter barley has been disseminated as far north as Maryland, and other strains of cereals are in process of development. The feeding experiments inaugurated with beef and dairy cattle and hogs are among the most extensive in the United States, and one of the first complete tests comparing the cost of finishing beef cattle in the stall and on grass, is summarized elsewhere in "The Farmer's Advocate." The number of students taking agriculture has increased considerably in the past few years, and the feeling of farmers in the State has changed from apathy to interest. Through his efforts, the Virginia State Farmers' Institute has been organized, and it now has a membership of nearly 600, the attendance at the last annual meeting being over 1,200. By every possible means he has kept in touch with the people. He has achieved notable success as an Institute worker, and has been an enormously prolific writer of practical stuff for bulletins and agricultural periodicals. He is a prodigious worker, and possesses a masterful mind that augurs success in the large and difficult task he is undertaking in Georgia. His appointment to the new position dates from July 1st, but he does not expect to be able to leave Virginia till early in September.

CORN AND CROWS.

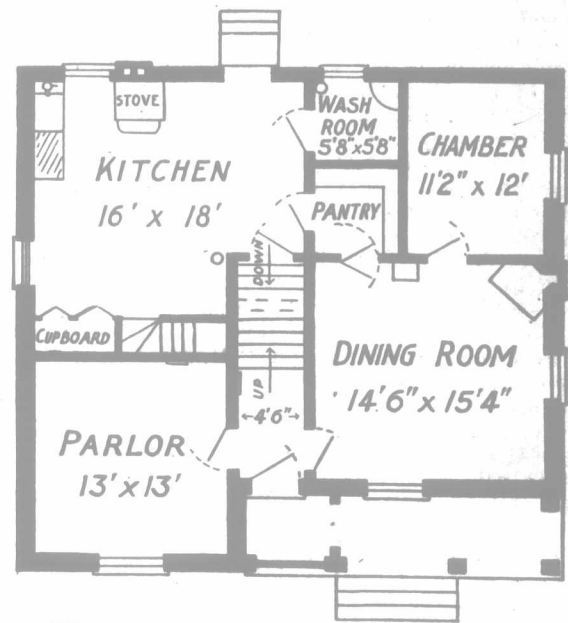
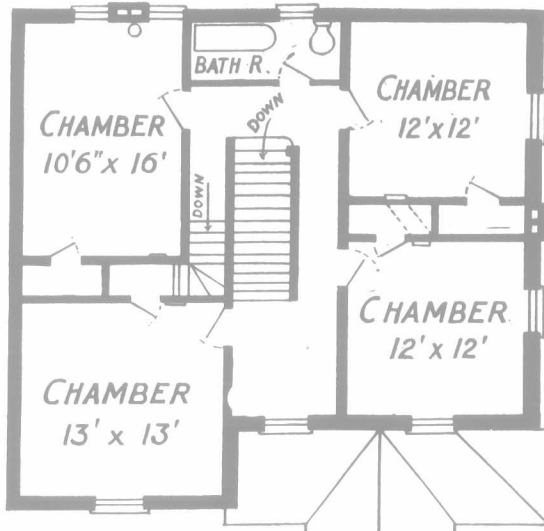
Editor "The Farmer's Advocate":

In your issue of April 25th I notice an article entitled, "Protecting Seed Corn from Crows," by W. A. Oswald. I wish to state that a few years ago we did exactly what Mr. Oswald describes, but in later years we have adopted a few improvements as to manner of application of tar and drying it. In the first place, instead of heating tar, we put corn in basket, or other porous vessel, and pour sufficient hot water on corn to heat it, then put tar on and stir. In this way very little tar covers a lot of corn. In second place, instead of having to tar corn ahead to dry, we stir a little land plaster with it after it is tarred, which makes it even better to handle than if given some time to dry without the plaster. A few finely-sifted ashes will answer nearly as well as plaster. We believe that both the hot water and plaster have a more beneficial than harmful effect on corn. We would also state here that tar must be coal and not pine tar, as crows will grow fat on the latter. W. H. WESTNEY. Ontario Co., Ont.

SUMMER SEEDING OF ALFALFA.

Editor "The Farmer's Advocate":

With reference to summer seeding of alfalfa, mentioned by Mr. F. M. Lewis in a late issue, I may say that for several seasons I have sown about the first of August, without nurse crop, on summer-fallowed land. The results have been very satisfactory. I would sow earlier if sure of the weeds being killed, and if the ground were mellow, but think that August 1st is a better time for us in this district than July 1st. If the seed germinates and comes up by August 15th, and the land is fairly rich, the alfalfa will be a foot high



Compact House Plan.

The above plans represent the interior of a house that is at once compact, easily heated and convenient. Note (1) the pantry between kitchen and dining-room, (2) the back stairs, (3) the bedroom on lower floor.

or higher by the time the frost comes. I have been sowing about 12 to 15 lbs. per acre, but think that perhaps 20 lbs. would be better.

This year, unfortunately, much—in fact, nearly all—of the alfalfa on heavy or wet soil has been heaved out by the frost and quite destroyed. It appears hardly safe to assume that when once one has a good stand of alfalfa it will last for 10 years or more. A good deal is winter-killed; some is crowded out by other plants, and some suffers from various other unfavorable circumstances.

Brant Co., Ont.

W. C. GOOD.

BRANDON FARM HAS NEW SUPERINTENDENT.

After being superintendent of the Dominion Experimental Farm at Brandon, Man., for about a year, Prof. Newton Wolverton has resigned, the term of his active services to end on June 1st. On being relieved of duty at Brandon, Prof. Wolverton will go to the Kootenay country to engage in fruit-growing. In appointing a new superintendent for the farm, the Government has acted quickly and wisely in selecting James Murray, B. S. A., at present Superintendent of Fairs and Farmers' Institutes in Saskatchewan. Mr. Murray's agricultural education has been of a broad character. The first twenty years of his life he spent on his home farm in Simcoe Co., Ont. In 1898 he began his four-year course at the Agricultural College, Guelph, and graduated in 1902 with a creditable standing. Immediately on graduation he was selected by the Dominion Department of Agriculture to assist in the advancement of the pure-seed propaganda which was just then being exploited. Later he went to the West as the representative of the Seed Branch. In 1906 he joined the strong staff of agricultural experts with which Hon. W. R. Motherwell has surrounded himself in the Saskatchewan Department of Agriculture. Mr. Murray is a practical farmer, both by instinct and choice, and brings to his work at Brandon a happy blending of experience, discretion and youthful energy.

THE DAIRY.

OFFICIAL REFEREE OF BUTTER AND CHEESE AT MONTREAL.

The following communication from J. A. Riddick, Dominion Dairy and Cold Storage Commissioner, Ottawa, contains what will be to many a welcome announcement, that an official dairy referee is to be stationed at Montreal this summer. We understand that Mr. G. H. Barr, who recently joined the Dairy Commissioner's staff, will for the next two or three months at least act in this capacity, while meantime picking up pointers about our export dairy trade:

I am authorized by the Honorable the Minister of Agriculture to announce that an officer of the Dairy Division will be stationed at Montreal to act as Official Referee of Butter and Cheese after May 15th next, in compliance with the urgent requests received from dairymen in various districts.

In view of the representations which have been made by salesmen, the Referee will act only on request of both buyer and seller. While it is recognized that the delay which may ensue before the salesman can be communicated with will result in any defect in the quality of the cheese or butter becoming more pronounced, and that it may interfere with the prompt exportation of the lot in question, the right of the seller to be consulted before any reference is made, cannot be denied.

Any salesman who desires to avoid the risk of increased loss, consequent on the delay of final inspection, may do so by giving the Referee a standing order, in writing, authorizing the examination of his cheese or butter at any time on request of buyer alone. Such authorization must come direct from the salesman himself. Verbal notices will not be accepted. Any authorization of this kind may be cancelled by the salesman giving due notice to that effect.

In giving certificates on the quality of butter or cheese, the Referee will be guided by the classification and standards adopted two years ago. In this classification, "First Grade" is equivalent to "Finest," a term used for many years to denote first-class quality; and "Under Finest" is divided into second and third grades, with clear definitions for each grade. The advantage to the seller of having the grades clearly defined, and of having three grades instead of two, must be obvious to all.

The Referee will furnish both buyer and seller with a report on the quality of all butter and cheese officially examined.

Copies of the circular giving the standards or definitions for the three grades of butter and cheese were distributed in 1905, but further copies will be sent to any person who makes application for them.

The standards are printed on the back of the Referee's reports.

STANDARDS FOR GRADING CANADIAN CHEESE AND BUTTER.

Until further notice, the Dominion Government's Official Referee for Butter and Cheese, stationed at Montreal, will observe the following standards and classification in giving certificates as to the quality of cheese and creamery butter which he is asked to examine.

STANDARDS FOR CHEESE.

FIRST GRADE.

Flavor.—Clean, sound and pure.

Body and Texture.—Close, firm and silky.

Color.—Good and uniform.

Finish.—Fairly even in size, smoothly finished, sound and clean surfaces, straight and square.

Boxes.—Strong, clean, well made and nailed.

Ends to be of seasoned timber. Close-fitting.

Weights stenciled or marked with rubber stamp.

SECOND GRADE.

Flavor.—"Fruity," not clean, "turnipy," or other objectionable flavor.

Body and Texture.—Weak, open, loose, acidic, too soft, too dry.

Color.—Uneven, mottled, or objectionable shade.

Finish.—Very uneven in size, showing rough corners, black mold, dirty or cracked surfaces, soft rinds.

Boxes.—Too large in diameter; top edge of box more than $\frac{1}{2}$ an inch below the top of the cheese. Made of light material. Ends made of improperly seasoned material.

THIRD GRADE.

Flavor.—Rancid, badly "off," anything inferior to Second Grade.

Body and Texture.—Very weak, very open, showing pinholes or porous, very "acidic," very soft or very dry.

Color.—Badly mottled, or very objectionable shade.

Finish.—Anything worse than Second Grade.

Boxes.—No question of boxes sufficient to make Third Grade, if other qualities are good.

EXPLANATIONS.

It would be impossible to define exactly the qualities or defects which may appear in cheese. The standards given are intended to indicate the range of quality for the different grades, rather than to establish hard-and-fast rules to guide the grader.

The expression "good color" means that the color must be of a proper shade. There are cheap, inferior cheese colors used which do not give the proper shade, no matter what quantity is used.

The expression "clean surfaces" in the definition for First Grade does not exclude from that grade cheese with a slight growth of blue mold, although it is desirable that the cheese should not show any signs of mold. "Black mold" (see definition for Second Grade), is simply the advanced stage of the ordinary blue mold.

The following scale of points will indicate the relative values of the different divisions of quality: Flavor, 40; body and texture, 30; color, 15; finish and boxing, 15; equals 100.

It is obvious that a defect in flavor of a certain degree counts nearly three times as much in determining the grade as a defect in finish or boxing of the same degree.

Cheese which are strictly sour, or otherwise inferior to Third Grade, will be designated as "culs," for which there is no classification.

Any lot of cheese shall be considered Third Grade if it shows three or more defects of Second-grade class.

If there are not more than 15 per cent. defective cheese in any lot, the inferior ones may be sorted out and classed separately. If more than 15 per cent. are defective, the classification for the defective cheese may apply to the whole lot.

This does not apply when inferior cheese have been properly marked, so as to be identified, in which case the inferior cheese shall be treated as a separate lot.

STANDARDS FOR CREAMERY BUTTER.

FIRST GRADE.

Flavor.—Sound, sweet and clean.

Body and Grain.—Waxy; not too much moisture.

Color.—Even, no streaks or mottles, not too high.

Salting.—Not too heavy, if salt butter. Salt all dissolved.

Finish.—Good quality parchment-paper lining, neatly arranged. Package well filled; bright, even surface.

Packages.—Well made, of good material, and clean. Boxes to be of right size to hold 56 pounds of butter when properly filled. Paraffined on inside. Neatly branded. Tubs to be lined with parchment paper of good quality.

SECOND GRADE.

Flavor.—Not quite clean, or other objectionable flavor.

Body and Grain.—Salvy; overworked; too much moisture.

Color.—Slightly mottled or streaky; too high, or objectionable shade.

Salting.—Too heavy; salt undissolved, or unevenly distributed.

Finish.—Very light or poor quality parchment-paper lining; lining not arranged to protect butter; mold on parchment paper. Rough, uneven surface. Package not properly filled.

Packages.—Rough, badly made, or of poor or unseasoned material, including sapwood. Dirty packages. Uneven weights.

THIRD GRADE.

Flavor.—Very stale; very strong stable flavor, or anything inferior to Second Grade.

Body and Grain.—Very salvy; "mushy," mold in butter.

Color.—Very mottled or otherwise inferior to Second Grade in color.

Salting.—No question of salt alone sufficient to make Third Grade if other qualities are up to First Grade.

Finish.—No parchment lining. Very rough finish. Dirty surface.

Packages.—Inferior to Second Grade.

EXPLANATIONS.

It is difficult to explain exactly the qualities or defects which may appear in butter. The standards which have been adopted are intended to indicate the range of quality for the different grades, rather than to establish hard-and-fast rules for the guidance of the grader.

"Fresh" or saltless butter will be judged on the same standards as for salted butter, by leaving the matter of salting out of the consideration.

A package is not considered well filled if the butter is more than half an inch below the top of the package.

It is very important that all boxes should hold only 56 pounds. No other weight should be marked thereon. Tubs should be of uniform size and weight.

The following scale of points will indicate the relative values of the different divisions of quality: Flavor, 40; body or grain, 25; color, 10; salting, 10; finish and packing, 15; equals 100. It is obvious that a defect in flavor of a certain degree counts nearly three times as much in determining the grade as a defect in finish or packing of the same degree, and so on.

The expression "too much moisture" applies to all butter which contains over the legal limit of 16 per cent. of water, or to any butter that, according to the custom of the trade, would be described as containing too much water. (From many tests made, finest Canadian butter does not contain, or should not contain, on the average, over 13 per cent. of water.) The Official Referee will not be expected to determine the actual percentage of water.

"Too heavy salt" means more salt than is generally demanded by the trade for salted butter.

"Too high color" means overcolored, or too much coloring material used. "Objectionable shades" or unnatural colors are those which result from the use of inferior or unsuitable coloring material.

EFFECT OF SILAGE ON MILK FLAVOR.

Is ensilage fed much in your district? Has it any deleterious effect on milk for dairy purposes or for domestic use? Have you knowledge of any experiments having been made to ascertain accurately the experience with ensilage.

TRURO CONDENSED MILK CO.

Huntingdon, Que.

Corn silage is very extensively used throughout Ontario as a feed for dairy cows, and the general experience is that, when reasonably well matured, properly preserved in a good silo, and the silage fed in moderation, milk of better flavor and color is obtained than from cows maintained exclusively upon dry fodder. It is true that the feeding of bad silage, and especially the presence of such in the stable at milking time, might have an injurious effect on the flavor and keeping quality of the milk, but not more so than the use of decayed roots or musty hay.

We submit below the comments of two dairy experts, Prof. H. H. Dean, O. A. C., Guelph, and Colon C. Lillie, Deputy Dairy and Food Commissioner, Michigan:

Prof. Dean.—I have had no experience in the feeding of silage to cows where the milk is sent to condenseries, but so far as our experience goes, we have not noticed any deleterious effect for domestic purposes or for the manufacture of butter and cheese. Your correspondent will find results of experiments in the annual reports of our College, especially in the year 1897. The Dominion Experimental Farm at Ottawa also reports results in the year 1904, comparing silage and various kinds of roots. I understand that most of the American condenseries, also the condensery at Ingersoll, Ontario, prohibit the feeding of silage to cows giving milk for their factories, but I have been told that there are condenseries in the

State of Michigan which allow silage to be fed to cows.

Colon C. Lillie.—With regard to milk-condensory factories in Michigan allowing their customers to feed corn silage, I beg to say that this has always been allowed in Michigan. The Lansing Condensed Milk Factory, from the start encouraged the use of ensilage. A year or two ago the Borden people bought out the plant, but I understand that nothing has been said against feeding ensilage, although I know that in their Elgin Condensed Milk factories they do not allow it. The Howell Condensed Milk Factory, at Howell, and the Jackson Condensed Milk Factory, at Jackson, are also owned by the Borden people, and yet I understand they are allowed to feed corn silage.

I have always understood that if the silage was good sound silage and wholesome, it had nothing but good effects upon the milk—the very best. I suppose some farmers have been careless in the feeding of their ensilage, causing the Borden people to issue a mandate forbidding its use.

KEEPING RECORDS AN INSPIRATION.

Editor "The Farmer's Advocate":

We have been keeping milk records since June last on the farms supplied by the Experimental Farm at Ottawa. It takes about ten minutes per day to keep the records. The milk is weighed at the house, and each cow's milk is kept separate until weighed. Our herd is four cows; at present three are giving milk. If we had a greater number of cows we would probably get spring scales and keep these and record forms at the barn, and so lessen time and labor.

We find that recording the milk yield makes us much more attentive to our cows. We always knew that the yield of milk decreased very much on the approach of winter, but when one is putting the decrease down in figures it looks quite alarming, and creates a feeling of dissatisfaction with one's methods, and an effort to remedy matters naturally follows. Record keeping has also given us a much greater interest in the Reports and Bulletins issued by the Departments of Agriculture. We find much instruction and pleasure now in hunting through these reports, for some years back, perhaps, to get ideas on such subjects as crops and concentrated feeds for milk cows, and on the way we pick up much that comes useful in other branches of farming.

Since June our milk record has been as follows:

Part of June, Bella only	401 lbs.
July, Bella all the time, and Cissy and Melba part of month	1,874 lbs.
August, 3 cows all the time	2,051 lbs.
September, 3 cows all the time	1,646 lbs.
October, 3 cows all the time	1,576 lbs.
November, 3 cows all the time	885 lbs.
December, 3 cows all the time	1,264 lbs.
January, 1907, 3 cows all the time	1,351 lbs.

This record shows us very plainly when we must make an effort another year to keep the cows "stepping." In November they were stabled for the winter, and were fed corn, hay and straw cut, with a pailful of pulped roots each per day; not as much cut feed as they would eat up clean. Like many another, we were overstocked with cattle, and could not give our cows fair play. We felt somewhat ashamed of the November report; however, it had to go. Before December we had parted with seven head of cattle. Part of the money was turned into bran and chopped oats. This meal was fed as a mixture to the cows, in the proportion of one pound of meal for every five pounds of milk given by each cow. They had also all the cut feed they would eat up clean. The result of the change is shown in the December and January report.

From June to December, 1905, we had three cows milking, and they gave us 219 lbs. of butter. From June to December, 1906, the three cows gave us 360 lbs. of butter, an increase of 141 lbs. over 1905. Whether our cows will come up to the standard or not remains to be seen at the end of each cow year.

As for your last query, the degree of knowledge on caring for cows varies with the man as much as feeding and milking qualities do with the cow. I think that, even to the man who thinks he is doing as well as he knows how, record keeping would prove its worth if done accurately and faithfully. W. M. S. Ontario Co., Ont.

CHEESE MARKET FOR SIMCOE.

Owing to the fact that there are a large number of cheese factories in this district, it has been deemed advisable to hold a cheese market in Simcoe, to facilitate business and to stimulate the dairy industry, which is growing rapidly in this section; hence, the origin of the Simcoe Dairy-men's Exchange. The directors have arranged to hold their first market at the Exchange, in the Mechanics' Institute Building, Friday, May 17th, at the hour of 1 p.m., and each alternate Friday thereafter until further notice.

Simcoe. J. C. AUSTIN, Acting Sec.

SHIPPING OF GREEN CHEESE CONDEMNED.

Scarcely mailed was our issue of May 9th, containing the editorial headed, "Farmers and Makers Not to Blame," in which we took emphatic exception to the attempt to place on factory salesmen the onus of shipping cheese green last summer, when we received the following article from J. A. Ruddick, Dairy and Cold-storage Commissioner, Ottawa, warning cheese-factory patrons and makers that it is to their interest not to allow the shipment of green cheese. The most casual reader cannot but observe that the two articles do not precisely agree. So far as "The Farmer's Advocate" is concerned, it adheres to the position taken last week. At the same time, we are well aware that Mr. Ruddick is quite sincere in his opinion, and views the question in a broad light, with the advantage of many years' intimate knowledge of the trade, not only in Canada, but England and other countries as well. In accordance with our established policy of presenting all sides of every subject treated, we give space to the following communication, which is excellent ethical doctrine for dairymen, howbeit rather exactly altruistic for conditions such as obtained in the season of 1906, when buyers were known to hinge bargains upon the Monday's shipment of Saturday's cheese:

Editor "The Farmer's Advocate":

I am informed by some dairy instructors in Ontario that many of the cheese factories are shipping their cheese in a very green condition. In fact, one instructor writes that he has seen Monday's cheese boxed and shipped on Tuesday. It is difficult to understand how intelligent men can be induced to act so foolishly in the face of the positive warnings which they have received from time to time during the past year as to the injurious effect of such a practice on the cheese trade of Canada. If we continue to ship green cheese to Great Britain at a time of the year when they are most likely to go into direct consumption, there can only be one result, and that will be to check the consumption of cheese enormously, with a consequent decrease in the demand, which is bound to have the effect of reducing the price before the season is over. It would seem to require scarcely a second thought to convince any person that it is a most suicidal policy to allow the cheese to be shipped when they are not in a condition fit for food and when their presence on the market will have the effect of stopping the consumption of cheese and encouraging the consumers to look for some other article of food. It is useless to throw all the blame on the buyers, and to let it go at that. The buyers know the danger of this sort of thing well enough, and the fact that they are offering to buy the cheese is proof that they will not act in the interest of the producer when it serves their purpose to do differently. The factory manager or salesman cannot escape his responsibility for the protection of his own business, or the business of his patrons. It is quite evident that the only way to deal with this question is for the salesman to refuse to sell the cheese until they are fit for market. I appreciate the difficulty of individual action in a matter of this kind, owing to the strenuous competition among factories, but there is nothing to prevent the salesmen on the different cheese boards from agreeing, as a body, not to allow cheese to leave their factories until they have attained a reasonable age, say at least ten days or two weeks. Some of the cheese boards have already done so, and I venture to say that the factories represented will reap a handsome reward before the season is over, because the district which resolutely refuses to allow the cheese to go forward until they are in a proper condition, will add very materially to its reputation on that account. I know of no surer way of forcing the market down than by selling green cheese. Those who are following the sales on the cheese boards closely, will have noticed that certain districts are receiving a handsome premium over others, simply because they have sufficient foresight and good business judgment to recognize that it pays them to protect the reputation of their cheese in every possible way. When the patrons of cheese factories come to fully realize how vitally they are interested in the actual condition of the cheese as it reaches the consumers in Great Britain, they will make it warm for any factory manager or salesman who allows absolutely green cheese to be shipped from the factory. What is the use of the Government's spending money for the purpose of instruction if cheese are to be shipped before anyone can determine anything about their quality? The instructors might just as well remain at home under such circumstances. Any of the improvements which have been made in recent years, and which have done so much to help the cheese industry, will be almost wholly nullified if this sort of thing goes on.

With the knowledge that I have as to the effect of this practice on the British market, I conceive it to be my duty to protest as vigorously as possible against a continuance of this practice, and point out the inevitable results if it is continued.

J. A. RUDDICK,
Dairy and Cold-storage Commissioner.

GREEN FODDER CHEESE.

According to official estimates, the cheese market this year ought not to be depressed by the make of early cheese, which is unusually light. Chief Instructor Hems informs us that the output of May cheese in Ontario will be one-third less than last year, while the make of creamery butter will also be considerably smaller. The anticipated shortage is partly attributed to a reduced make of foddors, and partly to the lateness of the pasture, owing to our untoward spring. It may seem surprising that the make should be so low, in view of the tempting prices prevailing last year and again now, but the fact is that the dairy herds have not yet been greatly strengthened numerically. Combined with cow shortage is the high price of feedstuffs—bran, for instance, being this week quoted by our Montreal market correspondent at \$24.00 per ton. These factors account for the smallness of the May output, and should augur another season of good prices for dairy products.

The fly in the ointment is the tide being raised about injury to the export trade from shipping green cheese. Last summer, as has been noted several times in these columns, a large amount of uncured and half-cured cheese from Canada was dumped on the British market, and emphatic criticism is now forthcoming from the Old Country dealers. This year the same thing is being done with the foddors, and some of the dairy leaders, notably Chief Instructor G. G. Publow, in Eastern Ontario, and Mr. J. A. Ruddick, Dairy and Cold-storage Commissioner, are sounding a loud note of warning, urging factory salesmen to refuse to sell green cheese, no matter how tempting a price is offered by the buyers. Others take a modified view of the situation. Mr. Hems, in Western Ontario, for instance, thinks there is no occasion for great alarm regarding the 1907 season's developments thus far, however it may prove later on. He points out that fodder cheese is made so as to cure rapidly and be off the market before the grass product comes in, after which it is at discount anyway. Fodder cheese are made with a small allowance of salt and an excessive quantity of rennet, and ordinarily ripen quickly. A factory man, therefore, is not to be blamed too hard for accepting a tempting price from a buyer who wants them for early delivery. He puts the case this way: I might go out in a cheese district and possibly persuade ten out of thirty or forty factories to hold their cheese for a couple of weeks, but the others would go on as usual. Then if the price dropped and these ten factories lost half or a cent a pound, it would not be well for the instructor or for his influence in other matters, while he would have the doubtful consolation of knowing that he had failed in his object, inasmuch as the majority would have gone on shipping green cheese. The factories in Western as well as Eastern Ontario are being fully informed by the instructors regarding the disastrous consequences to the trade from shipping green cheese, but so far as the fodder make is concerned the instructors are not insisting too strongly as to the duty of factory salesmen. Asked concerning the suggestion that cheese boards should unite and agree not to sell cheese from the hoops, he replied that such resolutions have been passed every year, but the cheese are sold all the same. Even if you entirely stopped their sale on the board nothing can prevent selling on the curb. If the buyers want cheese they will have them, whether or no. In Mr. Hems' opinion "The Farmer's Advocate" struck it about right in the editorial of May 9th, wherein it was pointed out that a season of more moderate prices might remove the inordinate temptation to ship green cheese. If last year's experience is repeated, he added, the case next winter may be one for Dominion legislation, by which cheese might require to be stamped and forbidden to leave the curing rooms or the warehouses before a certain number of days or weeks. If this were done it would be easier to persuade factory patrons and makers of the advantage of cool-curing rooms, which save shrinkage in curing.

CLEAN CHEESE FACTORIES AND CREAMERIES.

Chief Instructors G. G. Publow and Frank Hems (successor to Mr. G. H. Barr) are authority for the assurance that the cheese factories and creameries of Ontario will open this year in cleaner condition than ever before in the history of the trade. While improvement has been steady of recent years, there is a special reason for the marked betterment this spring, and the reason is the change in the system of dairy instruction, by which the instructors are given authority to insist on sanitary conditions at factories and on farms. As a matter of fact, there is no compulsion being exercised, because such is not required; the fact that they have the necessary authority in reserve is sufficient. They are going on much as in previous years, only that they now visit all the factories, whereas in previous years all they could do was to visit such as were willing to pay the instruction fee. Now the Provincial Government stands the expense and sees that all are looked after. This insures two things: (1) that every factory and creamery in the Province will have the benefit of expert advice; (2) that every factory must be made and kept clean. As Mr. Hems puts it, all they require is that the factory must be clean inside and out, and supplied with utensils necessary to make finest goods.

APIARY.

MIDDLESEX BEEKEEPERS DISCUSS O. A. C. APIARY DEPARTMENT.

An important meeting of the Middlesex Beekeepers' Association was held in London, Ont., on May 4th. Mr. Chrysler, of Chatham, read a carefully-prepared paper, in which the following points were brought out:

1. That, although well-established beekeepers do not find any trouble in disposing of their honey, many beginners and others have much trouble in finding a ready sale or as good prices as they should. This he attributed to two facts: (a) That honey is often allowed to spoil by grocers before it reaches the consumer; (b) that trade has been spoiled by adulterations. These conditions obtained chiefly in the Northwest, where a strong demand is springing up, but for good honey. He thought the Inland Revenue Department at Ottawa should be asked to collect samples and publish the names of adulterators.

2. That a co-operative system for the disposal of honey was to be commended.

3. That the putting of honey in retail packages would save much confusion and loss, and greatly prevent the likelihood of honey being tampered with.

Were a supply of good honey guaranteed, the demand from the Northwest would soon become so great that the former low prices should never be feared again.

As a result of the discussion of Mr. Chrysler's paper, the following resolution was finally adopted: "That this Association should recommend and ask that the Department of Inland Revenue, of Ottawa, should annually collect samples of honey, and that these samples be taken during autumn or early winter. We would also require that those infringing the Pure Food Act should be prosecuted."

During the discussions of the forenoon session, which were taken part in by Messrs. Holtermann, Gemmell, Chrysler, Anguish, Laing, McEwen and others, and by President Miller, many points of interest to beekeepers were brought out. It was noted that, although supervision has been exercised over the maple-syrup output for years, the honey interests have been overlooked. The keeping of bees should be encouraged for their influence in pollenization as well as for the profit in honey.

The inferior condition in which honey reaches the consumer is not always due to adulteration. Often it is spoiled by being kept improperly sealed in too cold and damp a place. Sometimes, too, the producer sells it before it is properly ripened. In the United States, honey in which there is an over amount of moisture, even though this is put in it by the bees, is classed as adulterated. Mr. Gemmell did not believe this classification just; Mr. Holtermann upheld it, but both agreed that only the thick, well-ripened article should be put on the market. The widening market in the Northwest was dwelt upon, and the need of co-operative organizations emphasized. Mr. McEwen referred to the spoiling of hives by foul brood, and expressed an opinion that inspectors should be sent to investigate every stock of bees in an infected neighborhood, to find out where the trouble arose. To this, the president replied that such a step would, in all probability, soon be taken, as the number of inspectors has been increased.

Mr. Anguish was of the opinion that preaching adulteration to people makes them suspicious, and Mr. Gemmell added that he thought it a mistake to mark "pure" on honey tins. We do not speak of "pure" butter, but of "good" or "choice" butter. Why not refer similarly to honey?

In regard to forming co-operative associations, President Miller urged that something specific be done. Mr. Chrysler thought that, as large ideas often originate in small places, the Middlesex Association might take the initiative in this. After some discussion, a committee, composed of the President, Mr. Miller, and Messrs. Chrysler, Laing, and the Secretary, was appointed to draw up a resolution which might be submitted to the Association in the afternoon session.

Subsequently, the committee, in its report, suggested that each beekeeper report to the Secretary, E. T. Barnard, Lambeth, how much honey he had to sell; that the honey be judged by a committee, put up under a uniform package and shipped to a distant market co-operatively, and, if possible, in carload lots. This met with the approval of the members.

The Question Drawer contained the query: "Would the infusion of new blood, by getting queens from a distance, be a benefit or increase the individual stamina of the bees?"

It depends upon the new blood introduced. John McEwen advocated Carniolan blood. He found these bees built up well in the spring, were good honey-gatherers, gentle, and, although in their purity apt to swarm, were crossed they were all right. R. F. Holtermann endorsed all that Mr. McEwen said. Practically all his bees

now had a strong dash of Carniolan blood in them, and he had them in their purity. They built up more quickly, and yet, after consuming more honey in brood rearing, they still had more freshly-gathered honey.

From the report of members, there is much foul brood about, and it was considered that very thorough inspection would have to be made. Mr. McEwen gave as the best treatment, to shake the bees from their combs in the fall of the year when no honey was coming in, leave them in the hive without combs until through starvation some bees dropped dead under the cluster, then giving them solid combs of sealed stores free from foul-brood germs.

The report of the Lecturer in Apiculture at the Ontario Agricultural College, Guelph, as presented in the College report for 1906, was read by a member, others present not knowing its source or the nature of the work:

"In producing comb honey, one of the chief labors of a colony is the making of wax. To manufacture this, a high temperature is required, and cool weather quickly affects the work in the supers. This year, out of thirty colonies that were run for comb honey, I chose ten of average strength, and tried to give them some protection that would keep up a high temperature. They were packed in chaff hives, just as if for winter. Comb-honey supers were placed upon the brood chambers and covered up with six inches of shavings.

"The honey flow this year was so scanty that little difference could be discerned between the two lots of colonies, but what there was favored the protected hives. More bees were to be found in their supers on cool days, and the sections at the sides of the supers were better filled; but in none of the hives, on account of the poor season, were there any first-class sections. There were no swarms from either lot.

"In September last year sixteen colonies were prepared for winter as follows: The hives were eight-frame Langstroth, contracted to seven frames, and fed until the combs were full, except where a few square inches of comb were occupied with brood. Inverted queen excluders were placed over the combs, and on top of them well propolized quilts. Four hives were then placed together, side by side, as closely as possible, first putting a double thickness of cotton batting between the hives so that no air could get between them. The covers of this row of hives were removed and a layer of cotton batting placed on top of them, and then upon that a sheet of mineral wool, and on top of this another row of hives treated exactly like the first. Then a third row and a fourth. But there was neither cotton batting or mineral wool on top of the last row. Twelve inches of shaving were placed on top of the pile of hives, and on all sides except in front, which was left exposed to the weather. The shavings were kept in place and protected from the weather by inch sheeting, and on the roof by

mold on them. All the hives showed evidences of winter-laying, and two of the interior colonies were dead from starvation from this cause. This, however, occurred to a greater or lesser extent in those wintered in the ordinary chaff hives, and was attributed to the very mild winter."

The statements in it created a good deal of amusement. There was but one opinion, and that was that the man who had tried the experiments was not even in touch, as far as the work indicated, with modern apicultural thought, and when it was revealed that this was the report of the Ontario Agricultural College, it was a surprise to the members, and it was felt that such work was an injury to the College and a reflection on all the other departments. Messrs. Anguish, Chrysler, Miller, Holtermann, Laing and others took part. Some suggested that the Minister of Agriculture be requested to withdraw this portion of the annual report, but others stated beekeeping needed experimental work; it could be made valuable to beekeepers, and, upon motion by D. Anguish, seconded by W. J. Robb, the following resolution was passed: "That it is the sense of this meeting that, whilst we are desirous and anxious that experiments in beekeeping be conducted at the Ontario Agricultural College, that the work as now conducted is valueless, and that it should be conducted by a competent beekeeper, and that the experiments be carried out after consultation with the Executive of the Ontario Beekeepers' Association."

MOLDY COMBS.

Please tell me in your valuable paper what is the best method of cleaning blue mold out of hives of bees, or if it will do any harm to leave it in?

J. T. A.

Ans.—Mold on the combs and in the hives is caused by dampness in winter quarters. If hives are strong in bees, it will disappear with warm weather. If moldy combs are clogged with pollen stored last year, would advise removing them and replacing with clean combs or full sheets of foundation, especially if bees are not extra strong. Very badly clogged combs should be melted up and run through wax press, as time taken trying to clean them up would be more than they are worth.

E. G. H.

POULTRY.

POULTRY NOTES.

Editor "The Farmer's Advocate":

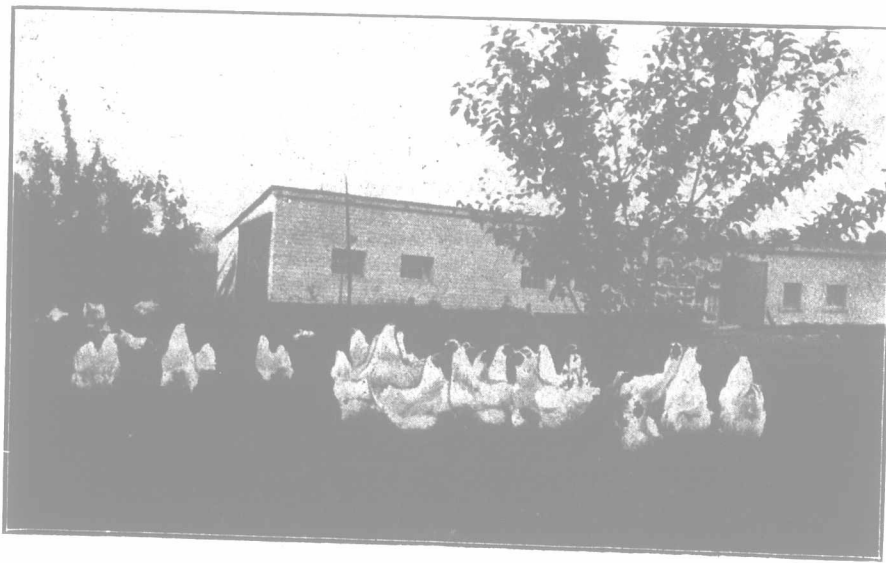
A very successful poultry breeder lives in this neighborhood, who is able to send broilers to the Montreal market all through the winter and spring months. He runs three of the 200-egg incubators, and has a row of well-built brooder houses, heated by furnace. The picture shows

the fowls in their enclosure. They are all White Wyandottes, which have proved the best for table purposes and for eggs, besides the fact that white feathers are always preferred by those who buy them.

The food for a large flock of hens is becoming quite a problem of late years, the high price and value making it all the more necessary that the poultry-keeper make wise selection of food for the hens if there is to be a margin of profit. It is generally conceded that wheat is the best all-round grain, and a little buckwheat mixed with it is of value. Corn is generally used because it is handy and has heat-giving qualities, making it better in winter than in summer, at which latter time oats are more suitable.

Success with poultry-keeping is only won by strict attention and hard work; nor is it a business in which the novice can be sure of success. How often do we hear of people who, when failing in other things, attempt to keep hens, without study or experience, forgetting that all trades need an apprenticeship. One of my neighbors, emulating the example of the successful one mentioned, has bought a brooder and incubator, set it with expensive eggs, and by the middle of April was rejoicing over newly-hatched chickens. But the "tug-of-war" has yet to come, when chill winds, improper feeding, and many other causes, will interfere with his success.

In raising chickens, the novice should consider that it is not so much the number hatched as it is the number brought to maturity that counts, and it is poor economy to crowd too many to-



Looking for Curculio.

tar felt besides. The entrances of all but the bottom row were contracted to two inches, in order that the bottom-board, which was the cover of the hive beneath it, might not become cold. The contracted entrances were cleared of dead bees by means of a bent wire twice during the winter.

"The object aimed at was to pack the hives in the cheapest manner possible, to utilize the animal heat from the hives, and to make the bees fly during the winter.

"The hives were protected by a high woods on the north-west, and the hive entrances faced the south-east. The winter was abnormally mild, and the sun, warming up the face of the hives, which had no protection, caused the bees to fly a great deal—perhaps too much. The hives were opened and examined the first of May. There did not seem to be any difference between the interior and exterior ones, so far as the condition of the stores and combs went, there being no

gether, for a newly-hatched chicken is very tender, and, if trampled, will lose its appetite, and mope till it loses strength and life.

They must be kept dry and warm. The drinking water must be so protected that they will not get wet about the neck, and from the first they will require some fine grit and grass, or other green food, to keep them in health.

The food first given is often stale bread soaked and squeezed dry; then, in a day or two, the fine parts of broken wheat may alternate with a cake made of corn meal and wheat middlings, made like a johnnycake, with a little extra soda to do the raising.

It is best not to allow an open feed trough to be used, but to nail a board in the center to keep out dirt. A very convenient and useful device is a feeding machine, which keeps the hens busy and does the work well.

During the past winter we have tried the new method of giving the poultry snow instead of water, and with good results. They are never wet from dipping their heads in the water, and seem to keep in better health—never seeing water till the spring rains came and they could be out in the sunshine.

A few cases of roup were cured last autumn by giving the hens each three or four drops of spirits of camphor on a bit of bread.

In poultry-keeping, as in other business, if one would succeed, it will be by faithful industry and eternal vigilance.

ANNA L. JACK,
Chateaugay Co., P. Q.

In a letter to "The Farmer's Advocate," our erstwhile poultry correspondent, "Wrinkles," writes: "Tested the eggs in my six-year-old incubator two days ago, and discovered only two infertile eggs out of one hundred and twenty-two. I think this is good proof that my poultry are all right; also my incubator."

GARDEN & ORCHARD.

HORTICULTURAL PROGRESS.

Prepared for "The Farmer's Advocate" by W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa.

Proceedings of the fifty-second annual meeting of the Western New York Horticultural Society, January 23rd and 24th, 1907.

The Western New York Horticultural Society is one of the strongest horticultural organizations in America. It has a membership of over 1,000, and the attendance at the annual meeting which is held at Rochester, N. Y., is always very large. In addition to the many prominent fruit-growers who attend the meetings, there are always a large number of professional men who take part in the programme, and whose work covers the field of general horticulture, botany, entomology, mycology, etc. There are usually a number of important papers read, and in the report of the last meeting, which has been recently published, will be found some which are very interesting to Canadians.

BORDEAUX INJURY.

The address which contains most new matter was that by Prof. U. P. Hedrick, Horticulturist, of the Geneva Experimental Station, N. Y., the title of which is "Bordeaux Injury." In New York State, as in different parts of Canada, the injury from Bordeaux mixture to the leaves and fruit has been very marked during the past few years. In his paper, Prof. Hedrick presents the results of his investigations as to the causes of this injury, and how it may be prevented.

On the leaves the spray makes small brown spots, and where these are numerous the foliage gradually turns yellow and falls to the ground, thus weakening the tree and causing the fruit to be undersized. On the fruit the injury is first noticed as small black or brown spots. These may cover a large area, and a large part of one side of the fruit become affected.

They are usually near one end of the fruit, the end affected depending on how the apple was turned when the spray was applied. This side does not develop as fast as the other, nor does it color or mature as well. The russetting which follows this injury may be so bad as to cause the apple to crack open. It has been found that fruit which has been injured by spraying will not keep as well as that which is uninjured.

A circular letter asking for information was sent out to one hundred and eighty leading fruit-growers, from whom were received 98 replies. Sixty-nine of these had severely injured their fruit with the spray, and ten men reported that they had more injury from the Bordeaux mixture than from the apple spot. These men reported having used various formulas to overcome the trouble. Most of them had used an excess of lime, as it was thought that there was not enough lime in the ordinary formula. There was no improvement by using more lime. It was noticed that during a wet year, and in wet seasons, the injury was worst, and it was reported that no injury occurred until wet weather set in.

With the information thus obtained, an experiment was tried at the Geneva Station in 1906, with the following mixtures:

	1 lb. copper sulphate;	1 lb. lime;	50 gals. water.
1	"	"	"
2	"	"	"
3	"	"	"
4	"	"	"
CHECK.			
1	"	"	"
2	"	"	"
3	"	"	"
4	"	"	"

One tree in each plot was sprayed during a rain. The results of the experiment may be briefly summarized as follows:

1. The effects of spraying during a rain. The percentage of fruit injured on trees sprayed during a rain was 15.3; on trees sprayed in dry weather, 7.6. The injury was twice as great on trees sprayed during a rain. In the survey made the previous fall, 62 out of 69 fruit-growers, who had suffered losses from Bordeaux injury, gave wet weather as the favoring conditions. The results of this experiment fully confirm the opinion of the great majority of those who suffered losses in 1905.

2. The value of an excess of lime in checking injury. Our investigations show very conclusively that an excess of lime does not prevent Bordeaux injury, and does not materially lessen it. Two parts of lime to one of copper sulphate gave no better results, so far as injury is concerned, than did one part of each of these two ingredients. These results coincide with the experience of fifty-five out of sixty-nine fruit-growers who reported injury in our preliminary survey. Double, treble, and four times as much lime as copper sulphate were used, and the results were much the same in each case.

3. Effect of an excess of lime on the fungicidal properties of Bordeaux mixture. With the trees sprayed during wet weather the excess of lime seemed to increase the value of the Bordeaux mixture as a fungicide; probably because it kept the copper salt from becoming dissolved too quickly. On the other hand, with the trees sprayed in dry weather, the excess of lime hindered the action of the fungicide; probably because it prevented the copper salt passing into solution.

4. The effect of strong and weak solutions. The season's investigations prove very conclusively that the more copper sulphate the greater is the injury. This agrees with all experiences, observations and experiments with which I am familiar.

Some varieties of apples are not subject to the scab fungus. It is not necessary, therefore, to spray these at all.

It is probable that we can use a somewhat weaker mixture in the future than we have used in the past, and I shall name 3-3-50 for trial in the coming season.

From the results of these experiments it is recommended to use no more spray than is absolutely necessary to cover the foliage and fruit well. It is thought that the power sprayer puts too much on the trees in some cases. Varieties of fruit which do not spot need not be sprayed with Bordeaux mixture. Some varieties are not injured by the spray. As far as possible spray only in dry weather. A weaker mixture is suggested for trial, namely: 3 lbs. copper sulphate; 3 lbs. lime; 50 gallons water (wine measure).

BORDEAUX MIXTURE IS STILL THE BEST FUNGICIDE.

Spray injury is a serious matter, but apple scab is worse. No fruit-grower can afford to give up the use of Bordeaux mixture in fighting apple scab. It is to be feared, because of the very small amount of apple scab fungus during the past few years, and because of spray injury, some who have previously used the copper compound will not use it in the future. Such a course will be a mistake, for there are sure to be years with apple scab and corresponding losses in unsprayed orchards.

SPRAYING FOR BLACK ROT IN GRAPES.

There is a paper on "Grape-growing in New York, with the Results of Experiments in Preventing Black Rot," by Prof. John Craig, Horticulturist, College of Agriculture, Cornell University, Ithaca, N. Y., which is valuable as furnishing additional proof of the advantage of spraying with Bordeaux mixture to control the black rot. The presence of black rot is first known by the small reddish-brown spots on the leaves which appear in the spring. On the fruit a light-brown spot is first noticed, which is caused by the diseased pulp beneath. After a time the whole surface of the fruit is involved and turns brown, then black pustules bearing the spores follow.

In 1906 experiments were undertaken by the Cornell Department of Horticulture to control the rot, with the result that in one vineyard fully 80 per cent. of the fruit was saved, and in another 33 per cent. On unsprayed rows there was no marketable fruit. Spraying was done in the vineyard, where the best results were obtained, on May 12th, June 22nd, July 10th, and two sprayings on August 17th. In each experiment 13 rows, each 20 to 25 rods long, were selected. Several different mixtures were used. The first trace of the disease, on unsprayed vines, was on June 23rd, when it was quite general on the leaves. It was not seen on the fruit until June 30th, when the grapes were from the size of a radish seed to a small pea. On July 1st probably five per cent. of the clusters which were on each vine showed a little rot, the fruit being affected in different parts of the bunch. By July 17th the out-

break was general, after which date it spread very little.

The best results were obtained with Bordeaux mixture—5 lbs. copper sulphate, 4 lbs. lime, 40 gallons water, to which were added two pounds of sulphur—but there was not a striking difference between the results from this mixture and Bordeaux alone. When vines were sprayed after the rot appeared the disease was not checked.

IMPROVING THE CUTHBERT BY SELECTION.

A most suggestive paper is that by Mr. O. S. Bishop, Pontiac, Mich., on "The Quality the Thing." Mr. Bishop is a market gardener, who has made a specialty of selling only the best of everything he raises. By selection he has made a marked improvement in varieties of onions, melons, tomatoes, peppers, squash, pumpkins, corn, raspberries and strawberries, and he grows his own strains of these. He found the Cuthbert raspberry grew too tall for his purpose, so he selected a lower growing plant than the ordinary, from 16,000 others; by continuing this selection from year to year he now has a comparatively low-growing stocky strain, which he thinks is much superior to the ordinary type. There is no doubt but that there is a good field in Canada for the development of strains of both vegetables and fruit, which will be especially suited to different climatic and soil conditions.

In this report there is an excellent paper on "Peach Culture and Varieties," by Dr. J. H. Funk, Pennsylvania State Pomologist; a paper on "Cherries," by W. W. Britton, Greece, N. Y.; and a number of others containing much information. This report of 184 pages was edited by the Secretary of the society, Mr. John Hall, Granite Buildings, Rochester, N. Y., to whom much credit is due for the way in which the work has been done.

THE CULTIVATION OF SMALL FRUITS.

General Note.—The grower of small fruits will do well to take for his golden rule the motto, "Cultivate! Cultivate! Cultivate!" The old saying, "A stirring up is as good as a rain," was never truer than it is to-day, and the more deeply it is impressed upon the fruit-grower, the surer his success will be. Cultivation need not be deep; the mere scratching of two or three inches on the surface is, as a rule, all that is necessary. But it must be frequent—quite frequent enough to prevent baking, to keep the surface of the soil porous, and to protect from evaporation the precious moisture which is continually being brought up from the subsoil to the surface by the influence of capillary attraction. Capillary attraction is most active in a fairly firm soil, one in which the soil grains lie close together. In order, therefore, to keep the subsoil moisture constantly ascending towards the surface, the soil-body must be comparatively compact. In order to prevent it from coming right to the surface and evaporating, the upper two or three inches of soil should be dry and loose—the drier and looser, the better. If time for cultivation cannot be found, the next best plan is to cover the ground with a heavy mulch of straw. Either plan keeps the soil moist, and also insures that the soil will be aerated, which it could not be if the surface were allowed to become hard and crusted.

For general notes concerning varieties, the reader is referred to our issue of March 21, 1907.

The Blackberry.—Among the most favored of small fruits is the blackberry, often called thimbleberry. It thrives best on a good clay loam, and in a rather moist situation, with a cool northern exposure. The soil should not be heavily fertilized, as too much humus of any kind will lead to development of canes rather than of fruit. Blackberries are propagated either by the suckers which grow up naturally or by cuttings made in spring or fall, and the young plants should be set out in rows 6 to 9 feet apart. During summer frequent cultivation is necessary, and before the heavy frosts come in fall a mulch of straw manure or other loose material should be spread over the ground. Some growers allow a tall, spindly growth, and train the canes to wires, but where a sufficiency of moisture is assured it is, perhaps, better to cut the tops off the canes when they have reached a height of two or three feet. This will induce a bushy growth and heavier fruitage. In addition, it will permit of the bushes being easily covered with straw as a winter protection, whereas if the canes be long and straggling, it will be necessary to cut the canes from their supports and lay them down before covering them over. In either case the old canes should be cut out after the fruiting season is over. Blackberries are sometimes troubled by the borer. For this, about the only remedy is to remove the affected shoots as soon as noticed. Cutting out the bearing shoots as soon as they have finished fruiting will usually serve as a preventive. Should orange rust appear, the only resource is to burn the plants immediately, root and branch. According to one of the last reports of the Ontario Experimental Union, the variety Agawam has proved the hardiest of the blackberries, hence may be recommended for the colder portions of Canada.

The Raspberry.—Raspberries, both red and

black, require a deep, moist soil, but the blackcaps need a heavier soil than the reds. In order to provide the necessary drouth-resisting qualities, it is sometimes necessary to work manure into the plot, or even, if the subsoil be hard, to under-drain. The young plants should be set out (preferably in spring) in rows 6 feet apart, and from 4 to 6 feet apart in the rows. As with the blackberries, constant cultivation is necessary; also the protection of tender varieties, by laying them down and covering them over in winter. The young shoots of blackcaps should also be nipped off to induce a bushy growth, precisely as described above in dealing with blackberry, and the old canes of both reds and blacks should be removed as soon as the fruit has been removed. Raspberries are subject to attacks from cane rust, orange rust, borers and other pests. For rust and borer, see treatment above for blackberries. Cane rust may be largely prevented by avoiding crowding, so that the plants may receive plenty of light and air. If it appears, applications of Bordeaux mixture will help to rout it.

The Currant.—Currant bushes may be set out either in spring or fall, one or two-year-old bushes being used. They do best in a cool, moist clay soil, with a northern exposure or partial shade, as on the northern side of buildings or fences, and should be set in rows 6 feet apart, with 4 feet between the bushes in the row, or 5 feet apart each way, to allow cross cultivation. Frequent cultivation is necessary, but should be very shallow, as the roots run quite close to the surface of the ground. In currant bushes the fruit is borne both on old and new wood, but mostly on that two or three years old, hence especial care must be taken in pruning. Prof. Bailey, a well-known horticultural authority, recommends that from 4 to 8 main stems be left to each bush, these being renewed from time to time, so that no wood over three years old is allowed to remain. Besides this, shoots that are plainly superfluous and will cause crowding should be cut out, but the buds at the base should be left to develop into spurs, upon which fruit will be borne. After eight or ten years of fruiting, it is usually advisable to replant altogether. Currants are liable to attacks from the currant worm and from borers. Borers may be destroyed by removing and burning infested canes early in the spring. The currant worm is usually disposed of by spraying with an infusion made of one teaspoon of powdered hellebore to a gallon of water.

The Gooseberry.—Gooseberries require a rich clay loam. They may be planted either in early spring or early fall, and require cultivation during summer and mulching during winter, as for currant bushes. As the most fruit is borne on two and three-year-old wood, pruning should be managed to keep a sufficient supply of this in vigorous condition, all weak or sickly shoots being cut out. The treatment for insect pests is the same as recommended for currants. Gooseberries, particularly some of the English varieties, are especially subject to attacks of fungous diseases, especially mildew and leaf spot. For mildew, frequent spraying with dilute copper sulphate, 1 ounce to 15 gallons of water, should be used. For leaf spot, spray early in the season, and again after the fruit is picked, with Bordeaux mixture.

Directions for preparing various spray formulas will be found in "The Farmer's Advocate" of March 28th, 1907, under the heading, "Calendar Guide to Spraying."

SLUGS ON CELERY—CHRISTMAS CACTUS.

1. Celery last fall was troubled by snails and another soft, grayish-colored bug. What would you recommend to get rid of these pests?
2. Will you give some hints as to the care and treatment of the Christmas cactus?

E. N. T.

Ans.—1. By the term snails, I suppose you mean the slugs which closely resemble snails, but have no shell. These slugs are very troublesome in the fall, and particularly in moist seasons. They are general feeders, live upon most kinds of garden crops, and are particularly fond of cabbage, cauliflower, rhubarb and celery. They usually remain hidden during the day, and do their mischief at night. They are rather difficult to destroy, particularly upon crops like celery, where insecticides cannot be applied without doing more or less injury to the crop. Probably the best means of fighting them is to dust the plants early in the morning, while the slugs are at work, with lime which has been slaked and made as fine as possible. Another remedy which has been suggested is to entrap the slugs under bunches of leaves or other material left lying upon the ground. These can be gathered occasionally and the slugs destroyed. We will be glad to hear from those who have had success in fighting these pests as to what other remedies have been found effective.

2. The Christmas cactus, which also goes by the name of Lobster Cactus or Inch Cactus, the proper name of which is *Ephiphylum truncatum*, is a species of cactus which is made up of small sections an inch or so in length, one leaf being placed upon another. Like all other varieties of cactus, they thrive best

in a warm, sunny situation, and require comparatively little water. The surest way to injure these plants is to water them as liberally as other plants are usually watered. They thrive well in comparatively poor soil, composed largely of sand, which insures good drainage. After the plants have bloomed during the winter, they should be put in a warm, sunny location and given but little water, so that they will have a period of rest. Towards the end of summer they should be induced to make new growth by giving more water, which will enable flower-buds to form for winter bloom. This cactus may be successfully grafted on some of the more upright species of cactus to give it a more bushy or tree-like form. Naturally it does not attain any great height, and usually hangs over the edge of the pot.

H. L. HUTT.

STRAWBERRY LEAF SPOT.

I would like to get information about spraying strawberries for rust and blight, the different times for spraying, and the solution that is used? J. B.

Some varieties of strawberries are much more subject to the leaf spot or rust than others, and it is well to select varieties which are more or less exempt from this disease. The disease is more troublesome in an old than in a new plantation. It is well, therefore, to renew the plantation every year, and plow up the old one after it has borne the first crop. The rust may be held in check to some extent by thorough spraying with the Bordeaux mixture. The first application should be made early in the spring, before the plants come in bloom. Another may be made after the bloom is over, and if necessary a third may be made a couple of weeks later. Where it is thought advisable to keep the plantation for a second crop, another spraying may be made after the fruit is picked, and if the plants are badly affected the practice is sometimes adopted of cutting and burning the leaves on a windy day, which will carry the fire quickly over the plantation without burning deeply enough to seriously injure the crowns of the plants. This destroys all of the old leaves upon which the fungus is carried over to the next season.

H. L. HUTT.

ERADICATING COUCH IN AN ORCHARD.

Discussing the subject of eradicating couch grass from orchards, Prof. Sears, Horticulturist, of the Agricultural College, Truro, N.S., relates his experience on the College farm with an orchard set out on an inverted sod infested with this pernicious weed. What with weak-growing cover crops, of which couch got the start, wet weather and pressure of farm work the next spring the grass had a good chance. However, when the implements were got to work they were kept going till the latter part of July, when buckwheat and rape were sown as cover crops. These germinated quickly, and soon developed a heavy leaf growth. The rape was especially successful. He hopes with one more season's treatment like the last to have the couch so far under subjugation that clover or vetch may afterwards be used as cover crops. The treatment, summed up, resolves itself into plowing the orchard as early as possible, before the couch has gained much headway, cultivating thoroughly up to July 1st or 10th, and then sowing some cover crop, which will quickly and thoroughly shade the ground.

A CRANBERRY BOG.

Every year queries regarding cranberry-culture come to "The Farmer's Advocate." We would be far from discouraging anyone who wishes to engage in the culture of this fruit, but we would strongly emphasize the fact that thorough preparation of the ground, and persistent care of the plants, especially during the first two years, or until the growth has become well matted over the surface, is the price of success. Once thoroughly established, however, a cranberry bog gives little further trouble, and, since there is always a good market for the fruit, its emoluments are sure. The bushes (vines, they are often called) yield, under fair conditions, an average of about fifty barrels per acre, but 200 barrels per acre, or even more, have sometimes been grown. The price, of course, fluctuates with different times and localities, but from \$10 to \$12 per barrel may usually be reckoned on.

The requisites for successful cranberry culture are: (1) A deep, mucky soil—a swamp upon which white cedar, spruce, black ash, red maple or swamp huckleberry will grow, and upon which water lies from fall until spring, draining off in summer, is likely to do admirably. (2) A ready means of irrigation, such as a running stream—provided, of course, the natural inundations are lacking. Occasionally good results have been obtained from higher land which cannot be flooded, but such a situation cannot be depended upon for uniform results, as the plants are likely to suffer from fall and spring frosts, from the heaving of the ground in winter, and from exceptionally long periods of drought in summer. As a rule, the water should lie on the bog to a depth of a foot or more from November until April.

Drainage is also a very important factor in

cranberry culture. Unless the water passes off, or can be made to pass off, in summer, so that it lies not less than a foot below the surface, there is little use of planting out cranberries.

In preparing a cranberry bog, the first step is to remove all trees, bushes, roots, etc. Where turf appears, it must also be removed. The next step is to dig irrigation ditches, trenches from two to four feet in depth, and communicating with one large ditch connected with the dammed-back stream, through which the water may be turned on at will. Last of all, the surface of the ground is spread with a covering from two to four inches deep of clean sand, and in this sand the roots, or, as more generally used now, cuttings, are planted. The planting operation, which should take place during May or early June, is a very simple one, as it consists merely in running shallow trenches in the sand with the corner of a hoe and placing the runners in them, firming the sand over from each side, and leaving merely the ends of the runners sticking out. The shoots may be placed about 14 inches apart each way.

After planting, weeds and grass must be carefully taken out by hand for the first two years. After that less attention will be required, as the vines will have gained headway somewhat over the grasses. The sand is very valuable in helping to keep down foreign growth, as well as in conserving moisture, and a fresh covering of it should be applied every four or five years. To facilitate this, paths through which a wheelbarrow may be run should be left at convenient intervals.

A bit of meadow land near a stream may also be converted into a profitable cranberry patch. In this case it will be necessary to remove all the turf by wheelbarrow, if the ground will not bear up horses and wagon. Afterwards, the drainage, sanding and irrigation may be carried out as above. If the muck is not very deep, and has sand underlying it, plowing the sand up will sometimes obviate the necessity of hauling sand in.

Cranberries begin bearing on the fourth year, when from two to five barrels per acre may be expected. Upon the fifth year, however, a fair crop may be looked for, and from that time on indefinitely. If the vines show signs of falling off, a fresh coating of sand, which, with cranberries, takes the place of pruning, will usually be sufficient to put them in condition again. The sand, by the way, may be applied during fall or winter.

Although immune from many evils, the cranberry crop is not raised without troubles of its own. Frost in June or in early September, before the berries have matured enough to be resistant, often do much damage, and occasionally insect pests give trouble. To avert the latter evil, buying Canadian-grown rather than American-grown varieties—which sometimes import insect life along with them—has been recommended, while the choosing of kinds that mature early is the best safeguard against early fall frosts. Those wishing to secure cuttings, will find in the "Want and for Sale" column of our advertising pages the address of one or more successful growers in Nova Scotia, where the cranberry business has, during the past twenty years, assumed the proportions of a very respectable industry, from two to five thousand barrels being shipped annually.

THE FARM BULLETIN.

HYDRO-ELECTRIC POWER PROSPECTS IN EASTERN ONTARIO.

Report No. 4 of the original Hydro-electric Power Commission of Ontario, dealing with the Ottawa Valley and St. Lawrence River district, has been issued, and will be of unusual interest to the people who look forward to making use of power in those localities. According to the report 13,000 horse-power is now in use in mills, and 14,000 is devoted to the production of electricity in the district covered; but the water power of the St. Lawrence, Ottawa and Montreal Rivers can supply enormously more, although in some places the building of dams will be necessary. Statistics are given in regard to the cost of existing plants, the cost to towns now supplied with power, and approximate cost of alternative schemes to towns which are likely to make use of it in future.

Prof. M. Cumming, Principal of the Agricultural College, Truro, N. S., has been appointed Secretary for Agriculture for Nova Scotia, a position he has filled pro tem. for the past year, since the death of Mr. Chipman. He still continues, of course, as Principal of the College. Henceforth, in the capacity of Secretary for Agriculture, he will have some assistance. A new office of Superintendent of Agricultural Societies has been created, and Mr. F. L. Fuller, formerly Agriculturist of the College, is appointed to fill it. Mr. Fuller's place as Superintendent of the College Farm will be taken by Stanley A. Logan, of Amherst Point, N. S., well known to readers of this paper as a breeder of Holstein cattle and Shropshire sheep.

ONTARIO AGRICULTURAL COLLEGE EXAMINATIONS.

The results of the examinations on the work of the first and second years at the Ontario Agricultural College are as follows. Arranged in order of general proficiency:

First Year.—1, Le Lacheur, G.; Murray Harbor, S., P.E.I. 2, Reek, W. R.; Romney, Ont. 3, Christie, H. R.; Amherst, N.S. 4, Beaupre, F. C.; Simcoe, Ont. 5, Faulds, Thos., Glasgow, Scotland. 6, Robertson, C. L.; Rancho, De Miraflores, Mexico. 7, Newhall, H. W. F.; Toledo, Ohio. 8, White, O. C.; Ashburn, Ont. 9, Todd, S. E.; Guelph, Ont. 10, Aldwinckle, E.; London, England. 11, Wilson, S.; Rolling Dam, N.B. 12, Kennedy, S.; Apple Hill, Ont. 13, Packard, R.; Brockton, Mass., U.S.A. 14, French, P. E.; Vernon, B.C. 15, Ferguson, Chas.; Eversley, Ont. 16, Shaw, A. M., Niagara Falls, S., Ont. 17, Lloyd-Jones, J. G.; Montgomeryshire, England. 18, Canby, F.; Burnaby, Ont. 19, Moorehouse, R. L.; Cairo, Ont. 20, Learmonth, Chas.; Galetta, Ont. 21, Kerr, Wm.; Bronson, Ont. 22, Millen, F. E.; Kent, England. 23, Heurtley, E. W.; Pulborough, Eng. 24, Haight, W. L.; Conway, Ont. 24, King, J. H.; Smith's Creek, N.B. 24, Pritchard, T. W.; Redgrave, Ont. 27, Slater, J. A.; Galt, Ont. 28, Singleton, W.; London, Eng. 29, Bowman, Wm.; Georgetown, Ont. 30, Neville, S. J.; Cottonwood, Sask. 31, Collins, G. W.; Brooklyn Cor., N.S. 31, Foster, K. A.; Abvinyethy, Sask. 33, Channon, G. C.; Oakwood, Ont. 34, Walker, R. A.; North Bay, Ont. 35, Revell, K.; Walkerville, Ont. (17). 36, Smith, A. S.; Chesterville, Ont. 37, Armstrong, P.; Jermyn, Ont. 38, Augustine, H. W.; Burnaby, Ont. 39, Petrie, Chas. M.; Guelph, Ont. 40, Curtis, R.; Cairo, Egypt (17). 41, Knauss, H. L.; Detroit, Mich. 42, Knopf, A. E.; Montreal, Quebec. 43, Robertson, W. H.; Barrington Passage, N.S. (13). 44, Sharpe, W. H.; Montcalm, Que. 45, Wearne, H.; Alsace, Germany. 46, Kitchen, E.; St. George, Ont. 47, Lewis, J. M.; Knoxville, Ill. 48, Arnold, J. N.; Easton's Corners, Ont. 49, Bose, H. N.; Dhubin Assam, India (2). 51, Middleton, W. A.; Vernon, B.C. (16). 52, Smith, L.; Braemar; Calgary. 53, McGrath, G. F.; Easton's Corners, Ont. (17). 54, Clifford, L. G.; Orrville, Ont. 55, Rice, F. H.; Essex Jct., Vt. 56, Shields, G.; Mount Pleasant, Ont. (13, 15). 57, Newton, J. N.; Limehouse, Ont. 58, Brown, E. N.; Pineville, Pa. 59, Alexander, F.; Billing's Bridge, Ont. 60, Hayles, N. A. D.; Pontnewydd, S. Wales.

The following came in late, and has yet to write on the work of the fall term: Christie, G. H., River Hebert, N.S.; Guillet, H. J.; Mille Rockes, Ont.; Harries, J. F., Cardiff, S. Wales; Jones, J. R., North Ridge, Ont.; Snyder, A., Roseville, Ont.; Whetham, Chas. A., Kirkwall, Ont.

Those after whose names a number appears are required to take a supplemental examination on the subject indicated.

- 1. Bacteriology. 9. Vet. Pathology.
2. Entomology. 10. Field Husbandry.
3. Electricity. 11. Agric. Engineering.
4. Mechanics. 12. Animal Husbandry.
5. Animal Chemistry. 13. Theses.
6. Organic Chemistry. 14. Agric. Chemistry.
7. Botany. 15. Economics.
8. Dairying. 16. Horticulture.

Second Year.—1, Webster, H. B.; Science Hill, Ont. 2, Sirett, H.; Rosseau, Ont. 3, McLaren, A.; Edinburgh, Scotland. 4, Strong, W.; Guelph, Ont. 5, Cooley, R. B.; Canifon, Ont. 6, Angle, P. E.; Fork's Road, Ont. 7, Edwards, W. E. J.; Balsam, Ont. 8, Cutler, G. H.; Birnam, Ont. 9, Lawrence, C. A.; Stratford, Ont. 10, Duff, H. C.; Dobbington, Ont. 11, McEwen, C. F.; Byron, Ont. 12, Allen, R. J.; Guelph, Ont. 13, Jackson, W. D.; Fulton, Ont. 14, Irvine, W. H.; Habermel, Ont. 15, Jenkinson, R. H.; Toronto, Ont. 16, Waddell, W. M.; Strathroy, Ont. 17, Thompson, W. R.; London, Ont. 18, McKenzie, N. D.; Galt, Ont. 19, McGill, H. W.; Everett, Ont. 20, Campbell, A. D.; Strathroy, Ont. 21, Palmer, B. G.; Norwich, Ont. 22, Turney, A. G.; Savenethen, Belgium (5, 6). 23, Law, I. F. M.; Solina, Ont. 24, Cooper, H. S.; Toronto, Ont. 25, McIntosh, A. D.; Guelph, Ont. 26, Shopland, N. J.; Saanich, B. C. 27, McKenzie, D.; Vancouver, B.C. 28, James, J. L.; Buenos Ayres, Argentine Rep. (13). 29, Diaz, G.; Ferral, Spain. 30, Laughland, J.; Hartney, Man. 31, Tremere, R. C.; Guelph, Ont. 32, Hebert, G.; St. Albert, Alta. 33, Smye, G. C.; Ayr, Ont. 34, Moore, R. R.; Norwich, Ont. 35, Palmer, W. E.; Marshville, Ont. 36, Coke, E. F.; Guelph, Ont. 37, Stafford, E.; Toronto, Ont. (14). 38, Brownridge, J. W.; Hornby, Ont. 39, Lewis, F. G.; Lindsay, California, U.S.A. 40, Hoy, Benj.; South Swansea, Mass., U.S.A. 41, Hodgins, E. L.; Portage du Fort, Quebec. 42, Cunningham, G. C.; Oil Springs, Ont. 43, McRae, D. E.; Cumberland, Ont. 44, Iwanami, J.; Kofer, Japan. 45, Tweltridge, T. H.; Notts, England. 46, Campbell, J. A.; Lawrence Station, Ont. (10). 47, Duffy, C.; Nauwigewauk, N.B. 48, Bell, D. T.; Glanford Sta. 49, LeChair, J. M.; Ste. Therese, Quebec. 50, Campbell, M. A.; Zimmerman, Ont. (5). 51, Manton, G.; Eglington, Ont. 52, Bray, R. N.; Nashville, Ont. (1). 53, Oliver, D. M.; Toronto, Ont. 54, Boddy, R. A.; Toronto, Ont. (1). 55, Ryan, W.; Surrey, England. 56, Walker, F. H.; Terra Nova, Ont. (1, 8). 57, Fraser,

R.; Fitzroy Harbor, Ont. (11). 58, Leslie, F.; Esquesing, Ont. (10). 59, Evans, L.; Lawrence Sta. 60, Sproat, M. S.; Mansewood, Ont. (13). 61, Stock, M. G.; Toronto, Ont. (5, 6). 62, Sharman, W. W.; Winnipeg, Man. (5, 6).

Those after whose names a number appears are required to take a supplemental examination on the subject indicated.

The following came in late, and has yet to write on the work of the fall term: Peer, W. M.; Freeman, Ont.

- 1. Bacteriology. 9. Vet. Pathology.
2. Entomology. 10. Field Husbandry.
3. Electricity. 11. Agric. Engineering.
4. Mechanics. 12. Animal Husbandry.
5. Animal Chemistry. 13. Theses.
6. Organic Chemistry. 14. Agric. Chemistry.
7. Botany. 15. Economics.
8. Dairying. 16. Horticulture.

MONTREAL HORSE SHOW.

It can be said of the Montreal Horse Show of 1907 that the horse was the main feature, and that the success scored was not due to adventitious aids, such as the presence of the Governor-General, or the glamor of a military tournament. Society patronized the event as in former years—a clear proof that the horse is still in fashion. Dozens of automobiles were to be seen outside the arena during the four days of the show (May 8th, 9th, 10th and 11th), the owners having come to pay their respects to the horse. The prize-list was most liberal, most of the firsts being \$60. This brought the choicest animals from Toronto and other Ontario cities. Geo. Pepper had a string of eight; Hon. Adam Beck and Mrs. Beck, of London, fourteen; Dr. and Mrs. McCoy, St. Catharines, six, and as these were picked animals they carried away many of the honors. Encouragement has been given by the management of the show to horses bred in the Province, with the result that the roadsters and harness horses generally from around Montreal were far in advance of those seen at the earlier shows. Hunters, jumpers and polo ponies made a creditable turnout. Entries were comparatively few in the breeding classes for Thoroughbreds, Hackneys and Clydesdales. Three Thoroughbred stallions were given places as follows: 1, Kilogram, owned by C. W. Penniston, Montreal; 2, Bushmount, Dr. Chas. McEachran, Montreal; 3, The Monon, M. Cuddihy, Dorval. A beautiful rangy roadster stallion, exhibited by Jas. I. Roy, Bordeaux, was first in Standard-breds. Frank Mucovite, owned by J. B. Ethier, St. Alexis, was a worthy second. Hackney stallions were not so strong in numbers as at the larger Ontario shows, and were not particularly attractive in action. Dr. J. Watson, of Howick, Quebec, had a high-class animal in the Duke of Blackpool, sired by Garton Duke of Connaught. Copestone, the property of G. and J. Hay, Lachute, was placed second, and Dandelo, owned by Emile Belisle, St. Eustache, third. There were five entries.

Clydesdales and Shire stallions were bracketed together, but the doubling up brought out only three contestants, two by Robt. Ness, Howick, and one by the Stonecroft Stock Farm, Ste. Anne de Bellevue. Ness' winner, Baron Silloth, was sired by Baron's Pride, and though not particularly heavy, he exemplified the best qualities of the breed. More popular interest was taken in the teams of heavy drafts suited for delivery work, as a valuable cup, offered by Mr. Charles Casils, has been competed for since 1903. The conditions are that it must be won twice by the same exhibitor before becoming his property. In 1906 the Dominion Transport's Company's Prince Arthur and Sport were successful. This year Bobby Burns and Sport, shown by the same company, made good the possession of the coveted trophy.

The line-up for the Governor-General's prize, for best mare or gelding bred in the Province of Quebec, suitable for saddle or cavalry purposes, was encouraging in point of numbers. Among the nine entries, all sired by Thoroughbreds, there were four or five of good type. Norna, exhibited by John Brodie, Montreal, was awarded the blue ribbon, and Victoria, owned by David Brown, Montreal, was given second place.

Harness classes appealed strongly to the evening audiences, the rivalry between Montreal and the West adding to the zest of the affair. Mrs. Beck's Sparkle was the winner for the best harness tandem driven by a lady, and later outclassed a field of twelve high-steppers. The famous Kennebec and Kakabeka, of the Beck stables, were expected to take the lead in the open jumping, but failed on the fences, and the honors went to Pepper's Lord Minto and Capt. Evans' Sweet Briar. Roxanna, in the ladies' saddle class, was expected to take the blue ribbon for her owner, Dr. R. E. Webster, of Ottawa. The award went instead to Columbine, exhibited by Mrs. H. C. Cox, Toronto. Mrs. Adam Beck's Lady Norfolk was the winner in harness horses, 15.3 hands and under.

Work on the Grand Trunk Pacific was commenced in New Brunswick last week on Division 5, between Edmundston and the Quebec boundary. Work has also begun at other places.

W. J. THOMPSON'S SALE.

The dispersion sale of the Shorthorn herd of Mr. W. J. Thompson, of Mitchell, Ont., on May 9th, was well attended by breeders and farmers from many districts. The day was an ideal one, and the company present were in good humor, while Captain Robson as salesman did excellent work in conducting the sale, which was considered fairly successful, considering that the cattle for the most part were in only very moderate condition; and while Mr. Thompson had expected better prices, he accepted the result philosophically, making no complaints. The imported bull, Rustic Chief, was not sold, the bidding not being satisfactory. Following is the sale list:

Table with 2 columns: Name and Price. Includes entries like Beauty 3rd, calved 1901; Wm. Douglas, Caledonia. \$290; Beauty 4th, '02; John Brydome, Milverton. 170; Margaret, '00; Fred Hunkin, Farquhar. 160; Red Blossom, '02; John Grieve, Winthrop. 140; Primrose 2nd, '01; T. E. Robson, London. 275; Jessie, '98; Hon. N. Monteith, Stratford. 165; Pride 17th, '02; Jas. Douglas, Caledonia. 180; Sally, '01; T. L. Pardo, Cedar Springs. 275; Lettice, '01; A. E. Meyer, Guelph. 200; Bessie of Hollymount, '06; E. Scott, Highgate. 125; Rose, '01; John Bright, Myrtle. 150; Crimson Ida, '98; A. Adamson, Teeswater. 160; Poppea's Bud, '03; Jas. Smith, Winthrop. 155; Rustic Princess, '06; T. Q. McQuoy, Cottingham. 150; Queen Clementina, '06; J. Wilson, Fergus. 125; Poppea, '01; T. L. Pardo. 190; Rustic Primrose, '06; T. E. Robson. 180; Beauty's Queen, '06; Wm. Douglas. 80; Moss Rose, '06; T. L. Pardo. 90.

THE TORONTO MILK - SUPPLY DIFFICULTY.

The dispute between the producers and dealers of Toronto's milk supply, mentioned in this column last week, was the subject of a conference on Monday, May 6th, between the Toronto Milk Producers' Association and the Toronto Milk Dealers' Association. At this conference it was agreed to leave the settlement to a board of arbitrators, the dealers nominating His Honor Judge Winchester, and the producers Mr. C. C. James, Deputy Minister of Agriculture for Ontario. These two have power to appoint a third. The first session was held on Tuesday. Judge Winchester wisely suggested that an agreement be reached without the taking of evidence and consequent expense. The first session proved a rather warm one, and an adjournment was made until Tuesday, May 14th, when both sides were to present their case. Pending the decision of the arbitrators, the milk was to be sent in and paid for according to such price as the arbitrators might decide upon. We trust by the time this reaches our readers the trouble will have been amicably disposed of on terms satisfactory to producers, in view of the undeniably increasing cost of production.

U. S. CROP CONDITIONS.

The Crop Bulletin, published by the United States Department of Agriculture, indicates the acreage under winter wheat on May 1st to be 28,132,000 acres. This is 11 per cent. less than the area reported sown last fall, and 5 per cent. less than the acreage reported to have been harvested last year. The average condition of the growing crop was rated on May 1st at 82.9, as compared with 89.9 on April 1st, 1907; 90.9 on May 1st, 1906; 92.5 on May 1st, 1905, and 85.5 the mean of May averages for the last ten years. The condition of meadow lands was rated at 83.6, against 90.4 the average of the last decade. Of spring planting, 47 per cent. was completed May 1st, compared with 58 per cent. on May 1st, 1906.

ON THE HORTICULTURAL STAFF OF MACDONALD COLLEGE.

Mr. V. R. Gardner, Instructor in Horticulture, Iowa Agricultural College, during the past two years, has been appointed an Assistant Horticulturist at the Macdonald Agricultural College, St. Anne de Bellevue, Quebec. Mr. Gardner secures the degree of Master of Scientific Agriculture in Horticulture with this year's graduating class at Ames. In his post-graduate studies he has shown rare ability as an investigator, his thesis being considered among the very best ever presented in the history of the college. As an instructor his record has been unusually good, he being especially thorough and clear in all his work.

Bran in bags quoted at \$24 per ton in Montreal! At this rate a ton of good well-cured clover hay should be worth \$15, and a ton of first-class alfalfa hay \$18 to \$20, by comparison with bran values. A good acre of three-year-old alfalfa will easily yield 5 tons of hay a year, which would be worth, say, \$90.00 if fed to good advantage. Of course these figures are comparative, and not absolute. We would not guarantee that a man could make much money feeding cows or steers alfalfa hay at \$18 a ton, but we do say that the man who has been accustomed to buy bran to help out his farm roughage will do well to consider the economy of alfalfa as a substitute.

The estimates of the last session of the Ontario Legislature include an item for some experimental work with a view to obtaining a cheap, effective system of disposing of cheese factory and creamery sewage.

Bank of Toronto

Absolute Security
is the Best thing

we have to offer intending depositors. Our other inducements—exceptional facilities, careful, painstaking attention to details, and fifty years of banking experience—all valuable in themselves, are of secondary importance. Upon the basis of

Absolute Security
we invite your savings account.

Capital, \$4,000,000.
Reserve, \$4,500,000.
Total Assets, \$37,000,000.
Incorporated 1855.

BANK OF TORONTO

MARKETS.

TORONTO.

LIVE STOCK.

Receipts of live stock at the City and Junction yards last week were moderate. The quality of the cattle was fairly good. Trade was brisk for cattle, in fact in every class. Prices were firmer for export cattle, while butchers' were steady to firm at last week's quotations. There is and has been a good demand from outside points, especially Ottawa, Montreal, Quebec and New Ontario. Monday's receipts of cattle at the Junction, 2,300; trade steady. Exporters, \$5.15 to \$5.40, one load, \$5.50.

Exporters.—Prices ranged from \$5 to \$5.40; the bulk selling at \$5.15 to \$5.30; export bulls at \$3.75 to \$4.30.

Butchers.—Prime picked lots sold at \$5.10 to \$5.50. One extra choice load of Hereford heifers and steers, 1,100 lbs. each, was bought by G. H. Waller at \$5.40; loads of good, \$4.85 to \$5.25; medium, \$4.60 to \$4.90; cows, \$2.75 to \$4.75 per cwt.

Feeders and Stockers.—There was little doing in either class, as there seems to be a scarcity of good quality. Prices are nominal. Steers, 1,100 to 1,200 lbs., are worth \$4.60 to \$4.85; steers, 1,000 to 1,100 lbs., \$4.35 to \$4.60; steers, 800 to 900 lbs., \$3.90 to \$4.15; stockers sold all the way from \$3 to \$3.75 per cwt.

Milch Cows.—There was a strong market for good-quality milkers and forward springers, buyers from Ottawa, Montreal, Quebec, as well as many farmers in York County, being on the market. There were not enough good cows to supply the demand. Prices ranged from \$30 to \$60 each, and one prime-quality cow sold at \$75. The bulk of the best sold from \$48 to \$58 each.

Veal Calves.—Deliveries were large; prices steady at \$3 to \$6.50 per cwt.; the bulk selling from \$4 to \$5.50 per cwt.

Sheep and Lambs.—Deliveries were light. Prices were higher all round. Export ewes sold at \$6 to \$6.50 per cwt.; rams, \$5 to \$5.50 per cwt.; yearling lambs, \$7 to \$8.25 per cwt.; spring lambs, \$5 to \$9 each, the bulk selling at \$6 to \$7 each.

Hogs.—Packers have had to advance prices, and quoted selects at \$6.60, and lights and fats at \$6.25. Judging from drovers' reports as to the number of hogs in the country, prices will go still higher.

Horses.—Trade in horses during the past week was fairly good. The bulk of those offered consisted principally of general-purpose, expressers, and carriage horses, which found a fair outlet, at steady prices. Over 200 horses were disposed of by Burns & Sheppard at the Repository, amongst which were some of exceptionally good quality. One pair of carriage horses sold for \$800, and high stepper, 15.2, sold at \$1800, and some others of good quality, and web broken, brought \$300 to \$400 each. Burns & Sheppard report the following prices: First-class carriage horses, 15.2 to 16 hands, \$200 to \$300; drivers, 14 to 15

hands, \$125 to \$175; common second-class drivers, \$50 to \$75; heavy-drafts, 1,500 to 1,750 lbs., \$225 to \$300; expressers, \$175 to \$225; delivery horses, \$125 to \$175; common chunks, \$75 to \$125.

BREADSTUFFS.

Wheat.—No. 2 white, sellers, at 82c.; buyers, at 76c.; No. 2, mixed, buyers, at 73c.; No. 2, red, buyers, 73c. Manitoba, No. 1 northern, sellers, 94c., at North Bay, buyers 93c.

Corn.—No. 3 yellow, American, 57½c., all rail; Ontario, 48c., Chatham freights.

Oats.—No. 2 white, buyers, 40c.; No. 2, mixed, 39c. bid.

Barley.—No. 2, 53c. bid; No. 3X, 52c.; No. 3, 49½c. bid, sellers 53c.

Rye.—No. 2, sellers, 62c.

Peas.—No. 2, 76c., sellers.

Buckwheat.—56c., buyers.

Bran.—Bran scarce, \$23 per ton, at city mills; shorts, \$23.50.

Flour.—Manitoba patent, \$3.85, track, Toronto; Ontario, 90 per cent. patents, \$2.75 bid for export; Manitoba patent, special brands, \$4.50; 2nd patents, \$4; bakers', \$3.50.

COUNTRY PRODUCE.

Butter.—Market becoming easier; creamery, pound rolls, 26c. to 28c.; creamery boxes, 24c. to 25c.; dairy pound rolls, 25c. to 27c.; tubs, 22c. to 23c.; bakers' tub, 19c. to 20c.

Eggs.—Market firm at 17½c. to 18c.

Cheese.—New cheese, 12½c. for large, and 13c. for twins.

Honey.—Scarce, prices firm at 12c. per lb. for strained; combs, \$2.60 to \$2.75 per dozen.

Evaporated Apples.—8c. to 9c. per lb.

Potatoes.—Prices firmer. Car lots, on track, at Toronto, of New Brunswick Delawares, \$1 to \$1.10 per bag.

Poultry.—Scarce. Yearling chickens, 16c. to 20c. per lb. Spring chickens are being shipped to M. P. Mallon from points in Ontario, both east and west of Toronto, for which he is paying 40c. per lb. alive. Dressed lots sold as high as 50c. per lb. on the St. Lawrence Farmer's Market. Turkeys, 16c. for gobblers, and 20c. for hens.

Hay.—Baled—Market strong at \$13 to \$13.50 for No. 1 timothy.

Straw.—Baled, \$7 per ton, on track, at Toronto.

HIDES.

E. T. Carter & Co., 85 Front Street, have been paying the following prices: Inspected hides, No. 1 steers and cows, 9½c.; No. 2 steers and cows, 8½c.; country hides, 8c.; calf skins, No. 1, city, 13c.; calf skins, No. 1, country, 11c. to 12c.; sheep skins, each, \$1.70 to \$1.80; horse hides, \$3.25 to \$3.50; horse hair, No. 1, per lb., 30c.; tallow, per lb., 5½c. to 6½c.

CHICAGO.

Cattle.—Common to prime steers, \$4 to \$6.50; cows, \$3.25 to \$5; heifers, \$3 to \$5.50; bulls, \$3.40 to \$4.60; calves, \$2.75 to \$6; stockers and feeders, \$3 to \$5.25.

Hogs.—Choice to prime, heavy, \$6.50 to \$6.52½; medium to good, heavy, \$6.45 to \$6.50; butchers' weights, \$6.52½ to \$6.57½; good to prime, mixed, \$6.52½ to \$6.55; packing, \$6.15 to \$6.50; pigs, \$5.50 to \$6.55; bulk of sales, \$6.50 to \$6.55.

Sheep and Lambs.—Sheep, \$4.25 to \$6.10; yearlings, \$5.75 to \$6.75; lambs, \$5.50 to \$8.75.

BUFFALO.

Veals.—\$5 to \$7.75.

Hogs.—Heavy, \$6.60 to \$6.80; mixed and Yorkers, \$6.80 to \$6.85.

Sheep and Lambs.—Lambs, \$5.50 to \$7.80.

BRITISH CATTLE MARKET.

London—Liverpool and London cables are steady at 11½c. to 12½c. per lb., dressed weight, refrigerator beef is quoted at 9c. per lb.

CHEESE BOARD PRICES.

Cheddar, 12 5/16, top price here, was before last, 11 1/2; Twest, 12 1/2, same, 12 1/2; from the 12 9/16 bid.

MONTREAL.

Live Stock.—Exporters have been showing more interest in the live-stock situation. There is a very fair demand for freight space on the various vessels sailing from Montreal during the early period of navigation, and engagements have been made in a number of instances. There is a very fair trade in cattle going on in the local market. Prices were perhaps a shade easier last week, the best stock selling at about 5½c. per lb. Shippers made some purchasers of good, large animals at 5½c. to 5½c. Medium grades sold at 4c. to 5c. per lb., Quebec butchers purchasing several loads of bulls at 4½c. to 4½c. per lb. Common cattle sold at 3c. to 4c. Milk cows sold all the way from \$25 to \$50 each, calves being \$1 to \$3 for poor, and up to \$6 or \$7 for fine. Sheep were \$6 and up to \$10, the latter for unshorn. Spring lambs were \$3 to \$6 each, and select hogs were about \$7 to \$7.15 per 100 lbs. The pound price of sheep is about 5½c. to 6c., that of lambs being 6½c. to 7c. On the whole, the market was active, and the supply was none too large for the demand. Firm cables had a good effect all round.

Dressed Hogs and Provisions.—Demand for fresh-killed hogs is very good, and prices continue steady and firm. Finest fresh abattoir-killed stock is selling at \$9.50 to \$9.75 per 100 pounds, and the demand is quite equal to the supply. Barrelled pork ranges from \$20.50 to \$24.50, according to quality, and the demand is rather lighter as the warm weather approaches. Lard ranges from 12½c. to 13½c. for pure, and 9½c. to 10½c. for compound.

Horses.—Dealers report an excellent demand for all kinds of good heavy horses. The season of navigation is now open, and a large number of horses are required to perform the carting operations resulting therefrom. At present, however, the supply is almost the lightest of the year. Heavy-draft, weighing 1,500 to 1,700 lbs., \$250 to \$300 each; light-draft, 1,400 to 1,500 lbs., \$200 to \$250; express, \$175 to \$225; common plugs, \$75 to \$125, and choice driving and saddle, \$300 to \$500.

Maple Products.—The weather being cool, the demand for syrup keeps up, apparently, better than if it were warmer. At any rate, there is a good demand. Prices continue steady at 5c. to 5½c. per lb. for syrup, in wood, and 6c. in tins. Sugar shows no change, being in fair demand, at 7c. to 9c. per lb., according to quality.

Potatoes.—Market is reported to be showing additional strength. Demand largely from outside points, some of these being in Northern Ontario, and some shipments taking place to points almost as far away as Winnipeg. A car of mixed white and red stock sold to Toronto at 80c. per 90 lbs., track, here, and sales of all white stock may readily be made at 85c., here. Bagged and delivered into store, whites are selling as high as \$1 to \$1.10 per 50 lbs., while reds are 95c., and some might even be had slightly lower.

Eggs.—This is the market which is causing the trade to do some thinking. For years past, egg men have been complaining about the profitless trade, and, judging by the cost prices this year, they will have to make sales at exceptionally high figures this fall in order to make any profit. Eggs appear to be costing 16½c. in the country, just now, and dealers quote 18c. for straight-gathered stock, selling here. The cheaper trade, however, is able to make purchases at a somewhat lower figure, the stock in this case being the small eggs picked out of the straight-gathered. Some say eggs are too dear to put away into store at these figures, but they are going into store just the same. Very little pickling is being done.

Butter.—The market has taken a drop of 2c. since last week, and prices have been ruling at 22c. to 22½c. per lb. The export basis is not more than about 18c.

Cheese.—While the market for butter has been declining, that for cheese has been advancing. Stocks here are very light, and yet it was claimed that shipments last week the first of navigation, would probably reach 35,000 boxes, two boats alone having engagements for 30,000. In the above is included a shipment of 6,000 lbs. of cheese, held here

for English account, and upon which a considerable loss will be incurred. The present advance is said to be due to manipulation, but some look for a firm market. Prices here are about 12c. to 12½c., according to quality.

Flour and Feed.—Some Manitoba millers are quoting higher prices for flour, while others are steady, and state that it may be necessary to lower prices. We, therefore, quote, as before, \$4 per bbl. in bags, for strong bakers', and \$4.60 for patents. Demand for millfeed is fair. It is naturally not so active as some time since, and is generally becoming less. When taken alone, bran costs \$24, bagged, per ton, and shorts, \$22 to \$24 per ton.

Grain.—Local demand for oats is very light, but there is a brisk demand for export account, and shippers are making money. Prices for local account are consequently stronger. The range is wide, at 4½c. to 45c. per bushel for No. 2, store, 43c. to 44c. for No. 3, and 42c. to 43c. for No. 4. No. 2 American corn is higher at 61c., store, and No. 3 at 59c.

Hay and Seeds.—The English market is reported to have gone to pieces. U. S. markets are firm. There is not much demand in the local market, and prices are firm on spot, owing to small supply. No. 1 timothy is quoted at \$13.50 to \$14; No. 2, \$12.50, and clover and clover mixture, \$11.50. The bulk of the seed has now been shipped out. Prices are \$5.50 to \$7.50 per 100 lbs. for timothy, \$16.50 to \$17.50 for red clover, \$14 to \$20 for white clover, and \$13 to \$16 for alsike.

Hides, etc.—The market for hides shows several changes. Owing to undesirable animals being held in the country, country take-off are ½c. down, at 8½c., 9½c., and 9½c., respectively, for Nos. 3, 2 and 1, Montreal, city hides being steady at 1c. above these figures. Sheep skins are dearer at \$1.19 each, and lamb skins are up at 15c. each, owing to the increased quality of wool on the skins. Calves are still 15c. per lb. for No. 1, and 13c. for No. 2. Quality is still very poor.

GOSSIP.

At the first annual sale of Jersey cattle from the Gedney Farm herd of Mr. Howard Willetts, White Plains, N. Y., on May 2nd, some good prices were realized. Mr. T. S. Cooper, of Pennsylvania, paid the highest price of the day, \$1,025, for the two-months-old bull calf of the noted cow, Golden Sultana. The calf was sired by Oxford Lad, and the dam was by Golden Fern's Lad. The highest price for a cow sold was \$550, for Humming Dew, four others sold for \$500 and over, and eight others for \$400 to \$460.

Mr. H. C. Hamill, Islay, Ont., reports the following recent sales of Holsteins, as the result of advertising in "The Farmer's Advocate": To A. A. Oliver, Victoria Road, one cow and one bull; to Albert Westcott, Gamebridge, one cow and one heifer. This pair should give a good account of themselves, as they are from grand good dams; to Stephen Oliver, Lindsay, a nice bull calf; to Isaac Edwards & Sons, Beachville, the grand pair of milk-and-show cows, Beauty of Ingleside and Minerva; to D. Sharpe, Ida, a bull calf that should be hard to beat, being a grand son of Beauty of Ingleside.

Mr. J. L. Clarke, Norval, Ont., whose auction sale of Clydesdales and other stock, on April 17th, was advertised in this paper, writes: "I have much pleasure in stating that the advertisement in 'The Farmer's Advocate' brought some of my best buyers, and was an exceedingly good investment. The Clydesdale stallion, Duke of Savoy (imp.), did not sell at the sale, but he has since been sold for big figures to Mr. Nelson McRae, of Moose Creek, Stormont County, Ont., and it is owing to the advertisement in 'The Farmer's Advocate' that I was enabled to make this good sale." "The Farmer's Advocate" congratulates Mr. McRae and his district on securing such a richly-bred horse as Duke of Savoy, whose sire was a grandson of the noted Prince of Wales (673), while the dam of Duke of Savoy was a daughter of Sir Everard, the sire of the great breeding and champion horse, Baron's Pride (9122).



**Life, Literature
and Education.**

(Contributions on all subjects of popular interest are always welcome in this Department.)

PEOPLE, BOOKS, AND DOINGS.

Duncan Campbell Scott, poet and story-writer, of Ottawa, has gone on an extended trip to Europe.

A tower has recently been erected at Knutsford, England, as a memorial to Mrs. Gaskell, author of "Cranford," "Mary Barton," "The Life of Charlotte Bronte," and other books.

The excitement in Great Britain aroused by the teachings of Rev. R. J. Campbell has by no means abated—has, in fact, been even stimulated of late by the publication of Mr. Campbell's book, "The New Theology." The starting point of Mr. Campbell's teachings is a belief in the divine immanence in the universe and man, a belief by no means new (the students of Wordsworth in our Literary Society last winter will recognize the same idea launched, but as a mere poetic fancy, in Tintern Abbey and Intimations of Immortality), but now, perhaps, for the first time formulated and set forth as a part of a definite creed. Passing thence, Mr. Campbell deals, in an unusual way, with the problems of evil, sin, and the future life. By many theologians and other critics his book has been severely criticised; by others, cautiously upheld. Whether it will have any marked effect on the religious thought of the century or not, the fact that it sold within ten days to the number of 20,000 volumes, would seem to indicate that the general mind is far removed from the religious indifference with which it has been so often charged.

George Meredith, the veteran English novelist, who recently celebrated his 79th birthday, is still vigorous in mind. He lives, more or less of a recluse, in his country home, surrounded by books. The house is small, though extremely comfortable. One day he was showing a friend over the place, when the visitor said: "In your books you describe huge castles and baronial halls, but when you come to build you put up a little house like this. Why is it?" "Well," replied the author, with a twinkle in his eye, "the reason is because words are cheaper than stones."

During the past year France has suffered the loss of three of her greatest scientists: M. Curie, the discoverer of radium; M. Moissan, the electrician; and M. Berthelot, the founder of modern synthetic chemistry, who died recently at the ripe old age of nearly eighty years. M. Berthelot was made a life senator in 1881, held a portfolio twice as cabinet minister, and was in 1901 presented by President Loubet with a gold medal, in commemoration of his scientific labors.

Ellen Terry, the famous actress, was married recently in Pittsburg to her leading man, Mr. James Carew. This is her third marriage. The actor is 59 years of age, and her husband 35.

An example, almost startling because so rare, of true public spirit, has recently been afforded by Mr. T. W. Crothers, of St. Thomas, Ont. Mr. Crothers has positively refused to accept the \$2,000 voted him by the Legislature in recognition of his services as chairman of the Commission which investigated the school-book situation. His assistance, he stated, was given to the Province, with no thought of remuneration.

THE PASSING OF IAN MAC-LAREN.

Scarcely has the ink dried which chronicled the death of Dr. Drummond, when it has become necessary to tell of the passing of another noted figure in the literary world—Rev. Dr. John Watson, immortalized as Ian Maclaren, who died on May 6th at Mount Pleasant, Iowa, where he had gone to lecture to the students of the Iowa Wesleyan University.

Dr. Watson's place in literature is unique. He was not the founder of the "Kailyard" School, but he was by far the most renowned of it. Neither does his fame rest upon many



The late "Ian Maclaren."

books, nor upon a slow upbuilding of books, each transcending the last in merit. At a bound, with his first publication, "Beside the Bonnie Briar Bush," he reached the hearts of his public; and by that work, when the memory of his other writings, with, perhaps, the exception of "In the Days of Auld Lang Syne" and "Kate Carnegie," shall have passed into oblivion, will he still be known and loved. "Bonnie Briar Bush" owes its power not, admittedly, to the fidelity with which the "Drumtochty" Scots have been pictured—they have been criticised as lacking in true Highland reticence—but to the exquisite pathos and humor which have made them real people to those who could not, perhaps, comprehend the true Celtic temperament. Maclaren has idealized the Highlander—perhaps, lacking Highland blood, he could not "create" him—but he has given him enough of the quaint and sturdily Drumtochty character to make him as distinct as

any of Barrie's, Crockett's or Munro's creations.

Dr. Watson was born in England in 1850, but spent his early years in Scotland. Upon his ordination as "minister," he spent three years at Logiealmond, the "Drumtochty" of the Briar Bush. Later he was called to Glasgow, and subsequently he took charge of a church at Liverpool. He was eminently successful as pastor and lecturer, as well as writer, and the dramatization of his great book has endeared him to thousands who have never read nor listened to lectures. Probably no other man could be mourned by a greater number of people.

STOP THE NORTH-POLE FOLLY.

Commander Peary, the daring Arctic navigator, has been bemoaning through the American papers his inability to get an additional \$60,000 to complete preparations for another "dash to the Pole." In the name of common sense, why should he receive any amount, large or small, of other people's money for such monumental folly? The dawn of the twentieth century should make an end of these crack-brained expeditions that for generations have been frittering away time, money and lives. What is there at "The Pole"? Any really useful knowledge to be gained, helpful to the world's commerce or to humanity? Any fresh agricultural areas to exploit? Naught but a sea of ice! And yet millions have been wasted in the foolish quest. Meanwhile, thousands of human beings in India and China annually perish of starvation, and in every civilized land the cry goes up for help from the destitute and suffering old and young in hospitals and "Homes," struggling beneath the burdens of financial stress.

By an almost startling coincidence, in the very same newspaper in which we read Peary's whine appeared an appeal from Dr. Wilfred T. Grenfell, the hero of Labrador, against these Arctic expeditions, though with no particular reference to Peary. Dr. Grenfell's self-sacrificing devotion for the betterment of the fisher-folk and natives of that dreary land, has challenged the admiration of the mind and heart of America, and indeed of the whole Christian world. To Canadians who know him so well, his work has especially endeared itself. They will not wonder, then, that he cries out in protest against the demoralization and destruction of the once simple-minded Eskimos by the strong drink and nameless immoralities scattered along the trail of these exploration parties. They are dying like flies, and soon will be an extinct race unless these expeditions cease. The vices of civilization are the curses of heathen or semi-heathen lands, and largely neutralize where they do not altogether destroy the labors of such men as Dr. Grenfell and the devoted Moravian missionaries who for generations past have unflinchingly and unselfishly laid down their lives on the snowy altars of the North Pole hunters—nobody questions, but their efforts are hopelessly misdirected and out of harmony with the age of humanity and common sense. W. T.

REPLY TO MR. TAYLOR.

I have read in a recent issue of "The Farmer's Advocate" an article written by Mr. J. D. Taylor, criticising my statements re the separation of Great Britain and Canada. While his arguments are quite true to a certain extent, they are, I believe, applicable only to the present age, being unsuitable to the altered conditions of future ages.

Mr. Taylor states that the best of our population came from Great Britain. Surely he does an injustice to the French in Quebec, who have done such noble work in upbuilding Canada, and who are so ably represented by Sir Wilfrid Laurier. Along the same line, he says a love for the motherland will strengthen as the years go by. But why should it, may I ask? The immigrants from Great Britain and continental Europe, by intermarriage and association, will form a race distinctly Canadian. Will these Canadians, then, not develop a deeper love and truer loyalty for the land of their birth as the years go by, than for a country they have never seen?

We are protected in time of war by Great Britain, it is true, but for this privilege we are not allowed to make any treaties with foreign powers. Owing to this restriction, severe complications might arise in the event of Canada wishing to pass a treaty very advantageous to herself. Then, too, when Canada, with her greater territory, becomes more powerful than England, would it not seem foolish to expect the weaker power to protect the stronger? Therefore, no doubt in the future we will be compelled to depend on ourselves for protection in time of war, and will this not particularly disunite the two countries? I wonder if Mr. Taylor has considered the fact that already the Canadian Government pays and equips all the regular troops in Canada.

From a commercial standpoint, I can see no way in which Canada gains by being a colony. As England is a free-trade country, Canadian goods are shown no preference over American or European goods. At the present time I read that the British ministry considers a preference as regards the tariff within the Empire impossible. Neither do I see the European powers so terribly crippled by their "suicidal restrictions on trade." England to-day holds the commercial supremacy over these powers by a far smaller margin than she did forty years ago. If free-trade were an unmixed blessing, so great a politician as Joseph Chamberlain would not oppose it so strenuously as he has in the past.

However, not considering the questions of loyalty or finance, it would seem impossible for the British Empire always to remain united. It seems a law of nature that no living organism can withstand the ravages of time. Empires, like men, develop from weakness to strength, and then retrograde to the original state of weakness. Babylonia, Assyria, Persia, Egypt, Greece, Rome, and many, many other empires arose from the depths of savagery to giant strength. The gleam of their weapons reflected in every clime. The tread of their armies shook the earth. We have abundant proof that most of the

modern arts, sciences and scientific instruments were thoroughly understood and applied by them. We have good reason to suppose that the principles of steam power and electricity were understood and used by them. Marvellous feats of engineering, building, transportation, etc., were performed by them which are now impossible. Their standard of civilization and education in many cases equalled and in some surpassed our own; and yet, where are these wonderful races to-day? Like the waves of the sea, they reached their destiny, and then, turning on themselves, flowed backward to the level from which they had arisen, leaving in their wake ruined cities, immense canals, great pyramids and wonderful architecture as monuments, alike of the growth and of the downfall of nations. Who, then, in the face of these facts, will affirm that our present-day civilization is imperishable? Or who will declare that the British Empire, like her predecessors, will not some day reach the point of dissolution? If this happens, would it be unreasonable to suppose that Canada, with her wonderful possibilities, should occupy the position Britain now holds?

Therefore, in conclusion, I would say that, while Mr. Taylor's arguments are adaptable to the present age, there would seem but small possibility of Great Britain and Canada remaining united through all time.

JUSTUS MILLER, Jr.

OUR ENGLISH LETTER.

Morte Hoe, North Devon.—In writing from this place, it is a case of taking the last first, but seated as I am, in front of a large bay window, which commands a view of the sea dotted with white sails and fringed with white waves racing one another into the coves between the mighty rocks which sentinel the shore, it seems a little difficult to get myself into the more placid condition of mind which always more or less befits one who visits or tries to describe the equally lovely villages, with their rustic surroundings and thatched cottages, some pictures of which I hope shortly to send you.

Kingsley, whose love for Devonshire and intimate knowledge of its every nook and corner is well known, speaking of Morte Hoe, says: "What a chaos of rock-ridges! Old Mother Earth's bare-worn ribs and joints peeping out through every field and down; and on three sides of us the sullen thunder of the surge. The Morte Stone, or, as the Normans christened it, the Death Rock, does not belie its name even now. See how, even in this calm, it hurls up its columns of spray at every wave; and then conceive being entrapped between it and the cliffs on some blinding, whirling winter's night, when the land is shrouded thick in clouds, and the roar of the breakers hardly precedes by a minute the crash of your bows upon the rocks." There is a Devonshire proverb which says, "Morte is the place on earth which Heaven made last and the Devil will take first," and another which predicts that no power can remove this rock but that of a number of "good-wives" who hold undisputed sway over their "lords and masters," and until these are found, the Morte Stone, with its ridge of fateful rocks, will continue as a menace to the mariner. But another and a surer way, happily, has been found to circumvent, if it cannot destroy, that gruesome relic of the past. At a point of land commanding an immense stretch of rocky coast a fine lighthouse has been erected, with the very newest appliances, each in duplicate, and in charge of three men, who take turn in manipulating the machinery which regulates the lights, and the continuous fog signals when a mist prevails. A visit two days ago to the Bull Point Lighthouse will be one of my most interesting memories of this stay to North Devon. By the picture which I send you will understand the reply of the somewhat elderly but certainly not old caretaker to my inquiry as to how they

managed to get down to the beach below: "I have been here thirteen years, and I have never even tried. I've too great a regard for my neck to venture," he said.

It really was some kind of a consolation to find that I was not the only one debarred from visiting many of those tempting little coves of sand or pebbles which are so inviting to those who love every phase of coast beauty. To the very young and hardy the scramble is sometimes possible, even down to those which look almost inaccessible, whilst even for sober old folks there are to be found roughly-hewn footpaths which may be warily attempted, sometimes at the cost of toppling down into a sitting posture unexpectedly, or a frantic clutch on to the nearest projection, which may be a jagged bit of rock or a bush of golden gorse, beautiful to look at, but dreadfully prickly when grasped by an unglued hand. Once down, the difficulties are forgotten, and in one, to which I go again and yet again, I find some pretty shells and seaweed as a reward for my labors. Barricane beach has a record all its own. It is very little more than a cove surrounded by rocks, but it is entirely formed of broken shells instead of sand or pebbles—the only instance of the same in this part of Devonshire. It is a delight to get down upon the beach just above the high-water mark and rake amongst the sea's bestowals for the delicate little fan shells, the cowries and other specimens which survived disaster from their very smallness and frailty.



Bull Point Lighthouse.

Morte Hoe has an old church, so old as to have lost many of its records in the mists of antiquity. That it was rated as a manor in Domesday Book, and held as such by Ralph de Limes, nephew of William the Conqueror, proves that it is at least 800 years old. There are some very curious as well as interesting carvings upon the "bench-ends" of the old pews, mostly quaint illustrations of the scenes of the crucifixion; one of the weighing of the thirty pieces of silver, each of which could be counted; another of a large hammer, with a ladder or what looks like it for the raising of the living Saviour upon the cross on which He was to suffer and die; whilst on a panel in still another place were carved the head of a man, one long lock of whose hair was held by a hand visible to the wrist. This, I was told, was meant to represent the head of John the Baptist about to be placed upon the charger on which it was to be conveyed to the wicked Herodias. The wood upon which these carvings are made is black with age, but in wonderful preservation.

I am told that even remote Morte Hoe has another link with Canada—that in a cottage near-by resides a widow lady and her one son, who came here a few years ago from the Dominion. It goes without saying that I must find that good lady and answer any questions she may like to ask about the land of her one-time adoption. If her husband was a farmer, he is more than likely to have been a subscriber to our good old "Farmer's Advocate." H. A. B.

DECORATIONS AND DECORATING.

"A house ought to be a work of art, just as a picture. Every bit of furniture in it should be a particle of a great composition, chosen with reference to every other particle. A grain of color a hundredth of an inch across is of the utmost importance in a picture, and a little ornament on a chimney-piece is of the utmost artistic importance in a house."

Many and varied, and sometimes exceeding strange, are some of the popular ideas on house decoration and ornaments. In describing a very beautiful house, recently built for a wealthy family, it was said: "The house is delightfully free from bric-a-brac and useless trifles, and that means that it is livable and charming." But it is to be feared that this wise restraint in the matter of decoration is the exception, rather than the rule. In many instances, where the family has fallen a victim of the "decoration" microbe, the house is more apt to assume the appearance of a curiosity shop—tables, mantels and brackets all laden with a multiplicity of what Mrs. Partington calls "articles of bigotry and virtue," which, by their very numbers, defeat their own object. A single handsome ornament, standing on a table by itself where one can see and appreciate its beauty of line or coloring, is tenfold as effective as a dozen pieces, all perhaps equally handsome, but so crowded together that the eye is confused by

no confusion of trivial objects to detract from the artistic effect of the whole. This decoration restraint is perhaps carried to a greater length than necessary, but it is surely erring on the right side.

One of the most, if not the most, important items in house-furnishing and decoration is the wall paper, as it decides, practically, the artistic effect of the room as a whole, and upon it depends the first general impression on entering. As a large and striking pattern entirely destroys the effect of any pictures which may be hung in the room, it is better, unless these are conspicuous by their absence, to have the paper either two-toned or of some solid color, which should be carefully chosen with regard to the aspect of the room and its relations to the rest of the house. Next in importance will come the pictures themselves, and of these, a few well-chosen will be infinitely more effective and pleasing than a number of cheap or highly-colored prints, meaningless in design, and poor in execution. A couple of Copley prints in dull-black frames, a good photograph or two of foreign views, or reproductions of celebrated paintings in polished frames of natural wood, or framed in mouldings of dull finish to harmonize with the tones of the picture of the character of the room, are always in good taste, and may be obtained from any good art store. The Copley prints, in particular, which perhaps excel in artistic merit, can be had from any reliable dealer, in different sizes, at prices ranging from 50 cents to \$10 each. There are also colored etchings and reproductions in color of well-known paintings, but these, if good, are more expensive, and if poor, are like the little girl who "when she was bad was horrid." In framing pictures, it should be borne in mind that the frame exists for the picture, and not the picture for the frame. The frame should be the complement of the picture and subservient to it, and not overshadow it with an elaboration of carving or gilding, making it of secondary importance.

In ornaments, as in pictures, a few, well chosen and well placed, are to be preferred to a crowded, ill-assorted jumble of nondescript trifles. On the mantelpiece, a clock, a pair of brass or other candlesticks, a vase or two of graceful shape, or a couple of pieces of good old china or pottery, could be placed with good effect, but choose each piece with an eye to its being not an isolated object, but a part of an artistic whole.

Reliefs from the antique, good casts from celebrated sculptures and reliable subjects are always satisfactory, and come within the range of a very moderate purse. In casts, those tinted like old ivory are preferable to white, which latter, however, can be used to best advantage to lighten a dark corner. In vases, the handsomest are the clear, solid glass, too heavy to upset easily, and in varying shapes to suit the special flowers for which they are designed. And, always, there should be a plant or plants of some kind. A stately palm or luxuriant fern will give a touch of grace and elegance to any room, only see to it that the jardiniere is not a china monstrosity, but of brass or pottery, or even the homely but inoffensive flowerpot.

This house-cleaning season, when the household goods all pass in review before the eyes of the homemaker, is a good time to weed out odds and ends of useless trifles, and to keep only what is worth while. Overcrowded rooms mean not only lack of originality and individuality, but also lack of repose and restfulness, besides the immense amount of extra and unnecessary work required in dusting and caring for them. As someone has well said, "Hard is it for us to remember that a museum and a home are two different things. And if we make our houses miniature museums, we are too likely to see them turn into mausoleums of all future quiet and happiness."

CULLODEN.

The Quiet Hour.

TAMING THE TONGUE.

If any man offend not in word, the same is a perfect man, and able also to bridle the whole body.—St. James iii.: 2.

Mrs. Hayward's advice to "speak gently" is timely—now and always—for I think we can all agree with the strong words which St. James uses about the mischief words can do. He says that the tongue is harder to tame than any bird, beast, or serpent, and that it is like a little flame which can start a great and destructive fire.

Whether you live in city or in country, in town or village, I venture to assume that you have known something of the deadly poison contained in bitter words. It is so easy to let them pass the unguarded door of the lips, and so impossible to catch the destructive, invisible sprites of mischief as they go swiftly on their way. And the worst of it is that they increase and multiply with such rapidity. The words which are poured out recklessly to a confidential friend are repeated and exaggerated as they pass from mouth to mouth. Though we might give all we possess to kill them, no act of ours can call them back or make them as though they had never been spoken.

With such a dangerous weapon always ready for use, we need to be as careful as though we carried a loaded revolver in the hand. We may well pray earnestly each day: "Keep the door of my lips." Of course, the trouble really lies deeper down. To attempt to control one's words, without trying to change angry feelings into love, would be like cleansing a coated tongue without trying to cure the hidden trouble of which that outward sign is only a danger-signal.

But in the meantime, while one is fighting for dear life with angry thoughts, trying hard to conquer resentment and to be really affectionate in heart, the tongue needs a curb-bit instead of the ordinary bridle which may be strong enough for ordinary use. It is in a crisis, when we know that we are angry and are trying to conquer the feeling, that we must be especially careful to say as little as possible. The words which seem at the time to be a righteous expression of indignation, look very different when we cool down and remember with dismay what we have said. And we must be even more careful with written words. We are apt to pour out our feelings on paper to a sympathizing friend, having a sense of relief when that safety-valve has enabled us to let off some superfluous steam. But it would be far wiser to put the angry letter away for a day or two under lock and key, reading it again before posying it. When this is done, it will probably be dropped into the fire instead of the post, and we shall kneel down to thank God because He kept us from sending it.

When we are angry we should consider ourselves to be more or less insane, needing careful watching.

It is a strange thing that we can feel so pleased in the utterance of unkind speeches about other people, when we know, even at the time, that we shall be very sorry afterwards. It is folly and madness to set a lighted match to a friendship which helps largely in making the happiness of daily life. In the heat of anger we may think that we don't care whether the friendship is destroyed or not. But what misery we might have spared ourselves if we had kept the curb bit firmly in place and refused to let loose the words that were trembling on our tongues.

But it is not only when angry that the tongue is hard to tame. I don't at all understand why it should be so, but we certainly seem to find an unnatural pleasure in talking about the faults of our neighbors. This sin, also, is one we know even as we commit it will be repented of very soon. Almost immediately afterwards we think: "Oh, I wish I had kept that fact to myself." We don't really want to injure the reputation of others,—very likely those we have been complacently pulling to pieces are people we like pretty well—but the

mischief has been done and can never be undone. Our tongues sometimes seem to be free agents, for they talk on recklessly almost against our will, and quite against our good resolutions. But let us try to tame this unruly member, striving by earnest prayer and constant effort to keep it well under control.

If only we could always remember that our dear Lord is really though invisibly present, right in the room with us—though the doors may be shut—and listening to every word! That remembrance could not fail to make us more careful what we say. The people we are finding fault with are friends of His. More than that, every unnecessary word we say against the least of His brethren is instantly accepted as said against Him. How often our careless and unkind words must have hurt Him! We are speaking against Him, and He is listening—let that thought keep down our love of idle and mischievous gossip and

tongue has grown more unruly and the will more enfeebled. But if we strengthen our resolutions with earnest prayer, we may be able to keep them. St. James says, "the tongue can no man tame," but that statement—true as it is—is not as disheartening as it appears to be. With man it may be impossible, but with God nothing is impossible. The gift of the Holy Spirit, promised in answer to earnest prayer, is no imaginary idea, but a very real inspiration of Divine strength into our weak wills. Let us call God to our side, and then we may learn to control this little member which boasteth great things.

"We kneel, how weak! we rise, how full of power!

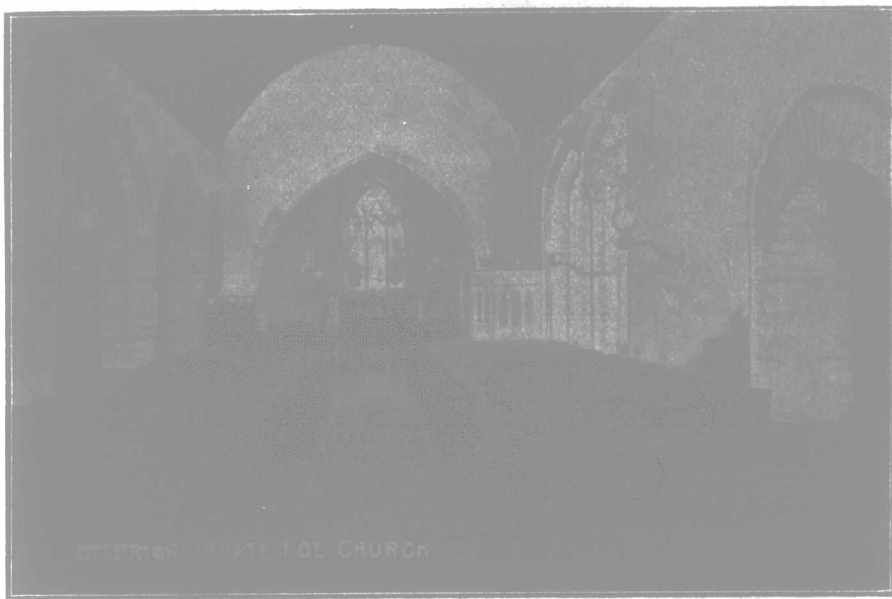
Why, therefore, should we do ourselves this wrong—

Or others—that we are not always strong?"

HOPE.



Morte Hoe Church.



Interior of Morte Hoe Church.

prevent any unnecessary retailing of the faults of our neighbors.

This, like most things, is a matter of habit. We all know people who are considered to be "dangerous," just because they love to pass on every bit of spicy news that they hear. If we have already earned that unenviable reputation let us form new habits and win a better name. Let us deliberately refuse to pass on interesting bits of information which can in the slightest degree cast a shadow on the reputation of another—unless it be a real duty to speak of them, which it very seldom is. Then, by slow degrees, we can learn one of the most valuable of all accomplishments—holding our tongues. Have we already got them tamed? Have you not often said to yourself: "I won't mention what I heard about Miss Smith or Mr. Jones to anyone." Then you make a few friendly calls, and go home filled with shame as you remember that the very thing you had resolved not to mention has been the chief topic of conversation at each house you entered. Again and again the resolve is made, only to be broken. Each time the

SPEAK GENTLY.

Speak gently, dear heart, though often your days

Seem freighted with burden of care;
Though sometimes the fret and the friction of life

Seem more than your spirit can bear,
Never yet have I known an impatience to avail

In making a burden grow less,
Never yet have I known a harsh word in tone,

The life of another to bless.

Speak gently to those who are dear to your heart,

Those whose love you have put to the test;

For wounds are more painful and harder to bear

When given by those we love best,
And remember, your words when once uttered, dear heart,

You can never, no never recall;

For away on a mission of evil or good,
They speed the same moment they fall.

Speak gently to those who are thoughtless and gay,

To those who are erring and weak.
If you'd save them, and win them for God and the right,

Never harshly or angrily speak.

Speak gently to those who are aged and worn,

And spent with the toils of the way.

Oh! cheer them by kindness before they pass on;

Win their blessing, dear heart, while you may.

Speak gently, for why should the power of speech,

God-given, our fellows to bless,
Be used as a weapon to sting, and estrange

Sometimes e'en the hearts we love best.

Oh, this life is too short for a single harsh word,

For unkindness in deed or in thought;
Be gentle, be patient, be kindly, for vain

Are regrets when the evil is wrought.

When we stand one day at God's judgment seat,

And the books are opened there,
Our words will come back to us blessing-crowned,

Or a sad condemnation bear.

Then guard your hearts with a jealous care,
Bear it off to the Master's feet.

If the fountain be pure, the stream, dear one,

Cannot be aught else but sweet.

CARRIE HAYWARD.

Corinth, Ont.

Health in the Home

VENTILATION, LIGHTING AND HEATING.

By Mary E. Allen Davidson, M. D.

The purifying constituent of air is oxygen. Light and oxygen are co-workers in purification, life and growth. Anything that lessens or consumes oxygen vitiates the air, or renders it unwholesome by robbing it of its full share of oxygen. This is done by the burning of wood, coal or gas for heating, or of coal oil or gas for lighting. Oxygen is also taken from the air by the breathing of animals, by fermentation and by the decay or putrefaction of any animal or vegetable matter. In every case, carbon dioxide, hydrogen sulphide or other harmful gas is exchanged for the life-giving oxygen. The amount of carbon dioxide in the air of a room is an index of the amount of organic and respiratory impurity present. The increase of carbon dioxide shows the proportionate decrease of oxygen. To make a test, put some lime water in a clear glass dish. If, after standing some time in a room, the water has turned milky in appearance, there is an excess of carbon dioxide in the air of that room, and not enough oxygen. The air is not pure enough for health. Fresh air should be admitted and the impure air driven out.

In our country, we are too much inclined to keep windows and doors closed in winter, to put on felt strips, and to overheat our houses. Fresh air is not freely admitted, nor the foul indoor air driven out. This hot, impure, debilitating air engenders a flabby, languid, non-resisting state of the body generally. The air cells in the lungs, instead of being toned up and reinvigorated by the expansion of pure air much cooler than the body, are kept in a state of practical inertia, ready for any invasion of disease. The blood is not properly cleansed; indeed the breathing in of such air loads it up with more poisonous matter. Going back to the tissues, this blood gives to each a share of the poison it carries. Is it any wonder that consumption is so alarmingly on the increase; that sore throats, bronchitis, grip and many other diseases are so readily contracted? By living as the majority do we are most carefully fostering the very conditions that enable disease to hold high carnival.

In a late number of The Dominion Medical Monthly, the prophesy is made that the Department of Public Health will soon be the most important in the administration. That good day cannot come too soon. There is crying need of

a separate department of public health. Were this department given its rightful prominence and effectiveness there would be less need for sanatoria for consumptives. Children from consumption-infected homes should not be allowed to attend school until the source of infection is removed. Government should provide fresh-air homes, where children infected with tuberculosis could be cared for, and so a great menace to the community would be removed, and the child given a chance for complete recovery and useful citizenship, instead of the suffering existence of a cripple, and the home for incurables as his refuge.

Our present care is to try to keep our own homes healthy. Every house

should be thoroughly windswept at least once a day. Put the children into a warm room where drafts will not reach them (in winter). Then open the doors and allow a free passage of air through all the other rooms. When the foul air is swept out, allow the fresh air to get warmed, and then the children can return, and allow the room where they have been to be ventilated.

To maintain health and prevent disease, adults require 3,000 cubic feet of air every hour, while children should be allowed an average of 2,000 feet, as they require more proportionately than adults, because the vital functions are so much more active. To procure this amount, the air of a living-room must be changed

several times an hour. This entrance of fresh air should go on night and day. Indeed, night air is purer than day air, containing less organic particles and carbon dioxide, because of the cessation of traffic and less combustion of wood, coal, etc., for domestic and manufacturing purposes. Space will not permit the discussion of various methods of ventilation or their comparative merits. The simplest, and one that can be used by everyone, is to have a board 6 inches wide and as long as the window is wide. Raise the lower sash and put in the board. The air passes up between the sashes and is directed towards the ceiling. Drafts at the body level and consequent chills are thus prevented. It is

most important to remember that drafts must be avoided, especially if children or debilitated or aged persons are in the room.

Remember that letting in air from another room or from the cellar is not ventilation. Cold air is not always pure air. Do not rely on the air supplied by the furnace, but bring in the pure, untainted air from outside; see that it is properly directed, and sufficiently warmed. In winter, the air should be warmed to a temperature of from 50 degrees to 60 degrees Fahr. for sleeping, 65 degrees for working, and 70 degrees for children, the aged, and those not in active employment.

(To be continued.)

Children's Corner.

[All letters for Children's Corner must be addressed "Cousin Dorothy," 52 Victor Ave., Toronto. Otherwise they will not be published.]

A CANADIAN HEROINE.

(A true story.)

The fort of Vercheres stood on the shore of the St. Lawrence, in the days when a fort was a necessity of village life. Not a great stone building, with frowning battlements, but merely a high fence of pointed stakes, with a strong wooden gate. Inside the small enclosure was the Seigneur's wooden house, and a few sheds. At Vercheres, there was also a strong blockhouse, jointed to the main fort by a covered way.

It was a dull morning, late in October. In the fields around the fort the men were plowing, or gathering in the root crops; while in the small houses the women worked and sang the songs of France, and the little children played about the doors. Up the river came a small boat, rowed by a gray-headed serving-man. In the stern sat a slight girl of fourteen. Her black curls were tied back with a red ribbon, behind her small, well-shaped head, and her well-worn black velvet frock showed a scarlet vest beneath the laced bodice. The chilly autumn air made her cheeks rosy, and her black eyes shone with pleasure. In the bottom of the boat lay a shining heap of fish, and the successful fisherwoman was chatting gaily to her companion.

"Here we are!" she cried, as the boat scraped against the landing-place. "How pleased Suzanne will be to see our fine catch! Everyone is tired of mutton, mutton, mutton!"

Leaping lightly out, she waited in an attitude of girlish grace while the man tied the boat securely, and threw the fish into a basket.

"It looks like cold weather, LaViolette."

"That is true, Mademoiselle. The Seigneur was right to lay in a stock of wood early. With the Iroquois prowling round, it might not be so easy now to get it when it's wanted."

The girl's brow clouded a little.

"Don't talk of Iroquois when my father is away, LaViolette," she said, with a slight shudder.

"Your lady mother held the fort against them, Mademoiselle."

"Yes, but I am not at all like my brave mother; and she is not at home to hold Vercheres for France. But," and Mademoiselle made a pretty gesture with her hands, and smiled once more, "it is not good to cry out before the wolf comes."

She took up the basket of fish, and turned towards the fort, followed by LaViolette with the oars and fishing tackle. All at once the gay little air she was singing was rudely interrupted by the ominous sound of a shot. It was too close at hand to be caused by some soldiers who had gone out to hunt that morning. While they stood staring towards the woods across the clearing, a crowd of savages burst out, firing at the men in the fields, who were running desperately for shelter. As soon as they perceived the Seigneur's daughter between the fort and the landing place, several of the foremost began to run in her direction, in hopes of taking her alive. Her blood seemed frozen, and she could not move as they came leaping and shrieking across the clearing.

The agonized voice of LaViolette roused her.

"Run, Mademoiselle, run! The Iroquois!"

Her courage suddenly returned, and she flew rather than ran towards the fort, praying to the Holy Virgin. She was a strong young runner, and fear lent her wings, and even the swift-footed Indians soon despaired of catching her, and began to shoot. The whistling of bullets about her ears did not make the distance to the fort seem any the shorter, and when at last she reached the open gate, it seemed to her that she had run a thousand miles.

"To arms! To arms!" she cried, but no sound of warlike preparation could she hear, though the screams of frightened women filled the air. Crouching outside the gate were two peasant women, sobbing hysterically, and quite



Taking Care of Ponto.

careless of their danger. Almost roughly the girl pushed them inside the gate. As she closed it, LaViolette came panting up, and together they made the bars secure, while the two women cried piteously for the husbands whose faces they would never see again.

The Seigneur's daughter was pale as death, but her eyes shone, and the heroic heart of her mother beat in her breast. Madeleine de Vercheres in that moment became a woman.

The danger had only begun, for there were only two soldiers left in the fort, to guard two old men, her two young brothers, and the crowd of terrified women and children. The fort itself was in bad condition, and the soldiers were nowhere to be seen. Fortunately the Indians, always the most cautious of warriors, had dropped back out of gunshot, not certain yet of the garrison's strength. Quick action might save the fort, though the cries of the helpless victims in the fields outside rose up to the God who sees and punishes.

The women, most of whom had friends at the cruel mercy of the savages, cried and sobbed, and wrung their hands; but Madeleine, with her teeth set, went to inspect the defenses. At the back of the fort she found several breaches in the masonry, proof of strange carelessness at a time when the dreaded Five Nations were well known to be on the war-path. LaViolette closed the breaches with the help of the boys, and when she saw a woman hastened to the blockhouse in great agitation, leaving an arrow sticking in the gate. C. D.

TEACHER'S PET.

Eight years old and going on nine,
Teacher says I am doin' fine!
Get my lessons every day,
Hardly ever have to stay
After school for being slow.
Ain't so very happy though,
'Cause the fellows laugh at me—
All but Johnnie Baker.
He takes my side, he knows all right
That I ain't strong enough to fight,
'Cause I hurt myself one day
Fallin' off a farmer's sleigh;
And the doctor cut my side
Awful deep, and Ma she cried,
And since then I'm awful thin.
And, gee-whizz, it hurts like sin
When the fellows laugh and say,
"Tabby cat, you daren't play."
And my eyes get kind of wet
When they call me teacher's pet.
Gee, they never talked that way
Till I tumbled off the sleigh.
Once I licked three kids so quick
That it made 'em good and sick;
And I used to dodge and run,
Just as fast as anyone.
Now when recess comes along
I just wait to hear the gong
Call us back to work a lot,
'Cause it's all the fun I've got.
Yesterday, when Reddie Lee
Saw me sitting there, said he,
"Boys, look at teacher's pet,
He's afraid to play, you bet!
'Cause he knows I'd smash his face,
All around the whole old place."
Johnnie Baker saw me cry,
And he blacked old Reddie's eye,
And he made his nose bleed too.
Dear, I wish that I could do
Something good for Johnny!
He always does so much for me.
May be 'twon't be very long
Till my side gets good and strong.
If it ever does, I bet
They won't call me teacher's pet.
(Sent by) EFFIE HILL.

Clappison, Ont.

Effie suggests that we should have a club name and a badge. What do you think about it? C. D.

THE LETTER BOX.

Dear Cousin Dorothy,—I am in the third class, and am nine years old. In Port Dover, there are six gas wells. I live by Lake Erie. In the summer I go down and bathe, for the water is so cool. There is a swing and some teeters in the water. I often get on the teeters, but the swing is too far out. There are some boards to rest on and dive from. We can go down our lane to the beach instead of going down to Dover. On the beach at the park, there is nice sand to dry your legs off with when you go in wading. I have read quite a lot of books. The best ones are: "Black Beauty," "Christmas at Grandma Elsie's," "Good Wives," "The Twentieth Door," "Penfold," "Alice in Wonderland," and a great many others.

ISABEL ANDERSON.

Port Dover, Ont.

Dear Cousin Dorothy and Cornerites,—I have often thought of writing, but have not made up my mind till now. I live two miles from Port Dover. It has one park right on the beach. I go to it several times in the summer, and nearly every time there is a picnic excursion, or something or other. On excursions, there are usually over one thousand. Port Dover has a new town-hall, about two years old. It has a new clock also. All the stores in town are

on Main street. My mother calls me a bookworm, for I have read so many books. The best are: "Black Beauty," "Alice in Wonderland," "Sarah Crew," "Good Wives," "The Robber Baron of Bedford Castle," "Penfold," "The Mortimers," and "A Very Queer Girl." I think Fred Black and Eulalie Jeffs have aroused all the Cornerites, and now we have some very good letters. I do not wish to take up too much room in your valuable Corner, so will close.

HELEN ANDERSON (age 11).
Port Dover.

Dear Cousin Dorothy,—It will be twenty-eight years in August since my father began to take "The Farmer's Advocate." I live on a farm, and we have quite a big orchard. We have five horses. One is twenty-one years old, but he is almost like a colt; his name is Harry. We have a dog named Rex, and a kitten. The kitten is my pet, and the dog is my brother's. Every spring we have a maple-candy party in the Town Hall. We have all the candy we can eat, and a lot of fun besides. So we get our money's worth. I like to read very much. Some of the books I have read and like the best are: "David Copperfield," "Not Like Other Girls," "From Log Cabin to White House," "Maud Maynard," and the "Elsie Books."

BESSIE M. SLIPP (age 12).
Jacksonville, N. B.

Dear Cousin Dorothy,—I live two and a half miles west of Camlachie. My father has taken "The Farmer's Advocate" a number of years, and is better pleased with it all the time. I have a little colt named Minnie; a puppy, who is full of fun and mischief, named Fido, and a white cat named Frisky. I am twelve years old, and am going to try the Entrance this summer. I will close with a few riddles:

1. A red heifer stands between two walls, the more you feed her, the more she bawls. Ans.—A separator.
2. Green as grass and not grass; it is red as blood and not blood; it is black as ink and not ink. Ans.—A black-berry.

3. Chip, chip, cherry, all the men of Derry could not climb up chip, chip, cherry. Ans.—Smoke.

ADA WELLINGTON.

Camlachie.

About the Puzzles.

No more answers to the Puzzle Competition need be sent, as the prize is already won. C. D.

RECIPES.

Apple John—One pint Five Roses flour, 2 teaspoons baking powder, 2 tablespoons butter, 1 cup milk. Make into dough, roll out, and put over a dish half full of chopped and sweetened apples. Serve with cream.

Walnut Wafers.—Half a pint brown sugar, 1 pint walnut meats, 3 tablespoons Five Roses flour, pinch of salt, 2 eggs. Drop from spoon on buttered paper, and bake till brown.

THE MINISTER'S TEXT.

A little Topeka girl came home from church the other day, and was asked what the minister's text was. "Don't be afraid, and I will get you a bed-quilt," was the astonishing answer.

Investigation proved that the central thought of the sermon had been "Fear not, and I will send you a comforter."—[The Technical World.]

The Ingle Nook.

THE JUNE BRIDE.

June is coming on apace, and with its approach the pitapat in the hearts of the brides-to-be grow stronger and faster. In the meantime, there is the happiness of revelling in billows of soft silk and lace and dainty white materials, and the pleasant agony of deciding how to have things made.

Now, to begin with, it is to be hoped that every single one of these little brides-elect will have impressed upon her that for this occasion of her life, if never before, it is necessary to have absolute suitability, perfect fit, in every gown. There's no getting out of it, nothing enhances a woman's appearance as much as well-chosen, well-made clothing, and surely for this one occasion of her life a girl should be indulged in regard to these things.

This is not saying that she should be extravagant. It is not necessary to have a great many clothes, nor that they should be very expensive, but they should be "good," and faultless as to fit and fitness. I trust you will distinguish between those two last words.

Believe me, fitness is quite as necessary as fit. In a certain city some time ago, a certain girl was married. She was a very handsome girl, used to flattery, no doubt, and anxious to show off her charms to as many people as possible. At any rate, she resolved to have a very fashionable wedding. She was married in church, in a rich white satin gown with a long train and veil. Her trousseau contained three silk gowns and a velvet one, besides two broadcloth suits and house dresses galore. Of course, the church was crowded with sight-seers, and very probably the beautiful girl was satisfied that her wedding had been a dazzling success. But here comes the point,—this girl worked in an office; her parents were not wealthy—in such ordinary circumstances, to be exact, that this wedding must have been a very great strain upon them, enough to keep them economizing for months to make up for the extra outlay; and, last of all, the man whom she married was neither rich nor likely to move at the crest of society. As a consequence, every sight-seer went from that wedding laughing over it. While the bride's beauty was acknowledged, she got sneers rather than admiration. Even to those who would not sneer, the whole parade seemed distressingly vulgar and foolish. This bride, you see, had no sense of "fitness," nor did she recognize that only the very wealthy may engage in such ostentation without fear of having unpleasant things said about them.

To come back to "fit," if a girl is exceptionally good with her needle and used to making her own gowns, she may, of course, make, or help a dressmaker to make, some of her wedding finery, but if she can afford it at all, she should place her bridal gown and her going-away suit in the most capable professional hands that she can find in her vicinity. A first-class dressmaker will make the wedding gown all right, but only a ladies' tailor should be trusted with the suit. None but he can give the perfect fit and finish, or knows how to place, here or there, the bit of padding which makes so very much difference in the appearance of a suit. If it is impossible to have a tailor, the next best shift is to buy a good ready-made suit. By going to the nearest city, one can usually find one that fits very well, and is good enough, and plain enough (the usual trouble with ready-made clothing is that so much of it is over-trimmed) to look suitable to the occasion. The going-away suit, by the way, may be made of chiffon broadcloth, chiffon Panama cloth (which is less likely to catch the dust), or any of the other fine ladies' cloths used for suiting; and the hat should match. It is unnecessary to remark, of course, to the sensible girl of moderate means, that the color should be serviceable—for it goes without saying that this suit will be worn long and often. If one is determined on a light color, the material should be such as will dye nicely. The blouse should be of silk, simply made, with white lace or embroidery collar and cuffs.

The bridal dress is often of heavy silk or satin, but the girl of moderate means

is not likely to choose either of these. Among the more desirable materials for her may be mentioned silk eolienne or voile, crepe de Chine, trimmed with cluny lace, or, prettier still, very sheer and fine Persian lawn, dimity, organdie or batiste. If any of these last be chosen, plenty of lace should be allowed for trimming. Real French valenciennes is quite expensive, but a good quality of German val. will do very nicely, and will be found to wash very well,—we are taking it for granted, of course, that our bride intends to use her wedding dress instead of laying it away in the pretty old fashion still adhered to by many women of means or sentiment. If one does not want lace embroidery, insertion, etc., may be used, but it must be very sheer and fine, and of beautiful design, raised, not perforated with eyelet-holes. In choosing embroidery for a dress, care must be very careful not to take a kind that will make the gown look like underwear. . . . With her wedding dress, the bride will, of course, wear white shoes and gloves and white silk stockings. She should wear very little jewellery—possibly just a brooch or a tiny pin dear from association. If she insists on a veil, it may be of tulle caught by a tiny cluster of orange blossoms.

Besides the bridal gown and going-away suit, a pretty reception dress will be needed, and as many pretty house gowns as can be easily afforded. The reception dress will permit of a little elaboration, and may be made of silk, net over silk, voile, or any other soft fabric that drapes prettily. A net guimpe and undersleeves may be worn with it, or a white or cream yoke of any flimsy becoming material.

The lingerie—night-dresses, underwaists, etc.—may be made of nainsook, batiste, or linen lawn, and may be trimmed with German val. All flounces should be joined to the garments with heading through which white—never colored—ribbon should be run.

And now, brides-to-be, I wish you all success with your sewing.

DAME DURDEN.

More Bread-mixer Testimonials.

With the two following letters, the bread-mixing topic will close. We thank all who have contributed.

Dear Dame Durden,—I have never written before, but have been a reader of "The Farmer's Advocate" for many years, and I like the Ingle Nook best of all. In a recent issue J. E. T. asked about a bread mixer. I have a Universal Bread Mixer. I follow directions, only I mix longer than three minutes as a rule. I think it saves about half the labor, and makes better bread than hand-mixing, and to women with small children and bachelors would be a treasure. You can make good bread without putting your hands in it until it is ready for the pans, but I think it does better to give one mixing on the board.

I have tried a great many of the recipes, and liked them very much, and want some way of keeping them for future use. Several suggestions were made, and I waited for someone to give mine. It is, that Dame Durden, or someone under her directions, would make a recipe-book of them. We would all prize it so much, as we know they are all "tried and true." It could be given as a premium, or sold from "The Farmer's Advocate" office.

Grey Co., Ont. HYACINTH.

Dear Dame Durden,—Just a few words about the Universal Bread Maker. I have used it for about a year, and can certainly recommend it. I follow the directions given with the bread maker, only I keep the potato water at noon, and, when cool, dissolve one yeast cake in it, and keep it warm until I knead my bread at bedtime. One yeast cake is plenty for a baking of seven or eight loaves.

I have received so much benefit from the Ingle Nook, and have never done anything to help, but now that I have broken the ice, I hope to do better.

AN OLD COOK.

A Champion for Bertolet.

Dear Dame Durden and Others of Ingle Nook,—Have you been reading the letters on outdoor life for women, written by Donald McCallum, Bertolet, and others in L. L. & E.? Had I the

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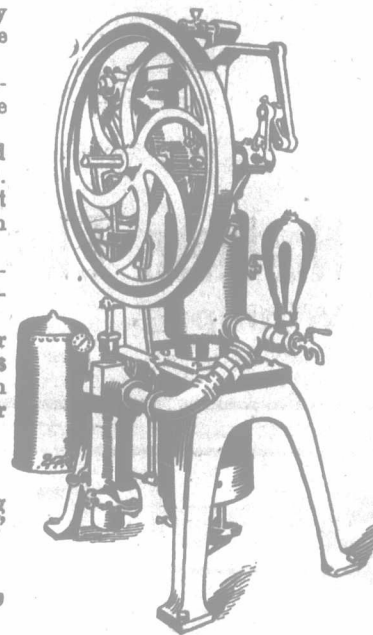
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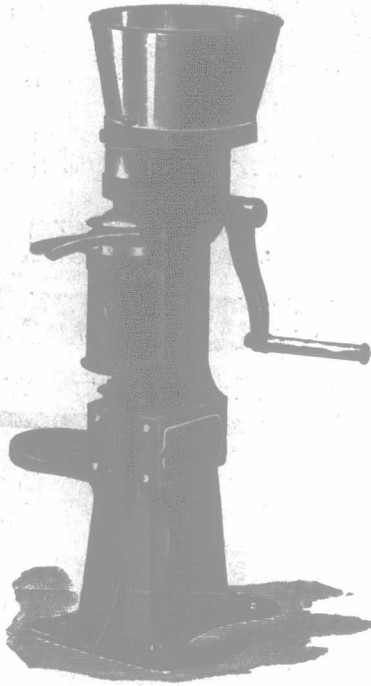
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On page 4 of our catalogue you will see what he says about its work, or write him at Toronto, we feel sure he would answer any inquiries you might make. Also write **Mr. Geo. L. Telfer, Paris, Ont.**, the well-known breeder and importer of Southdown and Hampshire sheep, who purchased the first **MAGNET** that we built, and has used it steadily for nine years. **Mr. W. S. Dykeman, St. George,** who has used the second **MAGNET** that we built for nine years, write him.

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Temple Building, Toronto.

courage I might have written, too. I believe that every one of "us women" is not only willing to do, but very much enjoys doing such out-of-doors work as her time, strength and experience permit. We believe in the good old saying, "a change of occupation is as good as a rest," more than do some men I have heard of, whose excuse from doing odd jobs round the house is invariably their weariness of body. Eh?

As for feeding stock, I count it a treat to have the whole "run" of things at feeding-time—some day when the men must be absent—and to go the round of horses and cattle, feeding them, watching the evident anxiety of those whose turn is yet to come, and the hungry satisfaction of those who have received and are quickly making away with their share. Altogether, it is very pleasant; and, after all, isn't that what the greater part of our work consists of—feeding and looking after the physical needs of those dependent on us? So it isn't so very much out of our line, you see. As for driving machinery and loading hay, I cannot boast of either of those achievements, but I can say that I have helped "cocking-up" hay, and in all my life I never had better fun; but, then, I did it by moonlight, and there was such a cool, refreshing breeze blowing, and such a delicious clover scent pervading the atmosphere, that one could never dream of labor being the least like drudgery. I'll admit that it would be a very different matter to load that same hay under a blazing sun, such as there generally is at haying time, or to pitch it back in a suffocating, hot mow.

Anyway, I think that we women do not, as a rule, go out of doors enough for our good. Not that housework, especially farm housework, doesn't give us plenty of exercise—O, dear, no!—but to relieve the monotony, for housework is monotonous sometimes, you'll admit.

Just for instance, I'll tell you about an excursion I made one forenoon in blackberry-time—July, I think—in search of a dish of dessert for dinner. The prospective dish wasn't to be obtained from the common, hot, briery kind of berry-patch, but from a cool, woods with little undergrowth, but with here and there a group of large, droopy blackberry bushes. It was very delightful and exciting to travel from bush to bush, finding each one loaded with bigger, blacker, and more luscious berries than the last; to come suddenly upon an opening through which appeared what seemed a reflection of heaven's own blue flecked with the feathery green of waving tree tops, in reality a marshy spot blooming with large, wild forget-me-nots; to watch the antics of a swarm of bumblebees, and they are more interesting than one would think, coming and going from a hole in a hollow tree; and to listen to a free discourse on the beauties of nature delivered by Mr. Rob-o-Lincoln, in a neighboring field. To these delights, add bright sunshine, a breeze, and a pleasant companion—a dog, by the way, but even a dog, especially a knowing collie, can be very good company—and you'll agree that that dish of dessert was an all-round better one than a pie or pudding would have been, prepared at the expense of hot face, bad temper, and, perhaps, indigestion.

But, dear me, you must long ago have called "time!" and I didn't hear. I must say, in closing, that I find the letters of Ingle Nook very, very interesting, and my only regret is that sufficient space is not given in the worthy Advocate.

And, now, my ancestors having hailed from Scotland's high hills, I shall sign—
MOUNTAIN HEATHER.

Perth Co., Ont.
I've "been there," had the dog, too, Mountain Heather. Shake! D. D.

Current Events.

Educated Hindus in Northern India are becoming hostile to Europeans. In consequence a strict watch is being kept over apparently disaffected districts, and troops are patrolling some of the towns.

Out of 15,000 Hereros who left German South-west Africa with the intention of founding a settlement further north, 11,000 have perished of starvation.

A Franco-Japanese entente looking to the maintenance of the status quo in the Far East, has been practically accomplished.

LAST OF THE CONFERENCE.

The Imperial Conference is over, and now it remains for future developments to show what it has accomplished. One of the most interesting features throughout has been the prominence which the antipodal colonies, Australia and New Zealand, have taken in all its deliberations, not, perhaps, with the greatest encouragement, since they have been given little hope that the plea put forth by Mr. Deakin, of Australia, and upheld by Premiers Ward, of New Zealand, Jameson, of Cape Colony, and Moor, of Natal, will be in any wise regarded. The attitude of Sir Wilfrid Laurier was that, while Great Britain was welcome to any preference that Canada could give, the Dominion clamored for no like return; while General Botha looked upon any commercial agreement within the Empire as a deterrent to the freedom of any colony in managing its own tariff affairs. Mr. Asquith's reply was that no arrangement could be entered into which would interfere with the present free-trade policy of the British Government. A suggestion by Sir Wilfrid Laurier looking to the establishment of Imperial steamship lines between England and Canada, and Canada and Australia, with a fast service and reduction of freight rates, met with more favor, and is being looked into by the British Cabinet. An interesting development of the Conference was the statement of ex-Premier Balfour, that he is now decidedly in favor of a preferential tariff.

Among the last resolutions adopted by the Conference were one proposed by Hon. Mr. Deakin, of Australia, requesting a definition of the privileges and obligations of the Colonies under the existing commercial treaties, and the institution of inquiries with the object of ascertaining how far it was possible to make those obligations and privileges uniform throughout the Empire; and another, proposed by Mr. Ward, of New Zealand, asking that all doubts be removed as to the right of the self-governing dependencies to make reciprocal, preferential fiscal arrangements with each other and with the United Kingdom, and, further, that such right should not be fettered by Imperial treaties and conventions without their concurrence. . . . Before leaving, the Premiers and Ministers were given a dinner by the King at Buckingham Palace.

IRISH COUNCIL BILL.

Another Irish Home-rule Bill, which amounts somewhat to a "lick and a promise," is before the British House of Parliament. Heretofore known as the "Devolution Bill," it has now become the "Irish Council Bill," and, as introduced by Secretary Birrell, it provides that the Council shall be given control of eight departments now managed by Government Boards, viz.: The Local Government Board, Department of Agriculture, Congested Districts Board, Commissioners of Public Works, Primary and Secondary Education, Industrial Schools, and the Registrar-General. At the same time, it gives power to the Lord-Lieutenant of Ireland to nullify any of the decisions of the Council. The Constabulary, Police, Land Commissions, and Prisons Board will still remain under control of the Imperial authorities.

As may be judged, the Bill gives absolute satisfaction nowhere, absolute Home-rulers feeling that it grants too little, while the Unionists feel that it concedes too much. Mr. Redmond will probably put up a strong fight for further liberties. In the meantime, the measure is looked upon as being at least a step toward the consummation which the Radicals would bring about.

Failing Eyesight and Torpid Liver

Good Sight and Good Health Returned When the Liver Was Set Right by Dr. Chase's Kidney-Liver Pills.

To persons who have not considered the relationship of eyesight to general health, this letter will prove especially interesting: Mrs. A. R. Price, Nose Creek, Calgary, Alta., writes: "I write to tell you how highly we think of Dr. Chase's Kidney-Liver Pills, for they are unsurpassed for torpid liver, constipation and kidney troubles. My husband derived great benefit from Dr. Chase's Kidney-Liver Pills a couple of years ago when he was feeling depressed and regularly out of sorts. His eyesight was failing, and the lamplight hurt his eyes so he could not read at all, and had made up his mind to see an oculist.

"I advised him to try Dr. Chase's Kidney-Liver Pills, thinking he was suffering from torpid liver. He did so, and after using less than two boxes his eyesight entirely returned and he felt quite well again. We would never be without these pills in the house, and I cannot speak too highly of them."

Dr. Chase's Kidney-Liver Pills, one pill a dose, 25 cents a box, at all dealers, or Edmanson, Bates & Co., Toronto.

THE MORE YOU TAMPER WITH

Superfluous Hair

THE MORE AMBITIOUS AND ENERGETIC IT BECOMES.



There is no other treatment that will permanently remove this disfiguring blemish but Electrolysis. Don't tamper (cut, pull, burn or use depilatories) with it, but come here and be successfully treated. Our method is reliable and practically painless. Satisfaction guaranteed.

Princess Complexion Purifier

makes the skin clear, pure and fine. It removes tan, freckles, moths patches and all discolorations, cures rashes, blackheads, pimples, eczema, ringworm, ivy poisoning, etc. Price \$1.50, express paid.

We have reliable home treatment for dandruff, falling hair, lines and wrinkles, red nose, sore hands and feet, and undeveloped figure. Send stamp for booklet F.

Graham Dermatological Institute, Dept. F., 502 Church St., Toronto. Established 1892.

Ingleside Herefords.

BULLS FOR SALE.

"KEEP ON," 5 years old, one of the best herd bulls in Canada, and a show bull too.

One yearling bull by "Bourton Ingleside," also a fine lot of bull calves, sired by the above noted herd bulls.

Females for sale: All ages, best breeding and of highest merit. 60 head to select from. Some 1 and 2 year heifers of show-yard quality. Visitors welcome.

H. D. SMITH, Hamilton, Ont.

\$12 WOMAN'S SUITS, \$5

Suits to \$15. Cloaks, raincoats, skirts and waists at manufacturers' prices. Send for samples and fashions. Southcott Suit Co., Dept. 27 London, Can. Send for our catalogue, which lists everything you use.

Mention in Advocate

SOME CONTRIBUTED RECIPES.

(From H. W. W., King's Co., N. B.)

Scotch Shortcake.—One lb. butter, 1/2 lb. sugar, 1 1/2 lbs. flour. Knead well, and roll out in cakes 1/4 inch thick.

Cocanut Cookies.—One cup sugar, 1/2 cup butter, 2 eggs, 1 cup cocanut, 1/2 teaspoon soda, 1 teaspoon cream tartar, 1 teaspoon milk, flour to roll.

Johnnycake.—One cup flour, 3 of corn meal, 1 cup molasses, 2 cups sweet milk, 1 of sour milk, 1 teaspoon soda, and one of salt. Bake 1 hour in cake tin.

NOT A BIRD.

Not a bird that comes to the country but earns its living from the people. In some way or another they earn their right to live. Most of the song-birds are insect eaters. It is a question whether we could live on this earth if insects were allowed to multiply in the numberless forms and myriads of progeny that Nature provides. Certainly man could not alone keep the insects down without the help of the birds. Even the hawks and owls live mostly on field mice and gophers, and Mr. Crow will eat almost any old thing, which, if allowed to remain to pollute the air, means disease and death.—[Pembina Pioneer Express.

THE WOODS IN OLD VIOLINS.

The old masters used such care in the selection of the woods for their instruments that, having found a piece of wood of proper fiber and vibrational powers, they treasured every fragment, no matter how small; and, rather than waste even a particle of such a strip, they frequently constructed the backs and bellies of patches so delicately put together that the seams are only discoverable by microscope, so perfect is the cabinet-work. It was ever the aim of the old masters to "marry" the back of the hard sycamore, which produces the quick vibrations, and the belly of soft wood, producing the slower sound-waves, in such a manner as to give the mellow but reedy timbre of the perfect instrument. Anatomically, a violin made by an old master is a miracle of construction; it can be taken to pieces, patched, put together, repaired indefinitely, and is almost indestructible. Repairing has been the means of exposing many clever forgeries. The inside of a violin made by Stradivari, Guarnerius or other old masters is as perfectly finished as the outside, and the clumsy interior work of a forgery betrays an imitation at once.—Elizabeth Mitchell Stephenson, in the March Circle.

A CHARACTER SKETCH.

I knew a man who thought he knew it all;

He knew how earth became a rolling ball;

He knew the source and secret of all life;

He also knew how Adam came to fall.

He knew the causes of the Glacial Age, And what it was that made the deluge rage.

He knew—in fact, he knew most everything;

In his own mind he was earth's greatest sage.

His knowledge was of such stupendous girth

It took in everything upon the earth

And in the heavens; but, most strange of all,

He didn't know a thing of real worth.

He knew where people go when they are dead,

He knew all wonders ever sung or said,

He knew the past and future; but for all

He didn't know enough to earn his bread.

He was a marvel of omniscience—

He knew the secret of the hence and whence,

He was a bundle of great theories;

The only thing he lacked was common sense.

—J. A. Edgerton, in New York Sun.

Too Rapid Feathering



Spring chickens often show positive weakness as the result of too rapid feathering. This checks the development of the chick, and may result in loss. If you begin the care of the young brood by giving daily a little of

DR. HESS POULTRY PAN-A-GE-A

in the morning find these difficulties will be avoided. It contains bitter tonics to increase digestion, iron to make blood, and nitrates to help the fowl to throw off poisons from the system. By increasing digestion you increase growth and egg production, as all development depends absolutely upon the digestion. Besides this it has a principle peculiar only to itself—it has the power of destroying the little germs of disease, cleansing and purifying the system generally. Poultry Pan-a-ge-a is the prescription of Dr. Hess (M.D., D.V.S.). It makes eggs in abundance when given to laying hens, and hastens the fattening of market stock. Endorsed by leading poultry associations in United States and Canada. Costs but a penny a day for 30 hens, and is sold on a written guarantee.

1 1/2 lb. package, 35c. 12 lbs. \$1.75, 5 lbs. 85c. 25-lb. pail, \$3.50.

Send 2 cents for r. Hess 48-page Poultry Book, FREE.

DR. HESS & CLARK Ashland, Ohio, U.S.A. Instant Lice Killer Kill Lice

Advertisements will be inserted under this heading such as Farm Properties, Help 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.

FOR SALE—Pet donkey: \$75 will buy cart, harness and beautiful pet donkey. No bad habits. Address: B-x 793, Berlin Ont.

FOR SALE—25,000 acres: wild lands; by 1/4 or full section. Adjoining homesteads, Eagle Lake District. Also improved farms J. M. Thomson, Real Estate, Indian Head, Sask.

FOR SALE—Cranberry sets: price, \$2 per barrel. S. C. Parker, Berwick, Nova Scotia.

TOWN and control several large and small tracts of timber near Vancouver, also several large and small tracts of fruit and ranch land in the dry belt on Thompson River, with water rights. Best climate in Canada. Will take an investor in either lumbering or horse-raising proposition, or sell. Geo. D. Scott, 436 Granville St., Vancouver, B. C.

MILLET wanted—Siberian—Will buy either small or large quantities. Send samples: name price, bags included; your station. Address: The Tilson Company Ltd., Tillsonburg.

WANTED—A few good subscription agents for The Farmer's Advocate and Home Magazine. Liberal terms. The William Weld Co. Ltd. London, Ont.

WANTED—Young man or boy for milking and light chores. Good home. State age, experience and wages desired. P. O. Box 530 Tillsonburg, Ont.

WANTED—Persons to grow mushrooms for us in their own homes. Waste space in cellar, garden or barn can be made to earn \$15 to \$25 per week. Send stamp for illustrated booklet and full particulars. Montreal Supply Co., Montreal.

WANTED—Farmers and others who desire farm hands and domestics for the spring. Apply to A. Stevenson, emigration agent, Kilmarnock Scotland.

WANTED, a good, competent woman for general housework in private house on Sunnybank Farm. Work light, two in family, no farm work connected, permanent position. Address Frank X. Brabant, Wallaceburg, Ont.

WANTED by experienced man (married) situation as farmer. Has also had ranch experience, fitting live stock for show ring. Address: Farmer, care Farmer's Advocate, London, Ont.

WANTED—Women to take orders for our Tailored Skirts in their community. Send for free samples, cloths and terms. The Central Skirt Co., London, Ont.

POULTRY AND EGGS

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 20 cents.

At Valler Mills Poultry Ranch—Fertile eggs from Single-comb White Leghorns, Buff Orpingtons, \$1 per setting, \$4.50 per hundred. Mottled Anconas, settings only, \$1. No better winter layers. Free circular. Edmund G. Apps, Box 224, Brantford, Ont.

BUFF ORPINGTON eggs for hatching from extra heavy layers \$1 per 15, \$5 per 100. Good hatch guaranteed. Hugh A. Scott, Chelmsford, Ont.

BARRED Rock eggs from carefully-selected pens of choicest matings. Leading strains of America. Selected for their choice barring and heavy laying of large brown eggs, and headed by cockerels vigorous, blocky and beautifully barred. I expect grand results from my Barred Rocks this season. Testimonials report excellent hatches. Eggs, carefully selected from choicest matings, reduced to \$1 per setting, or \$1.50 per two settings. Good hatch guaranteed. Orders filled promptly. Honest dealings. G. Norman Shields, 30 Close Ave., Toronto, Ont.

CHOICE Single-comb Snow-white Leghorn eggs from carefully-selected pens of choicest matings. Bred for heavy layers and typical beauty. Testimonials report excellent hatches. Selected eggs reduced to \$1.50 per setting. Good hatch guaranteed. Orders filled promptly. Honest dealings. G. Norman Shields, 30 Close Ave., Toronto, Ont.

CANADA'S best Single-comb and Rose-comb Black Minorcas; great layers winter and summer; single comb eggs, \$1.50 per 15; Rose-comb eggs, \$2.50 per 15. T. A. Faulds, 11 Victor St., London, Ont.

EGGS—Partridge Wyandottes. J. risewinners. \$1.50 per 15. K South, Britannia, Ont.

EGGS for hatching from extra heavy laying strains—Single-comb White Leghorns—\$1 per 12; \$1.50 per 24; Bnos M. Bear, Bethany, Ont.

EGGS—White Wyandottes (McKellar strain), Barred Rocks (Thompson strain) Per two settings one dollar. W. Bryant, Cairngorm, Ont.

EGGS FOR SALE—My birds won at the Ontario, Hamilton, Owen Sound and Meaford, and seven fall shows, over 800 first prizes. Barred and White Rocks, White and Silver Wyandottes, Brown and White Leghorns, Buff and Black Orpingtons, Black Javas, \$1 per fifteen or \$5 per 100. Blue Andalusians and Rhode Island Reds, \$1.50 per fifteen. F. W. Krouse, Guelph.

FERTILE Pearl guinea fowl eggs for hatching, one dollar per fifteen. Geo. S. Hammond, Poole, Ontario.

FOR SALE—Eggs for hatching from pure-bred Barred Plymouth Rocks, W. Wyandottes and S. O. B. Minorcas, \$1 per setting of 15. Fakin duck eggs, \$1 per 9. E. A. Carson, Ailsa Craig, Ont.

FIFTEEN Barred Rock eggs \$1. Extra good stock. Entire satisfaction guaranteed. A. S. Warden, Aneidia Farm, Bethel, Ont.

INGLENOOK Poultry Farm offers eggs from selected pens of choicest laying strains of White and Brown Leghorns, Black Minorcas and Buff Orpingtons, also a select pen of White Wyandottes for show birds, but not tested for laying quality. Eggs either separate or assorted, \$1 per 15; \$5 per 100. W. H. Smith, 41 Spruce St., Toronto.

PHODM Island Reds—Rose-comb (exclusively). Bred eight years from carefully-selected heavy winter layers; large, brown eggs; \$1.50 per 15. Good hatch guaranteed. Jno. Luscombe, Merton, Ont.

SELECTED LAYERS—Barred Rocks (Hawkin's mating, Boyce's), \$1, fifteen; \$5 per 108 J. F. Roth, Haysville, Ont.

WHITE Wyandottes (exclusively). Best general-purpose fowl, strongly-fertilized eggs from heavy-laying Martin and Dutton strain, one dollar per fifteen. Daniel T. Green, Brantford.

WHITE Rocks—Great layers. Non-sitters. "Andrews strain." Eggs one dollar per fifteen. Hishworth Poultry Yards London.

BIRDS Morgan's Song Restorer will bring your birds back to health and song. 25c postpaid. Bird Foods, Codes, Books, Games and Gold Fish. Free article on Feeding and Care of Birds. DOG Supplies, Rocks and Medicines

Heinmiller & Schaab

Real Estate and Financial Agents, REGINA, - - SASK.

We have some good bargains in improved farms to suit the most particular settler. Prices and terms reasonable. We deal in none but the choicest farm lands. Have also prairie lands for sale in best districts, and good bargains in Regina City property. Correspondence solicited. Any information desired cheerfully given.



30 PERCHERONS

Also Shires, Hackneys and Clydes, have just arrived with our importation from Scotland, England and France, of high-class stallions and mares. Many of them prizewinners in their native lands. Bred by the best breeders. Percherons, blacks and grays, weighing 1,600 to 2,000 pounds. Shires at two years old weighing 1,700 pounds. Clydes, bays and blacks, 4 and 5 years old, weighing 1,300 to 2,000 pounds, bred by the best in Scotland. Our Hackneys are bays and chestnuts, combining size, quality and breeding that cannot be beaten. We have a few first-class young stallions that we will sell at cost, to make room for our next importation; and all for sale at reasonable prices.

HAMILTON & HAWTHORNE, Simcoe, Ont.
80 miles south-west of Toronto on the G. T. R.



Clydesdales, Percherons and Hackneys

I have still on hand 19 Clydesdale stallions, 4 Clydesdale fillies, all imported; Scotland and Canadian prizewinners; 3 years old, that will make 3,000-lb. horses of choicest quality and richest breeding; 4 black Percheron stallions, 3 years old, big, flashy, quality horses, and 6 Hackney stallions, 1st-prize and championship horses among them. Will sell reasonable and on terms to suit.

DR. T. H. HASSARD, Millbrook P.O. and Stn.



GRAHAM BROS.
"Gairnbrogie," CLAREMONT,
IMPORTERS OF
HACKNEYS and CLYDEDALES

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.

40 WAVERLY HACKNEYS 40

Imported Stallions and Fillies.



Every one a high-class actor and a show animal. Splendidly-matched pairs and singles. Positively the highest class lot of Hackneys to be found on any one farm in America. All ages. Also 4 imported Clydesdale fillies. A big, flashy lot, full of style and quality.

ROBERT BEITH,
Bowmanville P. O. and Station.
Long-distance 'Phone.

W. C. KIDD, LISTOWEL, ONT.

Importer of Clydesdales, Shires, Percherons, Belgians, Hackneys, Standard-breds and Thoroughbreds

of highest possible quality and richest breeding. Have sold as many stallions the last year as any man in the business, with complete satisfaction in every case. I have always a large number of high-class horses on hand. My motto: "None but the best, and a straight deal." Will be pleased to hear from any one wanting a rare good one. Terms to suit. Long-distance 'phone. LISTOWEL P.O. AND STATION.

SMITH & RICHARDSON,
COLUMBUS, ONT.,



have now on hand a choice selection of Clydesdale Stallions, combining size and quality with straight, true action. Breeding unsurpassed. Individuality unexcelled. Scotland prizewinners. Also a few Canadian-bred stallions, and Imp. and Canadian-bred fillies.

Long-distance 'Phone Myrtle Station, C. P. R.
Brooklin or Oshawa, G. T. R.

Clydesdale Stallions!

I have on hand for sale another choice lot of Clydesdale stallions, newly imported, ranging in age from two to six, with plenty of size, style and good true action. Also one first-class Hackney. **Wm. Colquhoun, Mitchell, Ont.**
'Phone to residence.



Graham & Renfrew's
CLYDEDALES 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 4433.

GRAHAM & RENFREW, BEDFORD PARK, ONT.

QUESTIONS AND ANSWERS.
Miscellaneous.

INDIANS HUNTING.

Has an Indian a right to go hunting when he likes and where he likes?
Ontario. A SUBSCRIBER.

Ans.—Certainly not. Any exceptions in his favor with reference to the provisions of the Ontario Game Protection Act (of 1900), and any special privileges accorded to him, are indicated by section 32 of that Act, and sections 66, 124, 125, 126 and 165 of Chapter 81 of the Dominion Act respecting Indians (revised statutes of Canada, 1906). Generally speaking, as to hunting elsewhere than on the Indian reserves or hunting grounds, he is in the same position in relation to the fish and game laws as any other person.

PLANTING RASPBERRIES.

I have a sand farm, and was wishing to plant a few raspberries this spring. Please let me know what preparation the soil would require, the time of planting, the distance apart of the plants, and any other information that you can give on the matter. Would the same rules apply to the growth of the black caps?
A. J. B.

Ans.—Black-cap plants are obtained by burying the tips of the growing canes, late in the summer, when they begin to thicken and throw out roots. When thoroughly rooted, the layer is severed, and the "tip" is used for planting. Reds throw up numerous suckers from the roots, and these are most often used in planting, though root cuttings may be used. For near-by planting, the early suckers, moved in early summer, may be used. Planting may be done either in spring or fall. Spring is preferable for black caps. Prepare the land deeply and thoroughly, working in, if necessary, a fairly liberal application of manure. Plant in rows, six feet apart, with plants five feet apart in the rows. Give clean, thorough cultivation, until about the beginning of August, never allowing the soil to become crusted. Pinch off any blossoms that form during the summer, so that the plants may not waste their energies trying to produce fruit the first year. Plants secured from young plantations are preferable, since they possess greater vigor and are less likely to carry disease.

CEMENT-CONCRETE CELLAR WALL.

1. How much cement will be required to build a concrete wall in a cellar, 26 feet by 36 feet by 7 feet by 1 foot?
2. Is it necessary to have the walls 1 foot thick? There is a cellar wall in this vicinity only 8 inches thick.
3. There is also a cellar wall in this vicinity built of broken stone and a mortar made of one part cement, three of lime and five of sand. What do you think of a wall built like that?
4. In placing a house on level ground, and wishing to have a cellar under it seven feet deep, at what depth would you start the foundation?
E. McF.
P. E. I.

Ans.—1 and 2. We advise making the wall not less than ten inches thick, and a foot is better. A good eight-inch wall would undoubtedly support an ordinary frame house, but one would feel rather safer with a stronger foundation. Besides, the thicker the wall, the more effective it is in keeping out frost. The wall above mentioned, if made of concrete, mixed one part Portland cement to ten of gravel and small or broken stone, would require about 25 barrels of cement. The gravel should contain a proportion of fine, gritty—but not earthy—material. If it is all coarse, use one-third coarse, clean sand and two-thirds gravel. By imbedding all the field stone possible, the amount of cement might be reduced to rather less than 25 barrels.

3. The mixture of lime and cement is not to be recommended. It is not an economy, and does not make so satisfactory a wall as all cement.

4. All depends on the drainage. The nearer the house is to the ground, the easier it is to heat in winter and keep cool in summer, the better for the cellar, and the more convenient for the housewife. For appearance sake, and for convenience in lighting the cellar, the cellar wall may extend a foot and a half above ground level, but need not be more.



Warranted to give satisfaction.

GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases of Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Toronto, Ont.

Kendall's Spavin Cure

Here is just one case out of thousands—
HAMIOTA, MAN.,
March 13, '06.
"This is to testify to the value of Kendall's Spavin Cure as a Spavin Remedy and Liniment for general use. I used it for Spavins on a colt two years ago, and found it a complete cure."
Wm. Jurgens.
Save your horse with Kendall's—the sure cure for all Bony Growths, Swellings and Lameness. \$1 a bottle—6 for \$5. Our great book—"Treatise on the Horse"—free from dealers or
Dr. S. J. Kendall Co., Essexburg Falls, Vermont, U.S.A.

ABSORBINE

Removes Bursal Enlargements, Thickened Tissues, Inflamed Parts, and any Puff or Swelling, Cures Lameness, Allays Pain without laying the horse up. Does not blister, stain or remove the hair. \$2.00 a bottle, delivered. Pamphlet 1-C free.
ABSORBINE, JR., for maning, \$1.00 bottle. Cures Syphilitic, Weeping, Sore, Strains, Gouty or Rheumatic Deposits, reduces Varicose Veins, Varicocoele, Hydrocoele, Allays pain. Book free. Genuine mfd. only by
W. F. Young, P. O. F., 73 Monmouth St., Springfield, Mass.
Canadian Agents, Lyman, Sons & Co., Montreal.

Imp. Clydesdale Fillies!



Have now on hand about a dozen, nearly all imported. A high-class lot and very richly bred. Combine size and quality, and all in foal. Also one-year-old stallion. Write me, or come and see them.
Nelson Wagg, Claremont P.O. & Stn.

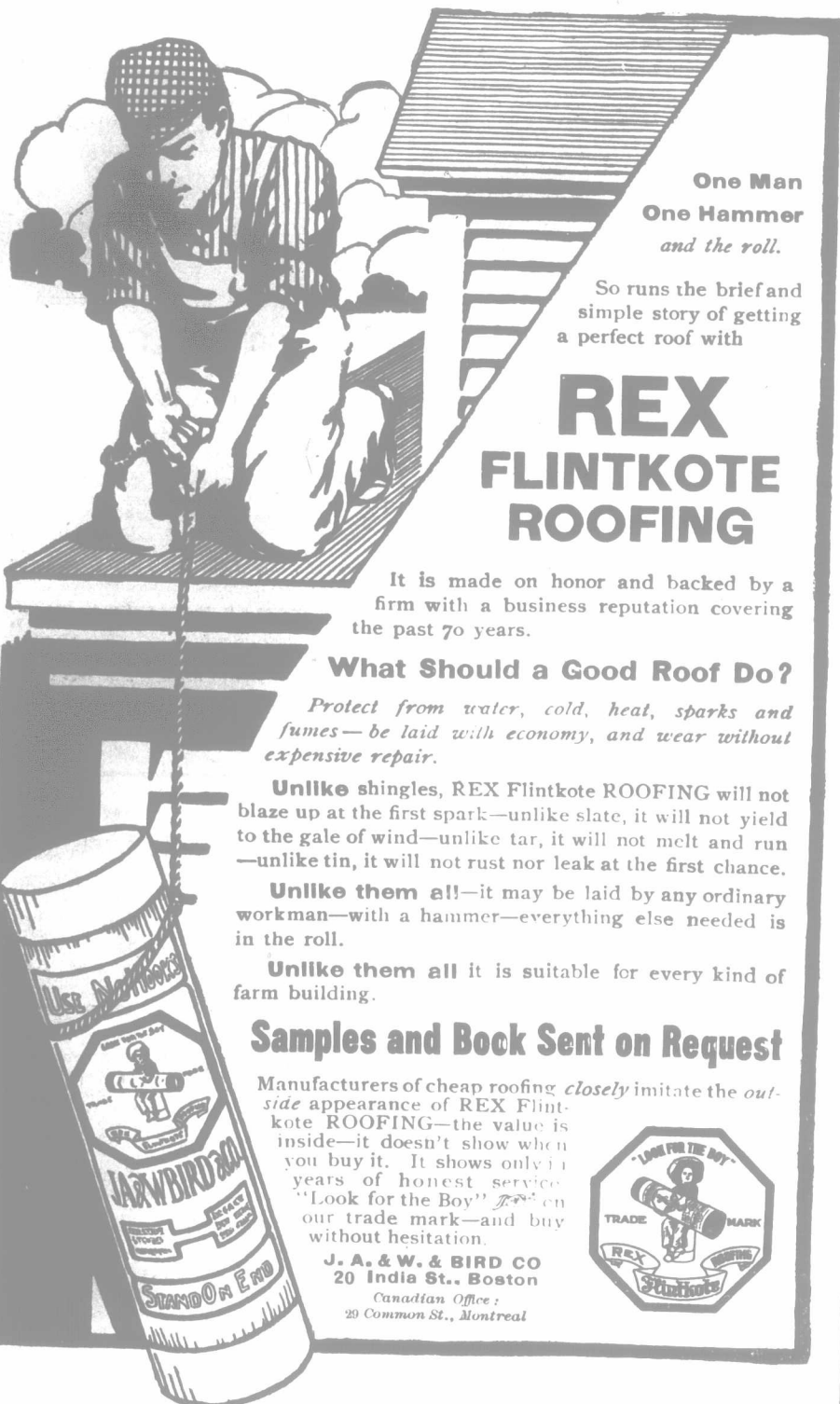
SHETLAND PONIES!

P. McCullough & Son, Breeders and importers of Shetland ponies, Markdale, Ont. We showed 8 ponies at Toronto Exhibition in 1906, and got 8 prizes: 3 firsts, 4 seconds and 1 third. All our ponies are imported. Our stallion, Foxglove, took first prize at Toronto. Our mare, Bessie, took first prize, and their foal, Bruce, took first prize also. Good accommodation for mares sent from a distance to breed. Ponies for sale. Our address: Markdale P.O., Ont.

CLYDEDALES and Shorthorns—Four Imp. Clyde mares, 2 and 3 years old, bred in the purple—two of them in foal. One filly, rising 1 year, sired by the great Macqueen—registered. Three Shorthorn bulls from 8 to 19 months Scotch. A few heifers. All sired by Scotland's Fame=47897=, by Nonpareil Archer (Imp.), John Forgie, Claremont P. O. and Station.

CLYDEDALES AND SHORTHORNS—Canadian-bred, registered. One stallion, rising 3, by Imp. Macqueen. Two stallions, rising two, by Imp. Primrose. Also my stock bull, Gilbert Logan 35424. **W. D. PUGH,** Claremont P. O. and Station.

"Lady," began the wanderer, "kin I chop some wood fur you."
"No, thank you," replied the up-to-date housewife; "we cook and heat entirely by electricity."
"Nothin' I kin do to git a bite to eat?"
"Yes. If you care to peel the shocks from the electric wires I'll allow you to eat the currents."



**One Man
One Hammer
and the roll.**

So runs the brief and simple story of getting a perfect roof with

REX FLINTKOTE ROOFING

It is made on honor and backed by a firm with a business reputation covering the past 70 years.

What Should a Good Roof Do?

Protect from water, cold, heat, sparks and fumes—be laid with economy, and wear without expensive repair.

Unlike shingles, REX Flintkote ROOFING will not blaze up at the first spark—unlike slate, it will not yield to the gale of wind—unlike tar, it will not melt and run—unlike tin, it will not rust nor leak at the first chance.


Unlike them all—it may be laid by any ordinary workman—with a hammer—everything else needed is in the roll.

Unlike them all it is suitable for every kind of farm building.

Samples and Book Sent on Request

Manufacturers of cheap roofing closely imitate the outside appearance of REX Flintkote ROOFING—the value is inside—it doesn't show when you buy it. It shows only 10 years of honest service—"Look for the Boy" on our trade mark—and buy without hesitation.

J. A. & W. & BIRD CO
20 India St., Boston
Canadian Office:
29 Common St., Montreal




Unreserved Sale of Rawlinson Bros. Hackneys.

In consequence of MESSRS. RAWLINSON BROS. having sold their ranch, and who are leaving the country, their entire stock of highly-bred pedigree Hackneys must be disposed of, and will be sold by auction in JULY next, at the ranch, 11 miles west of Calgary. The pedigree Hackneys consist of 3 IMPORTED STALLIONS, 6 HOME-BRED STALLIONS, 48 BROOD MARES, 12 FOUR-YEAR-OLD FILLES, 9 THREE-YEAR-OLD FILLES, 8 TWO-YEAR-OLD FILLES, 12 YEARLING FILLES. ALSO 97 HEAD OF UNREGISTERED MARES, FILLES AND GELDINGS. Nearly all the best mares the champion Robin Adair ever got in this stud are included in this sale, together with the full sisters to Saxon, Pricilla and Minona, who won everything in sight at all the eastern shows, including the championships of both sexes at the St. Louis World's Fair. It is the greatest collection of high-class Hackneys that is ever likely to be offered again in Canada for many years. Catalogues of sale will be ready for distribution on June 1st, 1907, and may be obtained from

Jordison Bros., Auctioneers, P. O. Box 1172, Calgary, Alta.



**No. 10 Piano Box Buggy
Price \$57.00.**

Fourteen Years Selling Direct

We are the only manufacturers of Vehicles and Harness in Canada selling direct to the consumer, and have been doing business in this way for 14 years. We have no agents, but ship anywhere for examination. You are out nothing if not satisfied. Our prices represent the cost of making, plus our profit. Our large free catalogue shows complete line and accessories. Send for it to-day.

International Carriage Co., BRIGHTON, ONTARIO.

COSSIP.

Messrs. S. J. Pearson, Son & Co., Meadowvale, Ont., write: "We have sold some very fine young Shorthorn bulls lately, and have some good, low-down, thick-fleshed, smooth young bulls left yet. Some of them will make show bulls. Have had a big demand for Berkshires, of which we have a very prolific strain. Our old sows all farrowed twelve and thirteen pigs each this spring, and several of our young sows have farrowed ten and twelve pigs. We believe we have Berkshires as prolific as any other breed of pigs."

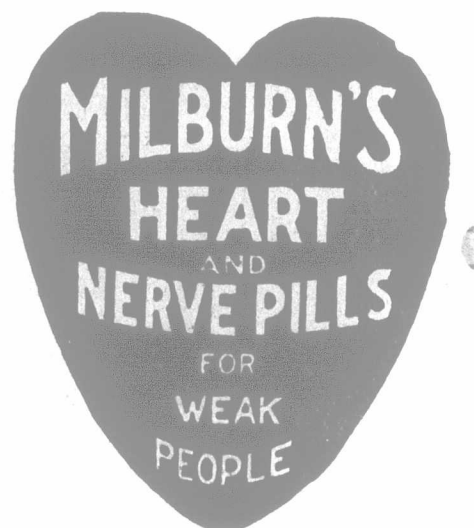
Mr. Douglas Thomson, Woodstock, Ont., writes: "My Berkshires were never in better shape than at present; every sow has reared me a splendid litter. Most of my pigs are sired by the great stock boar, Woodstock Laddie, the son of Polgate Doctor (imp.), the boar that was claimed by the best judges to be the greatest breeding boar in America. He was a son of Baron Kitchener, who, at eight years of age, won the championship at the great Oxford Show. He is one of the greatest sires living to-day, and the majority of the sows in the great Polgate herd, owned by the Duchess of Devonshire, are sired by him. Surely it would be a good idea for any of our customers to have a little of this blood to breed from."

Dr. T. H. Hassard, of Millbrook, Ont., has lately sold to Mr. Andrew Graham, of Garman, Manitoba, for the longest price of the year, the wonderfully-good Clydesdale stallion, Vigorous (imp.), by Up-to-Time, one of the greatest sons of Baron's Pride, and out of a daughter of Helvidere, by Knight of Lothian, by Darnley, thus making him one of the richest and most fashionably-bred Clyde stallions alive. Vigorous, we have considered one of the best all-round draft horses that has been imported, combining to a high degree great size, an exceptionally smooth, well-balanced conformation, and a grand set of legs and feet, with true and faultless action. It is a distinct loss to Ontario that such a superb draft stallion should have been allowed to leave the Province. Good luck to his new owner is the wish of the writer.

The attention of horse breeders and fanciers is called to the announcement in our advertising columns in this issue of an important, unreserved auction sale in England, on June 17th, the Monday following the International Horse Show, in London, when Mr. Douglas H. Grand, as auctioneer, a native Canadian, well known to horsemen in this country as a critical judge, will dispose of a large number of prizewinning Hackneys and harness horses, the property of R. G. Heaton, Esq., of Chatteris, Cambridge-shire. Included in the sale will be many famous and prizewinning Hackney mares with their foals, and a number of colts and fillies by such great sires as Garton Duke of Connaught, Mathias, St. Thomas and others. Also a grand lot of harness mares and geldings, sired by noted Hackney stallions. The Ferry Farm Stud of Mr. Heaton has produced many notable horses, including the great Forest King, champion harness horse of America, and many English championship winners. Mr. Grand, who is now a resident of England, and was formerly prominent in horse-dealing circles in London, Ont., Toronto, and New York, and who is a connoisseur in harness-horse stock, and enjoys an excellent reputation for fair dealing, speaks in the highest terms of the character and quality of this offering. Persons interested should look up the advertisement, and send for the catalogue, mentioning "The Farmer's Advocate."

Wonderful Development in Bicycle Industry.

Figures Show Great Increase in Output. Of late, considerable has been published to the effect that bicycles are regaining some of their lost popularity, and figures substantiating the contention are contained in a statement given out by a member of the Association of Bicycle Manufacturers, which has been in session in Buffalo. He says that the makers expect to sell 750,000 bicycles this year. Last season they disposed of 500,000, which was double the output of 1905.



Are a True Heart Tonic.

Nerve Food and Blood Enricher. They build up and renew all the worn out and wasted tissues of the body, and restore perfect health and vigor to the entire system.

Nervousness, Sleeplessness, Nervous Prostration, Brain Fog, Lack of Vitality, After Effects of La Grippe, Anemia, Weak and Dizzy Spells, Loss of Memory, Palpitation of the Heart, Loss of Energy, Shortness of Breath, etc., can all be cured by using

Milburn's Heart and Nerve Pills.
Price 50c. a box or 3 for \$1.25. All dealers or
THE T. MILBURN CO., LIMITED, Toronto, Ont.



VIRGINIA FARMS

\$10 and Up Per Acre

In "THE GREEN FIELDS OF VIRGINIA" you can grow better crops and raise finer stock at less expense than elsewhere. Close to large eastern markets. Excellent church, school, and social advantages. Abundance of water and grass; short, mild winters; cheap land and labor; and excellent shipping facilities make this section very attractive to homeseekers and investors. You can buy a

COMPLETE FARM FOR \$500 with comfortable, new three-room cottage, and 25 acres for vegetables, fruit and poultry.

Write for our beautiful pamphlet, lists of farms, and excursion rates.

F. H. LA BAUME,
Agr. & Ind. Agt.
Norfolk & Western Ry.
Box 90 Roanoke, Va.

N. W. NORFOLK & WESTERN
Ry. Co.



Bog Spavin

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

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

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

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

Broxwood Herefords

Cows, heifers and calves

For Sale.

R. J. PENHALL, Nover, Ont.

FOREST VIEW FARM HEREFORDS
Four bulls from 8 to 19 months old; prizewinners and from prizewinning stock. Several heifers bred on the same lines; choice individuals for sale.
JOHN A. GOVENLOCK,
Forest Sta. and P.O.

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. LOYERER, Coldwater P.O. and St.

READ THIS! We are offering a dark red Durham bull 14 months old weighing 1,000 lbs., for \$75. A two-year-old bull, light roan, heavy boned, extra good getter \$85. Females equally cheap.
W. R. BOWMAN, Mt. Forest, Ontario.

First Annual Sale

OF 40 REGISTERED

Holstein Cattle

BY AUCTION

AT THE FAIR GROUNDS, BROCKVILLE, ONT.
COMMENCING AT 1 O'CLOCK, SHARP.

Thursday, May 23, '07

SALE UNDER TENT. NO POSTPONEMENT FOR WEATHER. These are the best lot of Holstein cattle ever offered to the public by auction in Canada. As we propose making this an annual event, all will be sold without reserve or by-bidding. In this sale are 7 bulls from 9 months to 3 years old, 4 Advanced Registry cows—the kind we all like—with butter records over 20 pounds each in 7 days. Younger animals of equal merit, many of which are tested.

TERMS—Cash, or bankable paper at five months, bearing 6% interest.

Catalogues ready May 10.

Cheap rates on all railways.

G. A. GILROY, Glen Buell, Ont.
GORDON MANHARD, Manhard, Ont. } Consignors.

B. V. KELLY, Syracuse, N. Y., Auctioneer.

Headquarters:
Central Hotel, Brockville, Ontario.

By **MR. DOUGLAS H. GRAND, Auctioneer.**

Important Unreserved Sale

OF PRIZEWINNING PEDIGREE

HACKNEYS

AND

HARNES HORSES

The property of **R. G. HEATON, ESQ.,** at The Ferry Stud Farm, Chatteris, Cambridgeshire, England, on

Monday, June 17th, 1907

The Monday following the International and Richmond Shows.

Included in the sale there will be such famous mares (with their foals) as Orange Blossom (champion mare, H. S., London), Surprise, Eone, Welcome, Orange Girl, Gay Ophelia, Hersey, La Cigale, and a number of colts and fillies out of these mares by Garton Duke of Connaught, Mathias St. Thomas. Also a superb collection of **Harness Mares and Geldings**, by Goldfinder VI., Gentleman John, Royal Danegelt, Polonius, Lord Hamlet, Ganymede, Diplomatist, etc.

The following are some of the prominent horses sold from this stud during the last few years: Forest King, champion harness horse in America; Hildred, champion mare in New York; Plymouth (champion) and Hildred, champion 15.2 pair, New York; Hopwood Squire and Jubilee King, twice champion pair, Richmond Show; Radiant, champion H. S., London Show, 1906; Lisington Kit Kat, champion pony, H. S., London Show, 1906-7; Kitty Grey and The Baron, champion lady's pair, New York; Marvellous, novice champion, Richmond; Gentleman John, twice champion, New York; Lord Beley II., champion, New York; Prince Compton, champion, New York; Meanwood Majesty, champion, New York; Muscatel, champion Brussels Show; Diplomatist, twice champion, H. S., London; Bonwick Belle, champion mare, H. S., London; Stella, champion mare, H. S., London; Queen of the South, champion mare, H. S., London; Titania, junior champion mare, H. S., London.

CATALOGUES UPON APPLICATION TO

DOUGLAS H. GRAND, Auctioneer, OR **R. G. HEATON, ESQ.,**
Welch Harp Stables, The Ferry Stud Farm,
Hendon, Middlesex, Eng. Chatteris, Cambridgeshire.

QUESTIONS AND ANSWERS.
Miscellaneous.

UNPAID WAGES.

A left the employ of B last February, B paying A his wages, except \$10, which he promised to send on. B has not done so yet. A has written for it three times, not receiving answers to his last two letters.

1. What would be the best measures for A to take to get the money?
2. Would it pay A to go to any trouble to get it?

Ontario. A SUBSCRIBER.

Ans.—1. Write him again, proposing suit if payment be not made by a stated date, and then, if demand is not complied with, hand the claim to a lawyer for collection.
2. Yes.

FEEDING PREGNANT MARE.

Mare is due to foal the last of May. Expect to be working her up to the time of foaling. How would you advise feeding her so she will have a good flow of milk? Have been advised to feed her a small quantity of wheat a few weeks before foaling. What do you think of that? Is Herbageum good for to feed her?

L. A.

Ans.—Do not feed over-heavy until parturition takes place. In place of wheat, we should prefer to rely on oats and bran, with possibly a feed of boiled barley now and then for a change. After she foals, the ration of bran and oats may be gradually increased. Herbageum may help somewhat to increase the milk flow, although there is no necessity of using any condimental feed, especially if she be on grass.

COMPUTATION OF DOWER.

A had an estate composed of one hundred acres, together with personal property belonging thereto. This estate had a considerable mortgage on it. A, who is a married man, dies, leaving a will in which there is no provision from the said estate made for the wife. In the event of the wife claiming her third, would it be one-third of the whole estate, mortgage included, or one-third of estate, mortgage exempted?

Ontario. SUBSCRIBER.

Ans.—The widow's dower, or thirds, would be based upon the full value of the land regardless of the mortgage. It depends, however, largely upon the circumstances which attended the giving of the mortgage. If, for instance, it was for balance of purchase money in respect of the mortgaged land, her dower would be out of the difference between the value of the land and the mortgage indebtedness only.

DISOWNED LAMB.

A ewe, about two weeks ago, gave birth to two lambs; the first came all right; the second came backwards with help. The ewe licked both and let both suck at first, but now disowns the one that came backwards, and no trick or scheme will induce or fool her to let it suck, except force by holding her. What are likely causes and remedy for same?

WELLESLEY FARMER.

Ans.—It is unusual for a ewe to disown a lamb, even one of twins, after she has once acknowledged it as her own, and this case is not easily accounted for. We would tie her by the neck in a small pen made of hurdles, and hold her till the rejected lamb gets strong enough to help itself, when it will learn to partake when the other lamb is sucking. Sometimes the scheme of putting some of the milk of the ewe on the head and rump of the lamb, and, lastly, on her own nose works a cure of her naughtiness.

Hampshire Down sheep have rapidly grown in favor in Canada and the United States in the last few years, as a strong, vigorous, prolific and profitable breed, and there is probably no breed more popular with a larger number of English farmers. An advertisement of the sale, by auction, to take place on July 19th, of the grand flock of Mr. T. F. Buxton, of Hereford, England, appears elsewhere in this paper. The offering consists of 800 head, including fitted sheep. Catalogues of this and about a score of other sales of Hampshires, to be held in August, may be had by addressing the auctioneers, Messrs. Waters and Rawlence, Canal, Salisbury, England.

MILK CANS ROB YOU

Look through a microscope at milk set to cream in pans or cans and you'll see how they rob you. You'll see the caseine—the cheese part—forming a spider web all through the milk. You'll see this web growing thicker and thicker until it forms solid curd. How can you expect all the cream to rise through that? It can't. This



caseine web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using Sharpies Dairy Tubular Cream Separator, you stop that loss.

Sharpies Dairy Tubular Cream Separators have 10,000 times more skimming force than pans or cans, and twice as much as any other separator. They get all the cream—get it quick—get it free from dirt and in the best condition for making Gilt Edge Butter. Caseine don't bother the Tubular. The Tubular is positively certain to greatly increase your dairy profits, so write at once for catalog I-18 and our valuable free book, "Business Dairying."

The Sharpies Separator Co.
West Chester, Pa.
Toronto, Can. Chicago, Ill.

Consumption Book

If you are suffering with con FREE sumption, catarrh, bronchitis, asthma, or any other throat or lung trouble, write for a free copy of this wonderful book. It tells, in simple language, how to cure yours if at home. Write today to THE YONKERMANN CONSUMPTION REMEDY CO., 132 Rose St., Kalamazoo, Mich.

MONEY IN CANARIES

More profitable than poultry. Experience unnecessary. We give advice free. Our new egg book, "Money in Canaries," tells all about it. With book we send free, if you name the paper, a red packet BIRD BREAD. Also, "How to Rip Birds of Lice," and "Bird Magazines." Send for today; stamps or coin. Refunded if you buy birds from us. Birds shipped anywhere any time. Write us before buying. Ad-dress:

COTTAM BIRD SEED
38 Bathurst St., London, Ont.

Put Good Grazers on Your Grass!

The **HEREFORDS** are the range cattle par excellence. They grow near the ground. They make flesh rapidly and easily, and they will make money for you. Over 100 head of breeding stock of the most approved strains on hand at low prices.

A. S. HUNTER, DURHAM, ONTARIO.

Sunnyside Herefords

Present offering: 10 bulls, serviceable ages; 4 of them over 3 years; big, strong, sappy fellows; ready for heavy service or rough usage on the ranch; also breeding cows at prices that will move them. Must make room for this year's crop of calves. Come and see them, or write and tell me what you want. **ARTHUR F. O'NEIL**, Maple Grove, Ont., Middlesex Co.

SHORTHORNS & OXFORD DOWNS

Heads headed by Protector, Imp., Vol. 52 B. For sale: Bulls from six to twenty months—three from imported dams and imported sires. Also females in calf. Also eleven registered Oxford Down yearling ewes. All at reasonable prices. **John McFarlane & W. H. Ford**, Dutton, Ont., Elgin Co. M. C. R. and P. M. Railways. Long-distance phone.

ATHELSTANE SHORTHORNS!

Pure Scotch Rosewood, Rossland and Countess strains. Ten one and two year old heifers of the above strains, the get of the Village-bred son of Imp. Knuckle Duster, Vicar 3 1856, and the Bruce Mayflower bull, Star Prince; also young bulls from 6 to 12 months old. Prices reasonable. **WM. WALDIS**, Box 324, Stratford, Ont.

Scotch Shorthorns Clarets, English Ladys, Mildreds, Nonpareils, Stamford, offerings by Springhurst 4864 and Mildred's Royal. Prices moderate. **F. W. EWING**, Sarem P. O., Elora Station.

Great Dispersion Sale

OF THE SITTITON GROVE HERD OF IMPORTED
AND CANADIAN-BRED

Scotch Shorthorn Cattle

Established Over 50 Years.

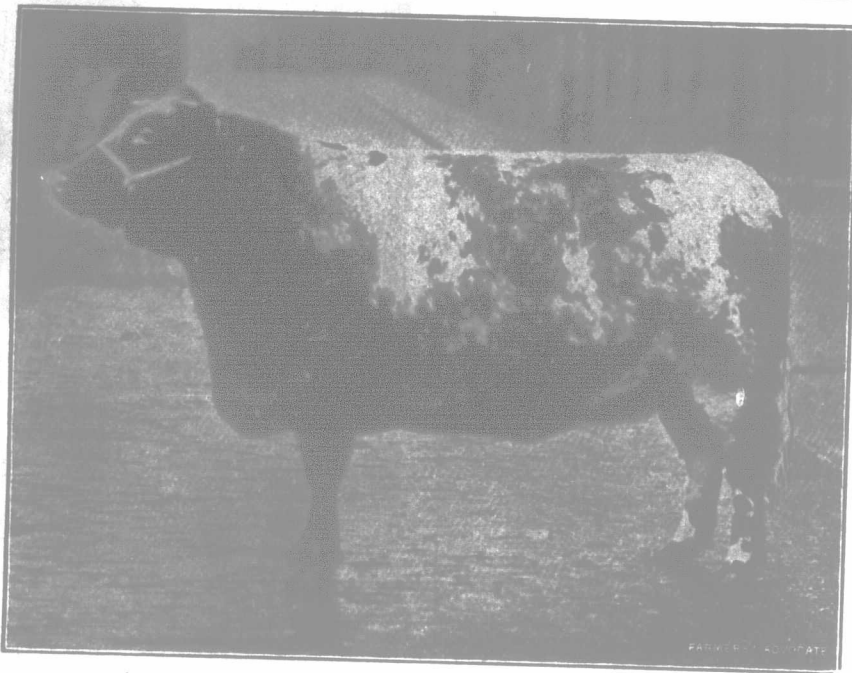
THE PROPERTY OF

JAMES I. DAVIDSON, BALSAM, ONT.

AT THE FARM, SITTITON GROVE, ON

Friday, May 24, 1907

OVER 50 HEAD OF STRAIGHT SCOTCH BREEDING. NEARLY
ALL OF CRUICKSHANK STRAINS.



THIS is the noted herd established by the late James I. Davidson, Sr., representing the Golden Drop, Juanita, Joyce, Village, Wimple, Bessie, Victoria Royal, Lovely and Duchess of Gloster strains; including some 10 bulls fit for service, among which are the two stock bulls, Village Secret = 51812=, one of the very best bulls in Canada, and Rosebud Champion = 55760=, closely related to Mr. Duthie's champion bull, Pride of Avon. Also a large number of very choice heifers—high-class show stuff among them. All in splendid condition. Positively one of the best herds in the country, and all will be sold. Conveyances will meet C. P. R. trains at Glen Major station, evening before and morning of sale, also Myrtle, G. T. R., on morning of sale. Terms: Cash, unless other arrangements are made before sale commences. Catalogues. Single fare rates on all railways.

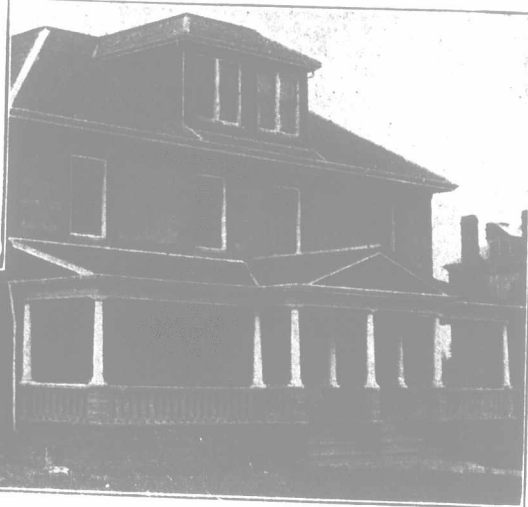
Geo. P. Bellows
Capt. T. E. Robson } Auctioneers.
Geo. Jackson

James I. Davidson,
Balsam, Ont.

THE DUNN HOLLOW CONCRETE BLOCK MACHINE.

Third year in the market, and every machine sold doing good work. Simple in construction and operation. Suitable for block-making for a single building, or for a regular block making business. A moderate priced machine; compact and portable. No power required. Has suited every purchaser, and will please you. Western shipments made from our Winnipeg warehouse.

Write us for catalogue.



Address Dept. O. THE JAS. STEWART MFG. CO., Ltd., Woodstock, Ont.

When Writing Please Mention Advocate

QUESTIONS AND ANSWERS. Miscellaneous.

REGISTERING CLYDESDALES.

Whom should I address for blank forms of application for registration in the Clydesdale Studbook of Canada?

W. V.

Ans.—All correspondence relating to Canadian pedigree matters (except in case of Holstein-Friesian Association), address simply "The Accountant," National Live-stock Records, Dept. Agriculture, Ottawa.

OILING ROPES.

Tell me what kind of oil or composition is best for preservation of manilla rope, and how to apply same. G. M.

Ans.—Ropes in use only once a year, such as those for horse forks, do not require oiling, but it improves those in more constant use. Any good machine oil will serve the purpose. Raw linseed oil is said to harden the rope. Rub on thoroughly with brush or cloth, or run through a vessel containing the oil.

PIG FEEDING.

I have been feeding a grain ration and mangels three times a day to a batch of pigs. They have done well. Would it be more profitable to feed the same amount of grain in two meals, with mangels or alfalfa at noon? E. N. T.

Ans.—The pig, like the horse, has a comparatively small stomach, and does better, as a rule, fed three times a day, or oftener, rather than twice. Two feeds of grain and one of alfalfa or mangels would do fairly well, but we would prefer three grain feeds and an extra one or two of roots or alfalfa.

STALL PARTITIONS.

Give your idea on partitions between stalls, as I understand in some of the new stables built they do away with them. I would not want to put them in if they would do as well without them. J. W. G.

Ans.—So far as we have observed, those who have dispensed with stall partitions like the new plan well, and where any division is used, the simpler the better. Some dairymen think that cows are liable to make trouble for the milkers by crowding when there are no partitions. Correspondence is invited.

TRADE TOPIC.

FARMERS' WEATHER INSURANCE.
—A mutual Farmers' Weather Insurance Company, the first of its kind in Ontario, organized and incorporated in 1904, the head office of which is located at Grand Valley, Wellington County, Ontario, advertises in "The Farmer's Advocate." This company insures farm houses and outbuildings against loss or damage by wind storms, cyclones and tornadoes. Live stock are also held covered against loss or damage by the blowing down of trees. It is purely a farmers' company. Claims to have 2,300 policies already in force; assets \$75,000, and insurance in force to the extent of \$2,500,000. Agents are wanted, and business is solicited. Farmers' Weather Insurance Companies, we believe, have given good satisfaction in Western Canada.

GOSSIP.

Mr. Wm. Willis, Pine Ridge Farm, Newmarket, Ont., writes: "Our Jerseys are doing well; sales have been very good. Have two very fine bull calves yet, one seven months old, from Slick's Pet, a handsome young cow, a splendid milker and very persistent; the other nearly two months old, out of Dido of Pine Ridge, a granddaughter of 100 Per Cent. These calves are sired by Earl Denton, of D. P. F., a grandson of Flying Fox, and his dam is Nun (Throp's) Sussanne (imp.). We have a very fine lot of heifers from the bull, Earl Denton, which we got from the Massey's estate in 1901. He has grown into a fine large bull, and eight out of ten of his calves have been heifers. We have several good cows in the herd and some heifers for sale."

Lump Jaw

The first remedy to cure Lump Jaw was Fleming's Lump Jaw Cure and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling together with exhaustive information on Lump Jaw and its treatment, is given in Fleming's Vest-Pocket Veterinary Adviser. Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.

FLEMING BROS., Chemists,
78 Church Street, Toronto, Ontario.

SHORTHORNS

Six superior yearling bulls, some of them out of great milch cows; heifers of all ages. A lot of very big yearlings and a few heifer calves cheap.

CLYDESDALES

Two mares 5 years old, one an extra good one, and a pair of geldings 4 years old.

JAS. McARTHUR, Gobles, Ont.

JOHN LEE & SONS, Highgate, Ont.



SHORTHORNS & LINCOLNS

The champion herd of High, Kent and Essex counties.

For Sale: 6 choice young bulls, 3 reds and 3 roans, of grand type and quality; also good selection of young cows and heifers. Visitors welcome.

Glenora Shorthorns and Lincolns

Imp. Marr Boan Ladys, Missies, Miss Ramsdens and Urys. Strictly high-class in quality and breeding. Winners at Canada's leading fairs. Five grand young bulls, from 9 to 12 months old. Two from great milking dams (over 50 lbs. per day). Prices right. Come and see them, and you will buy. One hundred head of Dudding-bred Lincolns. Grand crop of lambs from imp. sires and dams.

A. D. MCGUGAN, Rodney, Ont.

DOMINION SHORTHORN HERDBOOK WANTED.

The Dominion Shorthorn Breeders' Association will pay \$1 each for the following volumes of their herdbooks: Volumes 8, 9, 12, 13, 14, 15, 16, 17 and 19. Parties having these volumes to part with, write for wrappers and mailing instructions to

W. G. Pettit, Sec.-Treas., Freeman, Ont.

Pleasant Valley Shorthorns

Herd headed by Imp. Ben Lomond = 45160=, assisted by Bud's Emblem, 2nd-prize senior bull at Toronto, 1906, son of Old Lancaster 50068. Correspondence solicited. Inspection invited.

GEORGE AMOS & SON, Moffat Sta. & P.O., C.P.R.
Farm 11 miles east of City of Guelph.

SUNNYSIDE STOCK FARM



Bulls in service: Blythome Ruler = 52236=, Trout Creek Stamp = 67650=, by Pride of Windsor (imp.) = 50071= (4899). Stock for sale at all times.

James Gibb,
Brookdale, Ont.

Shorthorns

—Scotch and milking strains. As good milking strains as there are in Canada. Some pure Scotch. Can supply bulls of either strain; also a number of heifers from 1 to 3 years of age. Will be sold right. **Dr. T. S. Sproule, M.P., Markdale P.O. & Sta.**

Spring Valley Shorthorns

Bulls in service are: Bapton Chancellor (imp.) = 40359= (78286), Clipper Chief (imp.) = 64220=.

Stock for sale at all times.

KYLE BROS., Ayr, Ontario.

Shorthorns for Sale—Five choice bulls, all from imp. sire, and three of them from imp. dams; also females of all ages.

Scotland's Fame (imp.) at head of herd.

ALEX. BURNS, Rockwood P.O. and G.T.R. Sta.

Brown Lee Shorthorns!

Nonpareil Victor = 63307= at head of herd. Young stock for sale at all times. Prices very reasonable. **Ayr, C. P. R.; Drumbo, G. T. R.**

DOUGLAS BROWN, Ayr, Ont.

8 SHORTHORN BULLS FOR SALE

from 10 months to two years old. Several of their dams or grandams winners in Toronto. Prices very moderate. **J. & W. RUSSELL, Richmond Hill, Ont.**

Belmar Parc Shorthorns

We think we have as great a lot of young show animals as has ever been on one farm in Canada. Our herd is large, the individuals are choice and of the richest Scotch breeding, and our prices are moderate. 15 young bulls. 25 heifers under three years. A splendid group of breeding and show matrons. Mostly in calf to the champion Marigold Sailor =53258= and the prizewinning Nonpareil Archer (imp.) =45202=. Pembroke is on the main line of the C. P. R. and the Canada Atlantic Division of the G. T. R. You can leave Toronto 11 a. m., arrive Pembroke 12.05 p. m., see the herd, and arrive Toronto next morning at 7.20. We prefer you to see the cattle, but if you can't spare the time we take special pride in filling mail orders satisfactorily.

John Douglas, Manager.

PETER WHITE, Pembroke, Ont.

R. A. & J. A. WATT

Offer at reduced prices two highly-bred red SHORTHORN BULL CALVES

They are the last pair they have to offer, and are not the poorest of the great dozen they sold this winter. If you want them, come and see them at once.

Elera Station, G.T.R. & C.P.R. Phone 42K. SALEM, ONTARIO.

AT "MAPLE SHADE"

Our young bulls are the best that our herd has ever produced. We can furnish Cruickshank bulls of high quality to head the best herds, and some that should produce the best prime steers. We have a bull catalogue. Send for one.

JOHN DRYDEN & SON, Brooklin, Ont. Stations: Brooklin, G.T.R. Myrtle, C.P.R. Long-distance telephones.

Valley Home Shorthorns and Berkshires

Special offering at very low prices for immediate sale: Eight young bulls 10 to 15 months old, five cows from 3 to 5 years old, with calves at foot; four 2-year-old heifers in calf to Royal Diamond 2nd =5449=; also eight heifers one year old. The above are straight Scotch and a choice lot; and 10 young Berkshire sows, just bred to Myrtle's Prince (imp.) -14139-, and 30 young pigs of both sexes, from one to two months old. Visitors welcomed for personal inspection.

S. J. PEARSON, SON & COMPANY, Meadowvale, Ontario. Stations: Meadowvale and Streetsville Jct., C.P.R.



Special Offering of Scotch SHORTHORN BULLS

2 just past two years old; 15 just over one year old; 7 just under one year old.

The best lot we ever had to offer in individuality and breeding, and prices are right. Catalogue.

John Clancy, H. GARGILL & SON, Manager. Cargill, Ont.

SIX IMPORTED SHORTHORN BULLS

One bred by Duthie, one by Marr, and one by Durno. Show bulls and sties every one. Imported cows and heifers, home bred bulls and heifers, all of high-class. THREE IMPORTED CLYDESDALE MARES, all in foal. Shropshires and Cotswolds in large numbers. Will price anything I have at a living profit. Write me.

ROBERT MILLER, STOUFFVILLE, ONTARIO.

Pure Scotch Shorthorns

19 Bulls. PRESENT OFFERING. 75 Cows and Heifers.

1 imported bull, 3 two-year-olds, and 15 yearlings and calves from 10 to 18 months old—all from imp. sires and choice dams. Cows and heifers all ages, including some show animals. 1 imp. Clydesdale mare four years old, due to foal May 1st. We will book orders for young Yorkshires for May delivery. W. G. Pettit & Sons, Freeman, Ont. Burlington Jct. Station. Long-distance Telephone.

Queenston Heights Shorthorns

Show animals in yearling and two-year-old bulls, also bull and heifer calves. Young cows and heifers at very reasonable prices. Canadian and American registration.

Hudson Usher, Queenston, Ontario.

Shorthorns and Clydesdales

I am now offering 6 young bulls from 8 to 30 months old, all Scotch bred, two of them from extra good milking families, and a few registered fillies of good quality.

JOHN MILLER, Brougham, Ont. Claremont Sta., C.P.R.; Pickering, G.T.R.

Clover Lea Stock Farm SCOTCH SHORTHORNS

Superior breeding and individual excellence. For sale: Bulls and heifers—reds and roans, some from imp. sire and dam. Visitors met at Ripley station, G. T. R.

R. H. REID, PINE RIVER, ONTARIO.

SHORTHORNS.

Just closed out the season's crop of bulls of breeding age, but have a few very nice youngsters coming up. Anyone wishing a stock bull from the noted Derby (imp.) send orders ahead, as they are all picked up as soon as ready. W. J. SHEAN & SON, Box 256, Owen Sound, Ontario.

A. EDWARD MEYER

Box 378, Guelph, Ont., Offers for sale, at prices you can stand, young SHORTHORN BULLS

Four of them from imported sire and dams. Several cows with heifer calves at foot by imp. Scottish Hero, and a few yearling heifers. All are of the choicest Scotch breeding. Write, or better come and look them over. Long-distance 'phone in house.

MAPLE GROVE SHORTHORNS

My present offering consists of imported and home-bred cows and heifers, also four young bulls bred by Lord Banff's Conqueror. He is one of the best stock bulls of his breed. Terms and prices to suit the times. R. Enterprise Stn. & P. O. Addington Co.



GOSSIP. THE SITYTYON GROVE SHORTHORN SALE.

As announced in last week's issue, on Friday, May 24th, the old-established Sitytyon Grove herd of Cruickshank blood Shorthorns, the property of Mr. James I. Davidson, of Balsam, Ont., will be dispersed by auction to the highest bidder. There will be no reserve, as Mr. Davidson's health will not allow of his looking after the herd. All told, there are about 50 head. Nearly all are young. Several are imported—a strictly high-class herd with the richest of Scotch breeding. Among the females are Imp. Cherry, by Koroska. This cow is a very heavy and persistent milker, and carries an udder that would do credit to many of the dairy-bred cows. Sitytyon Beauty, a roan three-year-old daughter of hers, got by Imp. Choice Archer, has a red bull calf at foot, by Rosebud Champion. Village Fairy 7th, by Lovely Victor, has a red heifer calf at foot, by Rosebud Champion. Bluebell (imp.), by Graceful Lad, is another heavy milker, and a grand good cow. She has a roan three-year-old heifer, by Choice Archer (imp.), that is well on in calf, a big, thick, good kind. Claret (imp.), by Graceful Lad, has a red bull calf at foot, by Rosebud Champion. Juanita 10th (imp.), by Illustrious Pride, has a rarely nice bull calf, five months old, by Village Secret. Joyce 6th (imp.), by Illustrious Pride, has a red heifer rising two, by Missie's Prince; a red bull, rising one, by Village Secret, and a bull calf at foot. She, too, is a very heavy milker. Rosebud Blossom, Vol. 20, by Sitytyon Hero 13th is a Golden Drop, and has a red yearling daughter, by Missie's Prince, that is a high-class show heifer. Roan Blossom =49742=, by the same sire, is another Golden Drop. She has a grand good roan yearling daughter, by Missie's Prince, and a heifer calf at foot. Golden Beauty is another Golden Drop, by Missie's Prince. She is rising two, and a good, thick kind. Other Golden Drops are: Golden Flower, rising two, and a full sister, rising one, out of Maid 5th, and sired by Village Secret, and Rosebud Champion, of the Village tribe. Village Fairy 9th, a roan three-year-old; by Mildred's Royal, has a roan bull calf at foot, and is a show heifer. Village Beauty 11th is a roan, rising two, by Imp. Golden Nugget, dam Village Beauty 4th, by Imp. Hospodar. She, too, is a show heifer. Of the Wimple strain, there are two: Wimple's Royal and Royal Wimple, a pair of roan sisters, two and three years of age, both by Mildred's Royal. The eldest has a roan heifer calf at foot, a grand good pair. Of the Bessie strain is Beatrice 2nd, by Sitytyon Stamp (imp.). She has a red heifer calf at foot. Beatrice 8th is a daughter of hers, by Langford Eclipse (imp.). She has a roan bull calf at foot. Zoe of Pine Grove 5th is a red two-year-old, by Missie's Champion. Victoria Royal 6th is by Imp. Caesar, a thick, smooth, good one. Gloster of Ivanhoe is a red yearling Duchess of Gloster, by Village Secret. Lovely of Pine Grove is a Cruickshank Lovely, by Village Champion, a two-year-old. Lady Aberdeen 2nd, by Scotch Thistle, is another two-year-old. Golden Princess is a roan yearling Golden Drop, by Village Secret. Another pair of two-year-old Lavender-bred heifers are by Missie's Prince, and a two-year-old Missie-bred heifer is by Imp. Choice Archer. Here are an exceptionally choice lot of heifers, and anyone looking for some show stuff should not miss the opportunity of attending this

(Continued on next page.)

Maple Lodge Stock Farm 1854-1907.

Am now offering a grand lot of young Shorthorn Bulls, several from choice milking strains. Also a few extra good heifers.

A. W. SMITH, MAPLE LODGE, ONT.

Six Red Shorthorn Bulls

12 to 15 months old, got by Proud Gift =50077= (imp.); also cows and heifers, imported and home-bred. Inspection solicited. We think we have as good Shorthorn cattle as we have Lincoln sheep. 14 firsts out of a possible 19, our record at Chicago, 1906.

J. T. GIBSON, Denfield, Ont.

GREENGILL HERD of high-class SHORTHORNS

We offer for sale 8 young bulls, a number of them from imp. sire and dam; also females with calf at foot or bred to our noted herd bull, Imp. Lord Roseberry.

R. MITCHELL & SONS, Nelson P.O., Ont.; Burlington Junc. Sta.

T. DOUGLAS & SONS STRATHROY, ONT.

Breeders of Shorthorns and Clydesdales. 15 bulls, 60 cows and heifers, 1 imp. stallion, imp. and home-bred fillies. Write us what you want or come and see our stock. Farm 1 miles north of town.

KENWOOD STOCK FARM. SHORTHORNS.

Headed by (imp.) Jilt Victor =45157=. Offerings are two bull calves, an 11-months Miss Ramaden, from imp. sire and dam; a 15-months Missie, by Blythesome Buler, and other bulls; also heifers of choice breeding. A few choice Berkshire pigs just off the sow.

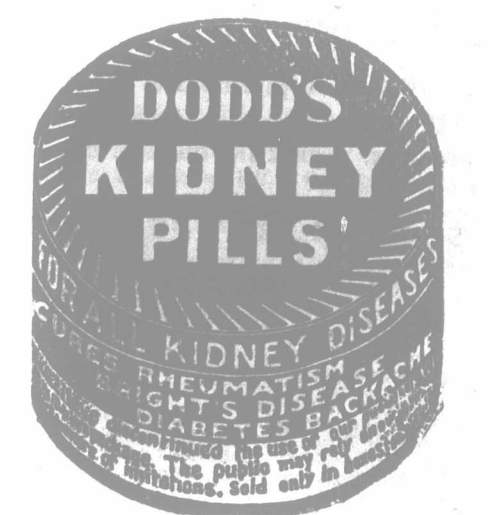
HAINING BROS., Highgate, Ont. Kent Co.

SHORTHORNS, YORKSHIRES and S.-C. WHITE LEGHORNS.—I have sold all my young bulls advertised, but can offer straight Scotch-bred heifers of the noted \$2,000 bull, Joy of Morning (imp.) =32070=, and young cows bred to him. Also choice Yorkshires, 5 months old, imp. sire and dam. Leghorn eggs supplied at 75c. per 13. See, D. Fletcher, Siskinham, Ont., Erin Station, C. P. R.

Shorthorn Bull—Prince of Stars =49804=. Rich roan. Sire Chief of Stars (imp.), dam by Blue Ribbon (imp.), s. dam Estelle (imp.). Kind, sure, a good handler. Will sell to avoid inbreeding. Look up this pedigree, and write H. M. VANDERLIP, Cainsville, Ont.

"Yes, sir, this is the place where the battle was fought."

"Have you any relics of it?"
"Yes, sir. John, mould the gentleman about twenty bullets an' tell the blacksmith to hammer out a bayonet—quick!"



**World Famous Coal-Tar
Animal Dip**
Recommended by Veterinary Editors.

**Endorsed by Forty-two
Agricultural Colleges**

Used by Many Thousand Stock Growers.

**Disinfectant Lice Killer
Mange Cure Antiseptic**

ZENOLEUM

For Cattle, Horses, Hogs, Sheep, and Poultry

We honestly believe Zenoleum is the best general live stock remedy for lice and vermin on all animals and a positive disinfectant and cure for skin troubles and internal parasites in hogs and sheep.

OUR ABSOLUTE GUARANTEE—If Zenoleum is not all we say it is, or even what you think it ought to be, you can have your money back. No talk, No letters—just money.

AT ALL DEALERS—Small size, 25 cents; Quart, 50 cents; Half gallon, 90 cents; One gallon, \$1.50; Five gallons, \$6.25—or we will deliver one gallon or more, charges paid, to your station. **ASK YOUR DEALER FIRST.**

ZENOLEUM VETERINARY ADVISER
64 pages of interesting matter for farmers and stockmen—written by authorities at Agricultural Colleges—positively free for a postal card.—Ask now. We'll send it.

Zenner Disinfectant Co.,
112 Lafayette Avenue,
Detroit, Michigan

BRAMPTON JERSEYS

Canada's Premier Herd

Strengthened regularly by importations from United States, England and the Island of Jersey.

We have animals of all ages and both sexes for sale, and the largest herd in Canada to choose from.

Write for prices and particulars.

Long-distance 'phone at farm.

B. H. BULL & SON, Brampton, Ont.

SHORTHORN SNAPS

Roan bull, just 3 years old, purchased from Messrs. B. A. & J. A. Watt; also one white bull calf 9 months old, two roan cows, 4 and 5 years, purchased from Messrs. J. Watt & Son; also 3 red heifers, 2 mos., 1 year and 2 years old. Will sell cheap, as I am going out of business. Am also offering two well-bred Ayrshire bulls, 14 mos. and 2 years, the younger is sired by Lesnesock King of Beauty (ma); also two Ayrshire cows. For particulars and prices write **D. ALLAN BLACK, Kingston, Ontario.**

Wm. Grainger & Son



Hawthorn herd of deep-milking Shorthorns. Aberdeen Hero (imp.) at head of herd. Eight grand young bulls, also females, all ages. Prices reasonable.

Londesboro Station and P. O.

John Gardhouse & Sons

Importers and breeders of Scotch Shorthorn cattle, Shire and Clydesdale horses, and Lincoln sheep. Call and see us.

Highfield P. O., Weston Station 3 1/2 Miles. Telephone.

Fin Park

Shorthorns, Clydesdales & Berkshires

Herd headed by the choicely-bred bull, British Flag (imp.) 50016. Stock of all ages for sale.

JOHN M. BECKTON, Glencoe, Ontario.

G.T.R., C.P.R. & W. & A. Farm adjoins town limits.

SHORTHORN FEMALES.

I have sold all my young bulls advertised in Advocate, but have some good females, representing the families of Village Maids, Claret, Cruickshank Village Blossoms and Ramsdens. Box 556.

HUGH THOMSON, St. Mary's, Ont.

MAPLE HILL STOCK FARM

High-class Scotch shorthorns. Herd headed by Rose Victor 50155 and Victor of Maple Hill 65490, both sons of the D. the bred bull, Sittytion Victor (imp.) 50016, and from richly-bred imported cows. **W. R. ELLIOTT & Sons, Box 426, Guelph.**

Pine Ridge Jerseys for sale

some choice young bulls, bred in the purple, of ideal type; also a few heifers and heifer calves and some Cotswold shearing rams and ram lambs. **Wm Willis & Son, Newmarket P. O. & Station.**

High Grove Jerseys

Choice young bull for sale, 18 months; fit for service; a prizewinner at Toronto last fall, "Bim of High Grove" 73688.

ROBT. TUFTS & SON, Tweed, Ont.

LOOK HERE

Have on hand bull calves from choice dams, and sire by son of greatest cow in Canada, Bousie Q. Pieterie De Kol; 643 lbs. 7 days; 96 mos. 1 day. His sire's dam and granddam have records averaging over

26 lbs. butter week. Also choice bulls fit for service. Prices right.

FRED ABBOTT, Harrietsville Ont.

Holsteins and Yorkshires

R. HONEY, Brickley, Ont. offers a very choice lot of young bulls, also boars and sows fit to mate.

Ridgedale Farm Holsteins

Present offering: One yearling bull, also six bull calves from one to four months old, sired by Prince Pauline De Kol 6th and from rich, heavy milking dam. Come and see them or write for prices. Shipping stations: Port Perry G.T.R. or Myrtle C.P.R. Ontario Co.

R. W. WALKER, Utica P.O., Ont.

HILTON STOCK FARM—Holsteins, Cotswolds and Tamworths

Present offering: Some young cows; a nice lot of young pigs; few boars six months old, and sows in pig. **R. O. MORROW & SON, Hilton P. O., Brighton Tel. and Sta.**

Glenwood Stock Farm—Holsteins and Yorkshires

Holsteins all sold out. Have a few young Yorkshires sows, about 2 months old, for sale cheap. True to type and first-class. Bred from imported stock. **THOS. B. CARLAW & SON, Warkworth P. O., Campbellford Ont.**

Evergreen Farm Holsteins

—All bulls sold enough for service. Present offering: Bull calves from one to three months old, out of A. R. cows sired by Prince Pauline De Kol.

F. C. PETTIT & SON, Burgessville, Ont.

sale. Besides the Shorthorns, there will be sold four registered Clydesdale mares, from three to eight years of age. Three of these are sired by the champion Imp. McQueen. Three are heavy in foal, and the other is a Toronto first-prize winner. Here are a choice lot of mares, and, as above stated, three of them are likely to have foals at foot at time of sale. There will also be sold one yearling stallion colt. Remember the date, May 24th, when half-fare rates will be issued on all railways. As this is about the last of the old-established herds of note in Ontario, parties interested in Shorthorns should make it a point to attend, as the animals to be offered are strictly high-class, and there will be no reserve. Catalogues may be had on application to J. I. Davidson, Balsam, Ont. People coming from Toronto and west had better come by C. P. R., as they will make better connections. G. T. R. trains will be met at Myrtle at 9.30 a. m. from south, and at 12 from north.

GOSSIP.

The exportation of Lincoln sheep from England the past year, according to the Council report of the Longwool Sheep Breeders' Association, has numbered: Rams, 3,847; ewes, 2,050; ewe lambs, 567; ram lambs, 465; a total of 6,928, as compared with 4,855 exported the previous year.

REMARKABLE BREEDING RECORDS.

A seven-year-old cow in Morayshire, Scotland, is reported to have given birth to her eleventh calf last month.

A Blackface ewe at Glenluce, Scotland, is reported to have made a singular lambing record this spring. The shepherd one morning watched her while she gave birth to two fine lambs. She was removed the following day along with her lambs to another field, and the shepherd was surprised, six days later, to find the same ewe requiring assistance to lamb, when she produced another strong lamb. She would have nothing to do with the third one, for which a foster mother was found, and it is doing well.

Mr. T. W. Britten, a Derbyshire farmer, near Buxton, reports that he has 75 living lambs from 36 Shropshire ewes, no fewer than nine of the ewes having produced triplets.

MORE CLYDESDALES FOR CANADA.

Mr. Dugald Ross, Streetsville, Ontario, recently sailed, per the s.s. Athenia, with two Clydesdale and two Hackney stallions, purchased from Messrs. A. & W. Montgomery, Netherhall and Banks, Kirkcudbright. The Clydesdales are both good horses for the Canadian market, and the Hackneys are of an excellent class. Baron Cathcart (12440) was bred by Messrs. D. & J. Curr, and is a son of the great breeding Baron's Pride; while Drummur Marquis, a three-year-old, and a year younger than his companion, was bred by Mr. T. G. Duff, of Drummur, Keith, and is by Moncreiffe Marquis, a horse which, it will be remembered, was first at the Inverness Highland, and is sire of the gelding, Marquis, champion at Chicago on several occasions.

Mr. Thomas Mercer, Markdale, Ontario, sailed the last week in April, his shipment consisting of a fine lot of fillies and stallions from Mr. Peter Crawford, Dargavel, Dumfries. The stallions included the eight-year-old Balmedie (11251), by Balmedie Prince Charming, and bred by Mr. J. A. Wallace, Claycrop, Kirkcubright; Hallmark (12592), a four-year-old Hhawatha horse, bred by Mr. D. Allan, South Fod, Dunfermline, and The Deemster (13799), a three-year-old, bred in the Isle of Man, and got by Sir Anthony. These three are of the weighty cart-horse type so popular at present in Canada. The fillies were a nice, even lot, and were by such sires as King of Kyle, Bold Douglas, Royal Citizen, Prince Ailsa, Gallant Faunteroy, Prince Betmes, and Prince of Maryfield.—[Scottish Farmer.]

A Magistrate Investigates Zam-Buk

**SAYS IT IS A WONDERFUL
HEALER AND DOES MORE
THAN IS CLAIMED
FOR IT.**

Probably no household remedy in existence has won such glowing tributes from people in high places as has Zam-Buk. Mr. Roger F. Perry, Justice of the Peace for British Columbia, recently tested this famous balm, and this is what he says of it:

"The Pavilion,
Goldfields, B. C."

"To the Zam-Buk Co.:

"Gentlemen,—After a very fair trial I have proved Zam-Buk eminently satisfactory. In my case it cured a skin rash of five years' standing, which no doctor had been able to do any good for.

"I would certainly encourage any person to keep Zam-Buk in their home. It truly does even more than you claim for it. For my own part I would not now be without it in the house. Yours very truly,

"(Signed) Roger F. Perry,
Justice of the Peace for B. C."

Zam-Buk differs from ordinary salves and embrocations, for while these mostly contain animal oils and fat, Zam-Buk is purely herbal. It closes and heals cuts, festering sores, ulcers, eruptions, boils, eczema, chafing sores, etc. In the household, it is the handiest possible remedy for burns, scalds, children's injuries. It instantly cleanses any wound to which it is applied; prevents festering, inflammation or blood poison. It cures piles, varicose ulcers, and fistula. All druggists and stores sell at 50 cents a box, or from the Zam-Buk Co., Toronto, for price; 6 boxes for \$2.50.

ANNANDALE FINE STOCK FARM

TILLSONBURG, ONT.

Premier sire, Prince Posch Calamity, whose dam and sire's dam average in official-test 86 lbs. milk in 1 day and 26 lbs. butter in 7 days.

No stock for sale at present.

GEO. RICE, Tillsonburg, Ont.

Fairview Herd Holsteins

Home of Pontiac Rag Apple, the cow that sold a few days ago for \$8,000. Highest price ever paid for an A. R. O. cow. I have her sire, Pontiac Korndyke, the greatest living sire of the breed, and also over 40 of his daughters, sisters to the one that brought the top price, and they are all good ones. Also bull calves by the best sires in the States. Write me, or come and look the herd over. Only seven miles from Prescott, Ont. **E. H. DOLLAR, Hevelton, St. Lawrence County, N. Y.**

RECORD OF MERIT HOLSTEINS

Herd 110 strong. Over 40 head now in the Record of Merit. Two of the richest-bred bulls in Canada at head of the herd. For sale: 18 bulls, from 2 months to 1 year of age, all out of Record of Merit cows and sired by the stock bulls.

P. D. EDE, Oxford Centre P.O., Woodstock Station.

"THE MAPLES" HOLSTEIN HERD

is made up of Record of Merit cows and heifers with large records, and headed by Lord Wayne Mechtild Calamity. Bull calves from one to five months old for sale.

Walburn Rivers, Foiden's, Ont.

Greenwood Holsteins and Yorkshires
For sale: A few richly-bred bulls from one to eighteen months old. Also a few choice females of all ages. Yorkshires of either sex. **D. Jones, Jr., Caledonia P. O. and Sta.**

Grove Hill Holstein Herd

Offers high-class stock at reasonable prices. Only a few youngsters left. Pairs not akin. **F. R. MALLORY, Frankfort, Ontario.** G. T. R. and C. O. Railway connections.

Imperial Holsteins

Bull calves for sale.

W. H. SIMMONS, New Durham P. O., Ont.



A Remarkable Invention FOR THE CULTURE OF HAIR.

THE EVANS VACUUM CAP is a practical invention constructed on scientific and hygienic principles, by the simple means of which a free and normal circulation is restored throughout the scalp. The minute blood vessels are gently stimulated to activity, thus allowing the food supply which can only be derived from the blood, to be carried to the hair roots, the effects of which are quickly seen in a healthy, vigorous growth of hair. There is no rubbing, and as no drugs or chemicals of whatsoever kind are employed, there is nothing to cause irritation. It is only necessary to wear the Cap three or four minutes daily.

60 DAYS' FREE TRIAL! The Company's Guarantee.

An **EVANS VACUUM CAP** will be sent you for sixty days' free trial. If you do not see a gradual development of a new growth of hair, and are not convinced that the Cap will completely restore your hair, you are at liberty to return the Cap, with no expense whatever to yourself. It is requested, as an evidence of good faith, that the price of the Cap be deposited with the Chancery Lane Saf. Deposit Company of London, the largest financial and business institution of the kind in the world, who will issue a receipt guaranteeing that the money will be returned in full, on demand, without questions or comment, at any time during the trial period.

The eminent Dr. I. N. LOVE, in his address to the Medical Board on the subject of Alopecia (loss of hair) stated that if a means could be devised to bring nutrition to the hair follicles (hair roots), without resorting to any irritating process, the problem of hair growth would be solved. Later on, when the **EVANS VACUUM CAP** was submitted to him for inspection, he remarked that the Cap would fulfill and confirm in practice the observations he had previously made before the Medical Board.

Dr. W. MOORE, referring to the invention, says that the principle upon which the Evans Vacuum Cap is founded is absolutely correct and indisputable.

An illustrated and descriptive book of the Evans Vacuum Cap will be sent, post free, on application.

THE SECRETARY, EVANS VACUUM CAP CO., LTD., REGENT HOUSE, Regent St., Lond n, Eng.



Burnside Ayrshires

Imported and Canadian-bred. Prizewinners at all the leading shows. I hold the award of merit given by the Bd. of Dir. of World's Fair, St. Louis, to the breeder of largest number of prizewinning Ayrshires at said Exposition. Females of all ages for sale, imported and Canadian-bred.

R. R. NESS, JR., HOWICK, QUE., P.O. AND STATION.

HOLSTEINS FOR SALE



Four imported and one home bred bulls from 8 to 18 months old; also our entire crop of springbull calves from weel old up to 2 years old. Sired by the grandly-bred imp. bull, Sir Howitt B. Pleertje, whose dam record is over 88 lbs milk in one day, and from great-producing cows of the most fashionable strains. Can spare a few cows and heifers, from one year up; 75 head to select from. Cheese 13c. Don't delay if you want one from this herd.

H. E. GEORGE, Crampton, Ont.

Lyndale Holsteins

Two bulls fit for service, sired by a son of De Kol 2nd's Butler Boy 3rd; also a number of bull calves out of Record of Merit cows.

BROWN BROS., LYN, ONTARIO

Maple Hill Holstein-Friesians

Bull calves from No. 1 dams, sired by bulls with great official backing. Write for prices.

G. W. Clemons, St. George, Ont.

"GLENARCHY" HOLSTEIN

43 head of big, deep-flanked, heavy-producing Holsteins, many of them milking from 50 to 60 lbs a day on grass. Young stock of both sexes for sale. A straight, smooth lot

G. MACINTYRE, Renfrew P. O. and St.

Springhill Ayrshires.

Over 25 heifers from 6 months to 3 years of age. Nearly all of them imported, the balance bred from imported stock. A high-class lot of show stuff. A few older ones imported and Canadian-bred. Three bull calves, 1 of them imported in dam, the others bred from imported Cross of Knockdon. Anything in the herd is for sale.

Robt. Hunter & Sons, Maxville, Ont.

Ayrshire Bulls

One last September and a few March and April calves by the champion Douglasdale (imp) W. W. BALLANTYNE, Neidpath Farm, Stratford, Ont. Long-distance 'phone.

SPRINGBROOK AYRSHIRES

gave an average of 7,000 lbs. of milk, testing 3.1 per cent. butter-fat in 1905. A few bull calves for sale. Prices quoted for females. W. F. STEPHEN, Pox 163, Huntingdon, Que.

Ingleside Ayrshires

won more prizes in 1907 than all other competitors combined. Young stock of either sex for sale. **H. C. HAMILL, Islay P. O., Ont.** Fenelon Falls or Lorneville Sta.

Wardend Ayrshires

We are offering young bulls from 1 to 2 years old; also a choice lot of spring calves from deep milking dams. Sired by White Prince of Menie No 1825; bred by A. Hume Menie, F. W. TAYLOR Weilmann's Corners Hoard's Stn. G T R

Glenhurst Ayrshires

Olde established herd in Ontario, Imp. and Canadian-bred. Average B. F. test for the whole herd 4.2; milk yield, 40 to 6 lbs. a day. For sale: females of all ages, and several young bulls; all by Imp. sire and some out of Imp. dams. James Benning, Williamstown P. O., Lancaster Sta.

Ayrshires 3 prizewinning bulls fit for service at reasonable prices also younger ones for quick buyers.

N. DYMENT, Hickory Hill Stock Farm, Dundas Stn. and Tel. Clappison, Ont.

QUESTIONS AND ANSWERS. Veterinary.

UNPLEASANT HABIT.

Four-year-old mare has for some time been in the habit of throwing her head up and down when driving, and lately I have noticed her doing the same when in the stable.

A. T. S.

Ans.—This is a habit, probably contracted on account of irritation in the mouth by the bit. Habits of this nature are very hard to check. Drive her with a plain snaffle bit covered with leather or rubber, and use the lines very gently in order not to worry her mouth. If possible, give her a box stall when in the stable, and, of course, allow her to go untied in the stall. There is no disease. It is simply a very unpleasant habit.

V.

FISTULA IN TEAT.

There is an opening in the side of teat in young cow. When milking, the milk flows from this opening and also from normal opening:

W. M.

Ans.—This is a fistula. It will be better not to treat until she is dry before next calving. Then throw and secure her, scarify the edges of the fistula until they bleed, then stitch the wound with carbolized silk sutures, and then dress, three times daily, with a five-per cent. solution of carbolic acid until healed. Cut the stitches out in ten days. After this treatment, the teat will be in a normal condition after next calving.

V.

PERIODIC OPHTHALMIA.

Four-year-old colt has repeated trouble with his eyes, sometimes one and sometimes the other. He appears to be constantly getting something into his eyes, until he is nearly blind in both.

J. S. K.

Ans.—This is a constitutional disease called periodic ophthalmia. It is not due to a foreign body in the eye. The attacks cannot be prevented, and he will eventually be blind from cataract. All that can be done is to treat each attack as follows: Give a slight purgative, as 6 drams aloes and 2 drams ginger. Keep in a partially-darkened stall, excluded from sunlight and drafts. Bathe the eyes well with warm water three times daily, and, after bathing, put into the eyes a few drops of the following lotion: Sulphate of zinc, 10 grains; fluid extract of belladonna, 20 drops; distilled water, 2 ounces. This is a hereditary disease, and it is probable some one of this colt's ancestors suffered from cataract.

V.

VICIOUS COLTS.

I have a pair of colts, three and four years old, full brother and sister. The four-year-old was handled by a professional, and I handled the three-year-old myself. Both have the habit of rearing so that you would think they would fall backwards. They rear when starting and when anything frightens them.

C. H. O.

Ans.—This is an acquired habit, and in many cases the predisposition is hereditary, as it evidently is in this case. Drive with a plain snaffle bit covered with leather and be very gentle with the lines in order not to irritate the mouth. Allow them to start off with a slack rein, and, if possible, avoid objects that frighten them. If necessary, use an overdraw check so that they are unable to rear, but we do not advise the use of a tight overdraw unless necessary for safety. It is probable that careful, intelligent, easy handling will eventually get them over the vice.

V.

NASAL IRRITATION.

When my mare commences to eat hay she makes a peculiar noise through her nostrils, and is all the time blowing her nose, as though the dust affects her.

R. T.

Ans.—If the hay is dusty, the trouble probably is an irritation caused by the dust, and while it is unwise to feed dusty hay under any circumstances, the nasal irritation can be prevented by damping the hay before feeding. If the sneezing is not caused by the dust, there is probably some growth in the nostrils that causes the trouble. In some cases, such growths can be removed, while in others they are so far back they cannot be seen. I would advise you to get your veterinarian to examine this mare, and if he can detect any foreign growth he will remove it.

V.

Does Your FOOD Digest Well?

When the food is imperfectly digested the full benefit is not derived from it by the body and the purpose of eating is defeated; no matter how good the food, or how carefully adapted to the wants of the body it may be. Thus the dyspeptic often becomes thin, weak and debilitated, energy is lacking, brightness, snap and vim are lost, and in their place come dullness, lost appetite, depression and languor. It takes so great knowledge to know when one has indigestion, some of the following symptoms generally exist, viz.: constipation, sour stomach, variable appetite, headache, heartburn, gas in the stomach, etc.

The great point is to cure it, to get back bounding health and vigor.

BURDOCK BLOOD BITTERS

is constantly effecting cures of dyspepsia because it acts in a natural yet effective way upon all the organs involved in the process of digestion, removing all clogging impurities and making easy the work of digestion and assimilation.

Mr. R. G. Harvey, Ameliasburg, Ont., writes: "I have been troubled with dyspepsia for several years and after using three bottles of Burdock Blood Bitters I was completely cured. I cannot praise B.B.B. enough for what it has done for me. I have not had a sign of dyspepsia since."

Do not accept a substitute for B.B.B. There is nothing "just as good."

The Waters Place, Herts, England

REGISTERED HAMPSHIRE DOWN FLOCK

(ESTABLISHED IN 1874)

the property of Mr. T. F. Buxton, who is giving up ram breeding undoubtedly one of the best of the breed in existence, and possessing a brilliant show-yard record. Will be sold by auction on

FRIDAY, JULY 19th, 1907.

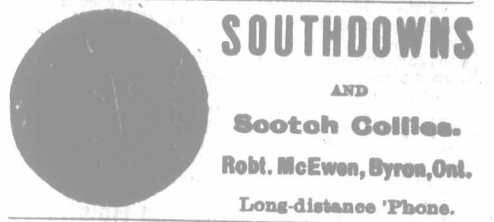
This grand breeding flock consists of about 800 ewes, ewe lambs, rams, and ram lamb, including fitted sheep. Catalogues and full information from the

Auctioneers: Waters & Rawlence, SALISBURY, ENGLAND.

Fairview Shropshires

Orders can now be booked for shearing rams and shearing ewes, for ram lambs and ewe lambs, fitted for showing or 8ed condition. Don't forget that this flock has produced more winners than any other flock in all America, and stock sold are producers of winners.

J. & D. J. CAMPBELL, Fairview Farm, Woodville Ont.



SHIP US YOUR CALFSKINS

Write for our prices.

E. T. CARTER & CO., Toronto, Ont.

Canadian Agents for the Original **McDougal's Sheep Dip & Cattle Dressing** Imported direct. Price: Imperial pint, 50c; Imperial half gallon, \$1.50; Imperial gallon, \$3.00. Sold by druggists, or charges prepaid on one-gallon tins. **THE WORTHINGTON DRUG CO., Toronto, Ontario.**

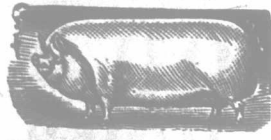
Sheep and Cattle Labels. You will need them soon. See about them now. Write to-day for circular and sample. **F. G. JAMES, Bowmanville, Ont.**

The Top Prices Paid for Wool

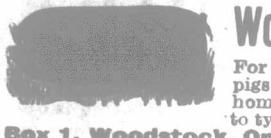
Drop us a card for prices.

LLOYD-JONES BROS., BURFORD ONT.

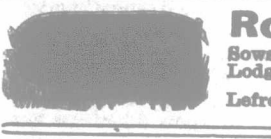
YORKSHIRES of Choicest Type and Breeding.



I have on hand 75 brood sows of Princess Fame, Cinderella, Clara, Minnie, Lady Frost and Queen Bess strains. My stock boars are true to type and richest breeding. For sale are a large number of sows bred and ready to breed, boars fit for service, and younger ones of both sexes. Pairs and trios not akin. **J. W. BOYLE, Woodstock, Ont.**



Woodstock Herd of Large English Berkshires
For sale: Boars fit for service. Sows ready to breed. March and April pigs supplied in pairs and trios not akin; bred from my imported and home-bred sows. My pigs are all bred on prizewinning lines and true to type. Come and see, or write for prices. **DOUGLAS THOMSON, Box 1, Woodstock, Ontario. C. P. R. and G. T. R. stations.**



Rosebank Berkshires.—Present offering: Boars fit for service. Sows ready to breed. Choice young stock ready to wean, sired by Maple Lodge Doctor and Sallie's Sambo (imp.), a Toronto winner. **Lefroy, G.T.R. JOHN BOYES, JR., Churchill, Ont. Long-distance Phone**

HILLCREST BERKSHIRES

Stand unrivalled for individual merit in the herd. Our business for 1906 surpasses former years. The enquiry for choice things increases from year to year. Some choice sows for sale due to farrow in the spring. Also a few boars on hand. Vine Sta. G.T.R. near Barrie. **John Lahmer, Vine P.O.**



OAKDALE BERKSHIRES Largest Berkshire herd in Ontario. Stock boars and several brood sows imported. For sale: Sows bred and ready to breed, boars ready for service, and younger ones, all ages, richly bred on prizewinning lines and true to type. Everything guaranteed as represented. Long distance phone. **L. E. MORGAN, Milligan P.O., Co. of York.**

Cherry Lane Berkshires

Are strictly high-class. Toronto winners. Of all ages. Young stock of both sexes for sale. Pairs supplied not akin. **Sam Dolson, Alcoa P. O., Norval Str. COUNTY PEEL.**

CHESTER WHITE HOGS

The largest herd of bacon-type Chester White hogs in Canada. Strictly high-class. Have won highest awards. Young stock of both sexes always on hand. Satisfaction guaranteed. **ROBERT CLARKE, 41 Cooper Street, Ottawa, Ont.**

Cedar Lodge Yorkshires

100 head brood sows (imp.) and the product of imp. stock, weighing from 500 to 600 lbs. each. Stock hogs by imp. sires and dams, very large and full of quality. Young stock of both sexes constantly on hand for sale. Pairs not akin. Satisfaction guaranteed. **P. O. COLLINS, Bowesville P.O., Ont. Manotick Sta., C.P.R.**

Dunrobin Stock Farm

Clydesdales, YORKSHIRES, Shorthorns

We are booking orders for breeding stock from our grandly-bred Yorkshire sows. Twenty-five sows to farrow in the next few weeks. Unrelated pairs a speciality. Write for prices and particulars. **DONALD GUNN & SON, Beaverton, Ontario. INSPECTION INVITED. G. T. R., C. N. O. R. stations 1 1/2 miles from farm. Customers met on notification.**

ORCHARD HOME TAMWORTHS

Herd headed by Newcastle Warrior. This hog won first prize and silver medal at Toronto 1906, and defeated his sire, Colwill's Choice (1943), who has won these honors three years in succession. Our brood sows are large and of the same high quality. If you want choice stock, we can satisfy you at a reasonable price. Young boars fit for service; also young pigs now on hand. One good Yorkshire boar one year old. Express prepaid and satisfaction guaranteed. **CRANDALL BROS., Cherry Valley, Ont**

Newcastle Herd of Tamworths and Shorthorns. We have for quick sale a choice lot of boars and sows from 2 to 6 months old, the produce of sows sired by Colwill's Choice and Newcastle Warrior, both our own breeding, and winners of sweepstakes and silver medal at Toronto, 1901-02-03-05. Several very choice sows due to farrow in March and April. Pedigree furnished with every pig. Several choice heifer calves and heifers in calf to our present stock bull. All of high show quality. Prices right. Daily mail at our door. **COLWILL BROS., Newcastle, Ont.**

Mount Pleasant Tamworths and Holsteins. Herd of **For Sale:** Pigs of either sexes, from 6 weeks to 7 months; pairs not akin; also bull and heifer calves under 5 months. Phone in residence. **BERTRAM HOSKIN, The Gully P. O.**

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; pedigrees and safe delivery guaranteed. Address: **E. D. GEORGE, Putnam, Ont.**

Yorkshires and Tamworths—Either breed any age, both sexes; sows bred and ready to breed. Yorkshires bred from imp. sire and dam. Tamworths from Toronto winners. Pairs not akin. As good as the breeds produce. **CHAS. CURRIE, Schaw Sta., C.P.R. Morriston P.O.**

DUROC-JERSEYS

Booking orders for spring pigs. All others sold.

Mac Campbell & Sons, Harwich, Ont

ELMFIELD YORKSHIRES Have 40 young pigs from 2 to 5 mos. Some young boars ready for service; also young sows bred and ready to ed. Pairs supplied not akin. Prices right. **G. B. MUMA, Ayr, Ont.**

Maplehurst Herd of Tamworth Swine, Bronze Turkeys, Toulouse Geese, Pekin Ducks, S.-C. W. Leghorns.

For sale: A large herd of Tamworths, of excellent breeding and ideal bacon type. This herd won sweepstakes at Toronto and London, 1906-6. Among our winnings at World's Fair, St. Louis, 1904, both premier championships, sweepstakes aged and junior herd, and two grand championships. Inspection and correspondence solicited. For further particulars apply to **D. DOUGLAS & SONS, Mitchell, Ont.**

MAPLE LEAF BERKSHIRES! Now offering King of the Castle sows bred to British Duke (imp.); also young sows and boars, 9 and 10 weeks old, from British Duke (imp.). **Joshua Lawrence, Oxford Centre P.O. Woodstock Station.**

Glenhodson Yorkshires

Sows bred or ready to breed. Young pigs from three to six months old. Pairs not akin. Satisfaction guaranteed. **GLENHODSON COMPANY, Myrtle Station, Ont. Long-distance phone at farm. Lorne Foster, Mgr.**

Willowdale Berkshires

Young boars and sows 3 and 6 months of age out of imp. sows, and sired by Imp. Polgate Doctor, Royal Masterpiece, a son of the \$2,500 boar, Masterpiece, and some of them imp. in Jam. Satisfaction guaranteed. **J. J. WILSON, Milton P.O. and Sta. IMPROVED YORKSHIRES, LARGE**

Choice young stock from imported prizewinning stock for sale. **GEO. M. SMITH, HAYSVILLE, ONT.**

QUESTIONS AND ANSWERS Miscellaneous.

RHEUMATIC PIGS—CURB.

1. Would you give advice on how to treat pigs crippled with rheumatism? Have been in a warm building, with plenty bedding, with all winter's manure under them. They appear to be in terrible pain.

2. A horse, eight years old, has a small curb on back of right hind leg.

R. C.

Ans.—1. The pigs should not be on their winter's manure. Lying on manure is a prolific cause of pneumonia, rheumatism, and other ailments to which swine are subject. Clean out the pen, and re-clean it once a day. Keep well bedded with clean, dry straw. Feed on skim milk, shorts and crushed grain. Keep a mixture of salt, ashes and charcoal before them in a box, or scattered three times a week on a clean part of the floor. Arrange a yard where they can run out daily on a clean grass plot, and lie on straw in a sunny spot. Get rid of them as soon as possible. Rheumatic pigs make unprofitable gains. Indeed, it is a question whether it would not be better to make fertilizer of them at once.

2. Get him shod with high-heel calkins to ease the tension on the ligament. Blister as follows, once a month until the enlargement disappears: Take 1 1/2 drams each biniodide of mercury and cantharides, and mix with 2 ounces vaseline. Clip the hair off the part; rub well with blister; tie so that he cannot bite the part. In 24 hours rub well with the blister again, and 24 hours later wash off and apply sweet oil. Let his head loose now, and oil every day. It will be better if he is allowed to rest.

FEEDING CALVES WITHOUT MILK—COMPUTING PAYMENTS.

1. Tell me the best method of feeding heifer calves for dairy purposes. I have no skim milk because I am selling whole milk to city, but I could spare some new milk instead. Would you advise feeding oil cake cooked or not along with new milk and water?

2. How much per year would a person have to pay for a farm costing \$4,500, said farm to be paid for in twenty years, and the interest at the rate of 5 per cent.? Please calculate the interest and principal for each year. G. W.

Ans.—1. Cocoa-shell milk, made by the boiling of about one-quarter of a pound of cocoa shells in two gallons of water, and fed at the rate of from one and a half to two gallons per day, along with bran, oats, oil meal, hay and green feed, makes a very good substitute for milk, and is worthy of a trial by those who wish to rear calves with little milk. Taper them gradually from milk to the cocoa-shell decoction. Adding a pint of new milk to each calf's daily ration till it is several months old will pay well. Another fairly-good plan is to dilute the milk with clover hay or alfalfa-hay tea. In any case, after the liquid has been drunk, throw into the bottom of the pail a little bran, whole oats and oil meal, or something of the sort. The following appears to be a very good recipe for calf meal, taken from Hoard's Dairyman: One part ground flaxseed, two parts finely-ground corn meal (sifted), two pounds finely-ground oatmeal (sifted), and the whole well mixed. Boil, and allow to stand for twelve hours, covered. Begin with two or three ounces daily at a month old, and gradually increase, but not to exceed half a pound per day. It might be worth while trying one of the proprietary calf foods, such as Bibby's Cream Equivalent, advertised in these columns. When calves reach the age of two months, and are eating dry feed and grass, the new milk may be diluted with warm water.

2. Assuming that the first payment is to be made a year hence, the twenty annual payments would be \$361.09. If the first payment be made now, the annual payment will be \$313.89.

But speak quick

Will you accept a FREE copy of a book that tells facts you need to know about poultry for profit? Better send for your copy to-day—there are few left, and you want to read this book if you are interested in poultry at all. It is different from any poultry-book you ever read; it tells plain truths that not many people really know about. Written in plain English, and sensibly illustrated,—interesting, every page of it. Send your name and address on a postcard—the book will come postpaid, free. Send for it to-day—NOW. Address:

When Poultry Pays

The Lee-Hodgins Co., Limited
5 Pembroke St., Pembroke, Ont.

MONKLAND Yorkshires

Imported & Canadian-bred
We keep 35 brood sows, and have constantly on hand between 100 and 300 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.

Large White Yorkshires.

A number of excellent sows, direct from imported stock, in pig to Worsley Duke, Imp.; also imported sows of different ages. Young boars and sows can be supplied not akin. Orders taken for young pigs. Write for what you want.

H. J. DAVIS, Woodstock, Ont.
Importer and Breeder of Yorkshires and Shorthorns.

GLENBURN HERD OF YORKSHIRES

Winner of gold medal three years in succession. Offers for sale: 19 young boars, 4 months old; a large number of sows, same age; also 80 suckling pigs, both sexes. Also a grand good Shorthorn bull (roan), 10 months old.

David Barr, Jr., Box 3, Renfrew, Ont.

Maple Grove Yorkshires

are among the leading Canadian herds for size, quality and true-ness to type, and are prizewinning all around. For sale are both sexes. All ages. Bred from imp. and home-bred stock. There are none better.

H. S. McDIARMID, Fingal P. O., Shedden Station, Breeder and Importer.

Fairview Berkshires

Are second to none. My herd has won high honors wherever shown. Am now offering sows bred and ready to breed, and younger ones of both sexes, the get of Masterpiece and Just the Thing. An exceptionally choice lot.

JOHN S. COWAN, Donegal P. O., Milverton Sta.

SUNNYMOUNT BERKSHIRES.

Sunnymount Berkshires are unsurpassed for ideal bacon type and superior breeding. For immediate sale: A few choice boars from 6 mos. up to 15 mos. old.

JOHN McLEOD, Milton P. O. and Sta., C. P. R. & G. T. R.

Fairview Berkshires

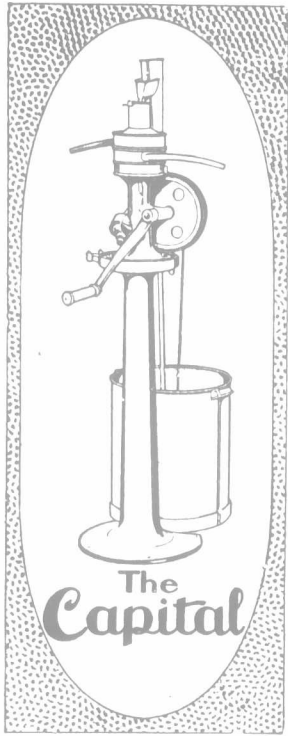
Bred from imported and Canadian-bred sires and dams, and bred on prizewinning lines. My brood sows are large, choice animals. Young stock of both sexes. Some sows bred to imp. boars.

HENRY MASON, SCARBORO P. O. Street cars pass the door

Berkshires—Chief herd boars: Compton Duke (imp.), and Elmhurst Swell (imp.). For sale: 5 boars, 5 gilts, 1 nine-months' sow, due in May. Pigs ready to wean. Motto: "Goods as represented." Careful selections for mail orders. **H. M. VANDERLIP, Cainsville, Ont.**

Double Your Dairying Profits Without Buying A Cow

SUPPOSE somebody offered to swap a ribbon, prize-winning milker for any cow in your dairy-herd, — without a cent to boot? Wouldn't you jump at the chance?



I will do as well as that for you. I will show you how to get as much real money out of an ordinary herd of dairy cows as you'd get by your present methods out of a herd of prize-milkers. I will prove to you there's twice the money in dairy-farming you've been getting, — and you needn't spend any money to get the difference. I will do this just as soon as you write me and say: "I keep so many cows. I get such-and-such a price for my milk — or cream — or butter" (whichever end of the dairy business you follow).

I am not setting any traps for your dollars or your brains. The more skeptical you are, the harder I'll convince you. The best friends I've got among my customers are the men who didn't believe any cream separator amounted to much.

They found out different after they got a Capital Separator and put it to work getting back the money they'd been feeding the pigs and vealing the calves. They found out that the Capital Separator adds over thirty dollars a year to the actual net earnings of every cow they keep. So will you find that out, if you'll write to me and ask for the plain truth about this whole separator idea.

Thirty dollars a year more profits out of every cow you keep for profit's sake, — whether you keep four cows or forty! That is what I promise you. That is what the Capital Separator will get for you — and it is the only thing that will get it. Yes, indeed, I CAN prove it, right up to the handle. Ask me and see.

And I will not only show you why and where and how the Capital gets that extra profit for you, but — I will show you in plain words how you can make that profit with a fraction of the work you have to do to-day to get half as much. That is where my plan for SELLING butter and cream comes in, — my plan specially devised for your special case and your special locality, and

which you can work yourself without sharing the profits with anybody.

Maybe you don't need the plan; but I know you do need the separator, and I can prove to you why and where and how you need it, and what it will pay you if you get it.

Half the work you have to do now to make any money out of dairy-farming, — that's another thing the Capital Separator means to you. Half the work, every day in the week; and thirty dollars more a year from every cow.

Half the work, — much less than half the work, maybe, but half at least, — simply because the Capital Separator is the machine that runs with the least elbow-grease and makes by far the least work for everybody who has anything to do with the dairy side of your farm. That's due to three things: the Capital bowl, the Capital gears and the Capital really-low-down whole-milk tank.

The Capital bowl gets all the cream possible out of the milk because it is the bowl that weighs least of any and sends the milk through a wing-cylinder that simply can't let any cream stay in the skim milk. The Capital bowl is as easy to clean as a lamp-chimney — doesn't take five minutes to cleanse it perfectly.

The Capital gears run so easily that a ten-year-old boy can handle the milk of eight cows in twenty minutes, and not be out of breath when the run is over. The mechanism is so perfectly balanced, so nearly automatic, that the whole work of perfect cream separating, twice a day, won't use up as much energy as it takes to carry a bucket of water fifty yards.

The Capital whole-milk tank is the only really low-down tank there is — because it's just as low-down as a tank can be put, — it stands on the floor! That one thing does away with more waste effort, banishes more bother, abolishes more muss and slop, than you'll ever think possible until you've seen and used the Capital.

But all these things, and many more, are things you ought to know about in detail. I can't tell you about them here, — no room to. But if you will simply write to me and ask for the facts, I will show you why the Capital Separator is the one thing your farm needs right NOW, — and I will show you that you CAN afford to get it right now. Doesn't matter if money's a little tight with you, — I can fix it so the Capital will buy itself before you have to pay a cent for it. Write to me and hear the whole story, — it's worth while.

Robert Ferguson

National Manufacturing Co., Limited
2 Mail and Empire Building, TORONTO, ONT.

GOSSIP.

Eighty farm horses and mares, suitable for general purposes, are advertised for sale in this paper at very moderate prices, also drivers, wagons and harness, by M. A. Pigott & Co., Goderich, Ont.

There is, says the American Horse-breeder, considerable speculation as to whether or not Sweet Marie, 2.02, will lower her record this year. The chances are in her favor, provided she is perfectly sound, and is in as good condition as reported. It should be borne in mind that she was never started in a public race for money until the season of 1908, and she was then seven years old. She trotted only ten heats in five races that season, and made a record of 2.13½, which was a very light campaign for a trotter of her age and blood inheritance.

Last season she trotted 20 heats in public, 16 against other horses and four against time. She lost one heat to Wentworth, and also lost three of the heats in which she started against time. She lowered her record to 2.02 against time at Columbus, O., September 22nd. Her losing heats against time were trotted in 2.04½, 2.03½, and 2.02½. During the four seasons that she has been campaigned, Sweet Marie has trotted only 90 heats in all. She is now but eleven years old, which is six years younger than was Goldsmith Maid when she lowered the world's champion trotting record to 2.14.

TRADE TOPICS.

A FREE VETERINARY BOOK. — A useful little book, of which our readers have seen previous mention in these columns, is the Zenoleum Veterinary Adviser. Zenoleum animal dip and disinfectant has earned a wide measure of popularity, and is endorsed by the authorities of forty-two agricultural colleges and experiment stations. The Zenoleum Veterinary Adviser gives in their own words what the professors and directors connected with these institutions have said of Zenoleum, and the suggestions they offer for its use. In addition, its sixty-four pages contain, in compact form, many descriptions of diseases and ailments, with their causes and symptoms. The book may be had, free, by any reader of this paper who will write the Zenner Disinfectant Co., 113 Lafayette Ave., Windsor, Ont., mentioning "The Farmer's Advocate."

SINKING DEEP WELLS. — The Spudding Attachment on the Crown Well-drilling Machine, advertised in this paper by the Crown Drilling Machine Co., of Akron, Ohio, is claimed to be most perfect in operation. There is no backslashing of the rope against the mast, while it is substantial enough to swing up the regular string of tools. Mr. Wm. Baugher, of Danville, writing of this drill, says that at 145 feet he was not obliged to use the walking beam, as the Spudding Attachment was working perfectly at that depth. This is but one of the many superior points in the Crown drilling machine, which gives the maximum of results with the minimum expenditure of labor and fuel. It works with perfect ease and satisfaction in all formations. Well-drillers will find it to their advantage to write the Crown Drilling Machine Company, Akron, Ohio, for catalogue and particulars.

A HORSE-POWER POTATO DIGGER. — In these times of scarcity of farm help, the question of securing labor-saving implements interests the farmer. The Hallock Potato Digger, advertised in this paper by Mr. H. Broughton, of Sarnia, Ont., seems to fill the bill for lifting and screening the tubers. Mr. Broughton, who is a farmer and makes potato-growing a specialty, in which he has had 35 years' experience, which induced him to look for a good two-horse digger that would do the work successfully, writes: "After attending fairs at London, Toronto and Detroit, I did not see anything to suit until last year, when I came across the Hallock machine, and having dug about 20 acres with it, I was so well pleased with its work that I thought it would be a good thing for the potato-growers of Canada to know that there was such a labor-saving machine in the market. I finally decided to take the agency and let it be known for the benefit of others as well as myself."

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and barns; large orchard. Price, \$10,500.

115 acres of choice land, 3 miles from City of Brantford. This is one of the best farms in the county. Buildings and fences are all nearly new. First-class two-story brick house, 10 rooms; cattle barn, 40 x 64, with cement floors and mangers, with water basins to each stall; horse barn, 50 x 95, modern plan; piggery, 28 x 50; implement shed, 64 x 98; never-failing well with new windmill that drives water to both house. For further particulars apply to
T. A. COX, Box 71, Brantford, Ont.

QUESTIONS AND ANSWERS.
Miscellaneous.

WORMS IN FILLY.

Would you advise what is best to do for a four-year-old filly, supposed to be in foal, that has worms? Have given her turpentine and linseed oil some time since. She is still passing a large quantity. Is there anything better to give, or what would you advise? S. B.

Ans.—The treatment you have been using is sufficient for some cases. A simple farm remedy in which we have considerable faith is sifted hard-maple or other wood ashes. Feed a closed handful two or three times a week on grain feed. If this is not effective, and the filly is still apparently some time from foaling, try 1½ ounces each of powdered sulphate of iron, sulphate of copper and tartar emetic. Mix, pulverize, and make into 12 powders. Give a powder every night and morning in damp food. After the last powder has been taken, feed only bran for 8 or 10 hours, and then give 1½ pints raw linseed oil. Give water in small quantities and often, and feed a few sifted wood ashes once a week, also what salt she wants.

**PRIZEWINNING STALLIONS—
TIME TO PRUNE APPLE TREES.**

1. What was the name of the imported Clydesdale stallion that took first prize in the four-year-old class at the last Toronto Show; also the name of the one that took sweepstake of all ages in the breed?

2. When is the best time to prune apple trees? A. F.

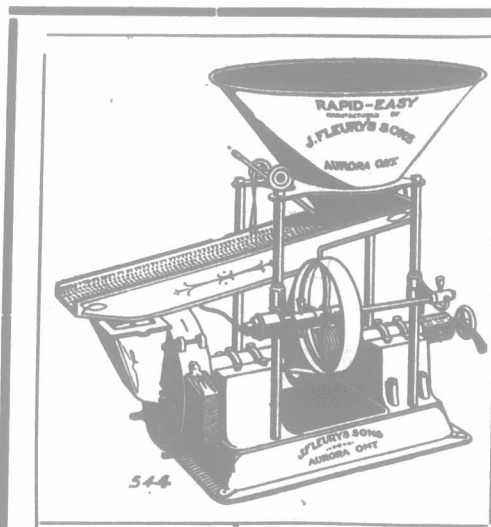
Ans.—1. Our inquirer should be more specific, as no fewer than three important exhibitions of horses have been held in Toronto within the past twelve months, at two of which Clydesdales were shown. We presume, the show alluded to is the Ontario Horse-breeders' Exhibition, held in the St. Lawrence Market Building, in February, 1907. At this show, Acme [6187] (10485), imported and exhibited by O. Sorby, of Guelph, was first in the aged four-year-old and over class. The champion Clydesdale stallion was Baron Richardson [5320] (12842), imported and exhibited by Smith & Richardson, of Columbus, Ont. This horse showed in the class, stallions foaled in 1903, and was well under four years of age when exhibited, though at the fall exhibitions this year he will rank, of course, as a four-year-old.

2. Probably June is the best time, if one can do it conveniently then, but it may be done in late winter or early spring, and this time is preferred by most orchardists on the score of convenience.

**CROSSING THOROUGHBRED
AND HACKNEY.**

I would like to breed a few high-class carriage horses of good size and quality, standing 15½ hands and over, weighing, when mature, 1,100 to 1,200 lbs. Would you advise my purchasing a few Thoroughbred mares and breeding them to a Hackney stallion, or would you advise purchasing pure-bred Hackney mares, and breeding them to Hackney stallion? AMATEUR.

Ans.—This opens a nice subject for discussion, one not likely to be settled in a hurry. There is no doubt that the get of a Hackney stallion on Thoroughbred mares should furnish a considerable proportion of high-class carriage stock. So, also, should the Thoroughbred stallion on Hackney mares, although we rather prefer the former cross. It is by no means certain, however, that crossing is a wise course to pursue, unless "Amateur" is prepared to proceed, regardless of economy. By adhering to a system of pure breeding, the progeny would have a much greater value for breeding purposes than would cross-bred colts or fillies. If he is willing to try the experiment, we would suggest that he procure the service of a first-class Hackney sire with particularly high action, and mate to a few of both Thoroughbred and Hackney mares. The issue will not only be of interest for study, but will, in a measure, show the chances of a satisfactory result. If means permitted, we would suggest to carry the experiment by mating one or two Standardbred stallions, carefully selected for conformation and substance.



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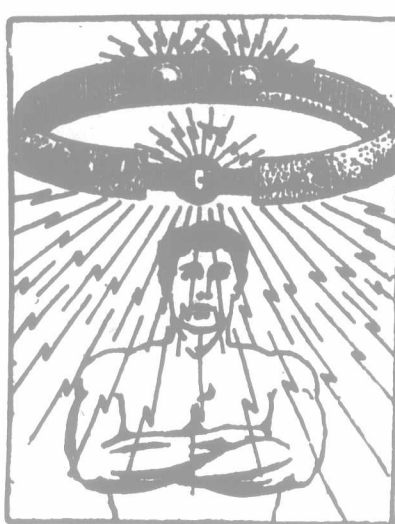
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7 horses and mares fit for light farm work \$25 to \$50
7 horses and mares good for farm work 50 to 75
20 horses and mares 75 to 100
31 horses and mares 100 to 125
24 horses and mares 125 to 150
3 drivers, wagons and harness. Harness, wagons, sleighs, neckyokes, whiffletrees, also slush and wheel scrapers. Apply to:
M. A. PIGOTT & CO., Goderich, Ont.

For Sale! Eight-year-old registered Holstein bull, Tully's Sir Abekirk. **N. DOYLE, ROCKFIELD, ONTARIO.**



It Made a Man of Me!

Read what Leonard A. Spooner, of Palmerston, Ont., says:

Dear Sir,—Thirty days have passed since I started to use your Belt, I have much pleasure in sending you the report of my case. As regards the Belt, I can only give it the highest possible praise; it is, indeed, worth double its value, and has already done more for me than any other thing I have tried. As regards myself, I am feeling better than ever I was before. My stomach is stronger; my head and intellect seems clear, and I am able to take a fresh start in life, a clearer view of things, and am far more able to do a day's work. This year I have done what has been impossible for me to do before (much praise to your Belt). I have followed the binder, shocking in every field with ease and comfort. In every way, Doctor, I am a better man; better digestion, and people tell me I am getting fat and looking healthier. Wishing you every success with your Belts, believe me.

Give me a man broken down from dissipation, hard work or worry, from any cause which has sapped his vitality. Let him follow my advice for three months and I will make him as vigorous in every respect as any man of his age.

Dr. McLaughlin:

Dear Sir, — My case has certainly been a very serious one, and one of long standing. I had latterly been unable to do any work at all. Your Belt has worked wonders in my case, as I am working steady now. It is well known here that it is your Belt that has put me on my feet again, and no doubt will be the cause of other sales to you.

Nipissing, Ont.

William J. Byers, Nipissing, Ont.

Letters like that tell a story which means a good deal to a sufferer. They are a beacon light to the one who as become discouraged from useless doctoring. I get such letters every day.

My Belt has a wonderful influence upon tired, weak nerves. It braces and invigorates them and stirs up a great force of energy in a man.

Are you weak or in pain? Are you nervous or sleepless? Have you **Varicocoele, Rheumatism, Weak Back, Kidney Trouble, Weak Stomach, Indigestion or Constipation?** Are you lacking in vitality? I can give you the blessing of health and strength. I can fill your body with vigor and make you feel as you did in your youth. My Electric Belt is worn while you sleep. It gives a soothing, genial warmth into the body. This is life—vigor.

After you have read the above, write to me, explain your case, and I will at once tell you if I can cure you or not. To prove to you the confidence I have in the curative power of my Belt, I am willing to accept your case, and after I have cured you then pay me. All I ask is reasonable security. You may then use my Belt at my risk.

Tell me where you are and I'll give you the name of a man in your own town that I've cured. I've got cures in every town. That's enough. You need the cure. I've got it. You want it. I'll give it to you or you need not pay me a cent. Come and get it now. The pleasurable moments of this life are too few, so don't throw any away. While there's a chance to be husky and strong, to throw out your chest and look at yourself in the glass and say "I'm a man," do it, and don't waste time thinking about it.

CALL TO-DAY.—Come and see me and let me show you what I have, or if you can't, then cut out this coupon and send it in. It will bring you a demonstration of my Belt and a book that will prepare you to be a man among men, all free. My hours, 9 a.m. to 5 p.m. Wednesday and Saturday.

Put your name on this coupon and send it in.

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