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VOL. XLIV.

LONDON, ONTARIO, JULY 29, 1909.

No. 879

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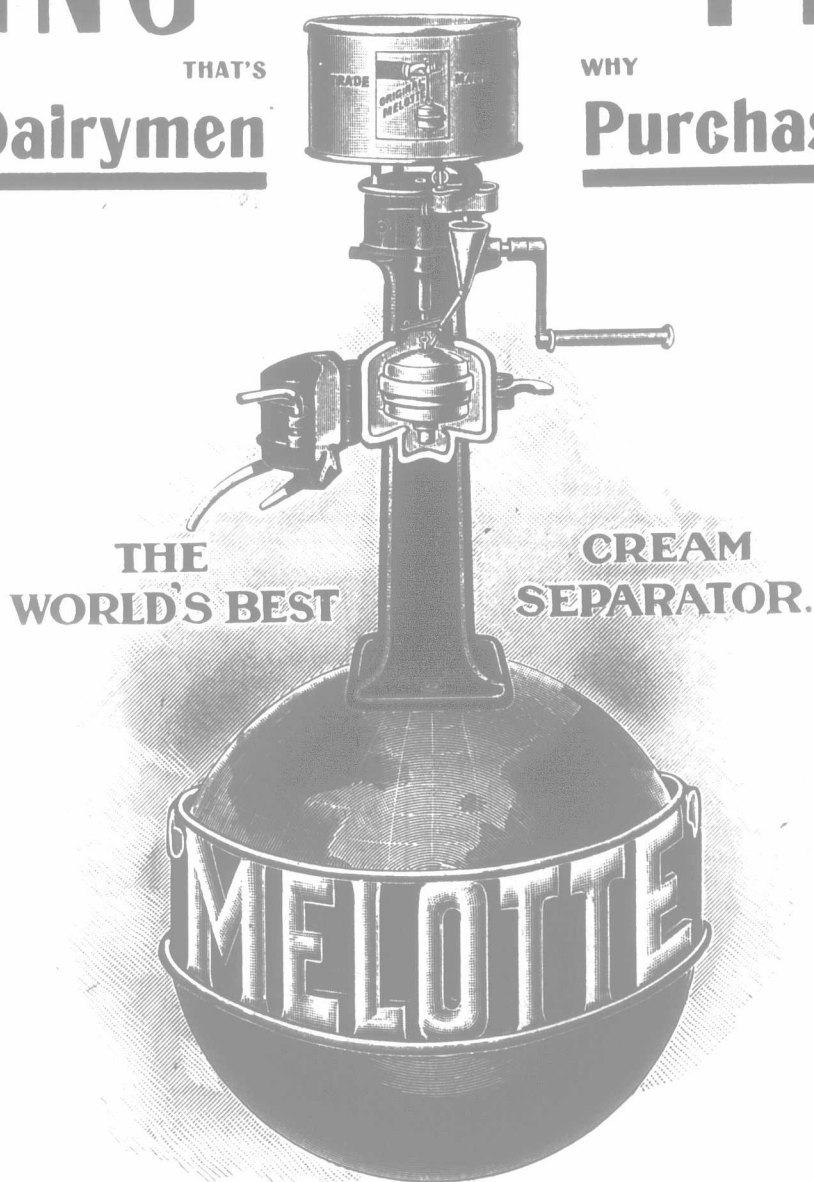
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A patronizing young lord was seated opposite the late James MacNeill Whistler at dinner one evening. During a lull in the conversation he adjusted his monocle and leaned forward toward the artist. "Aw, y' know, Mr. Whistler," he drawled, "I pahssed your house this mawning."

"Thank you," said Whistler, quietly. "Thank you very much."

HIS WISH.

Although there was no toy for which Harold had expressed a desire that was not in his possession, he still had longings. "I know what I wish I was, mother," he said one day, when his own big brother had gone away and the little boy across the street was ill.

"Yes, dear," said his mother. "Perhaps you can be it, Harold, mother will help you. Is it to play soldier?"

"No, indeed!" said Harold scornfully. "I just wish I was two little dogs, so I could play together."

A PERILOUS PREDICAMENT.

Robert Herrick, the brilliant realistic novelist, said at a recent luncheon at Chicago:

"There is a type of American wife who, in her greed for wealth and display, brings unhappiness on herself. She rather reminds me of the fat man and the table-d'hotel dinner."

"This man entered a restaurant that served a dinner at the fixed price of seventy-five cents. He knotted a napkin about his neck and fell to heavily. So heavily, in fact, that the waiter, after a whispered conversation with the proprietor, approached him and said:

"Beg pardon, sir, but I'll have to charge you a quarter extra; you eat so much."

"The fat man, red and short of breath from his excessive gorging, said earnestly:

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"I suppose your wife was tickled to death at your raise in salary?"

"She will be."

"Haven't you told her yet?"

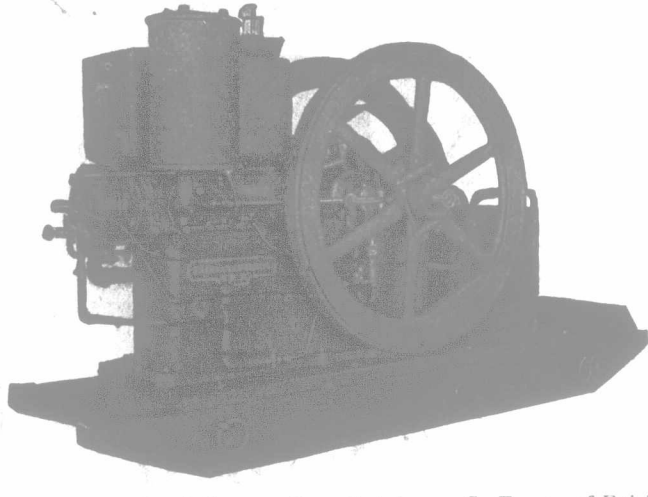
"No; I thought I would enjoy myself for a couple of weeks first."—Nashville American.

THE NEW RELIGION.

When Bishop Phillips Brooks sailed from America on his last trip to Europe, a friend jokingly remarked, that while abroad he might discover some new religion to bring home with him. "But be careful of it, Bishop Brooks," remarked a listening friend; "it may be difficult to get your new religion through the Customs House."

"I guess not," replied the Bishop, laughingly, "for we may take it for granted that any new religion popular enough to import, will have no duties attached to it."—Boston Herald.

Editors have their troubles. One of these men who presides over the destinies of a Western newspaper is mourning the loss of two subscribers. One wrote asking how to raise his twins safely, while the other wanted to know how he might rid his orchard of grasshoppers. The answers went forward by mail, but by accident the editor put them into the wrong envelopes, so that the man with the twins received the answer: "Cover them carefully with straw and set fire to it, and then the little pests, after jumping in the flames for a few minutes, will be speedily settled." And the man with the grasshoppers was told to "give castor oil and rub their gums with a bone."



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THE SPICE OF LIFE.

She—I heard you singing in your room this morning.

He—Oh, I sing a little to kill time.

She—You have a good weapon.—Boston Transcript.

—

A traveller passing through the Broad-Top-Mountain district in Northern Bedford County, Pennsylvania, last summer, came across a lad of sixteen cultivating a patch of miserable potatoes. He remarked upon their unpromising appearance, and expressed pity for anyone that had to dig a living out of such soil.

"I don't need no pity," said the boy resentfully.

The traveller hastened to soothe his wounded pride. But in the offended tone of one who has been misjudged, the boy added: "I ain't as poor as you think. I'm only working here. I don't own this place."

—

An Irish lancer was ordered to administer a powder to an "invalided" horse. "Roll a sheet of paper into a tube," said the farrier-sergeant, "place this powder in it, put one end of the tube into the horse's mouth, and blow the powder down its throat." A few minutes afterwards the sergeant, hearing a commotion in the stable, went in, to find the private leaning against the wall, looking very ill.

"Did you do as I told you with that powder?" "Sure I did, sarjint, but—the horse—" "Well, what about the horse?" "He blew first!"

Lucile, a carefully-brought-up little girl of five years, returned from her first party in great glee.

"I was a good girl, mamma," she announced, "and talked nice all the time."

"Did you remember to say something pleasant to Mrs. Townsend just before leaving?" her mother asked.

"Oh, yes, I did," was the enthusiastic reply. "I smiled and said, 'I enjoyed myself, Mrs. Townsend, I had a lots better dinner than I thought I'd have.'"

ANOTHER LANGUAGE.


"The late Bishop Potter, once, in his early days, had occasion to officiate at a christening in a small fishing village on the Massachusetts coast," says a writer in a recent issue of Harper's Weekly.

"The proud father, a young fisherman, awkwardly holding his first-born daughter, was visibly embarrassed under the scrutiny of the many eyes in the congregation, and his nervousness was not decreased by the sudden wailing of the infant as they stood at the font.

"When the time for the baptism of the babe arrived, the bishop noticed that the father was holding the child so that its fat little legs pointed toward the font.

"Turn her this way," he whispered, but the father was too disconcerted to hear or understand.

"Turn her feet around," the bishop whispered again; but still there was no response. The situation was fast becoming critical, when an ancient mariner in the back of the church came to the rescue. Putting his weather-beaten hand to his mouth, he roared across the room, "Head her up to the wind, Jack!"



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Vol. XLIV.

LONDON, ONTARIO, JULY 29, 1909

No. 879

EDITORIAL

Every cheese factory in Canada should have a cool-curing room.

No one factor makes up the sum total of success. Because one has done well without a silo, or without corn, or without alfalfa, or without a good rotation, is no proof that he could not do better with any or each of these advantages.

One great trouble with agriculture in Eastern Canada is too much grass, oats and barley, and not nearly enough clover, corn, alfalfa, nor enough peas, roots and soiling crop; also, not enough rough land in permanent pasture, and not enough hills and rocky areas in woodland.

Over 170 persons have been in attendance this summer at the rural-science school, designed principally for teachers, at the Nova Scotia Agricultural College, Truro. It must have been a valuable course last summer, to draw nearly six times as many students this year as there were in the initial class of 1908.

If every farmer in this country were taking proper advantage of his opportunities, and doing as well as he might reasonably be expected to do, making full allowance for shortage of capital, ill-health, and all other handicaps with which we are variously afflicted, the production per acre of our fields could easily be doubled in ten years.

Forty-seven cheese factories in Oxford County made cheese in 1908 to the value of over a million and a quarter, the exact figures being \$1,231,340.82, or an average of over twenty-six thousand dollars per factory. In addition, a few factories made butter in winter to the value of \$48,869.35, all told. Butter made at home, milk and cream for retail trade and for home consumption, and the milk supply of a large condensary at Ingersoll, should swell the total volume of dairy products to a value considerably over a million and a half. With good weather from now out, prospects are for a fully-maintained or increased make this year.

W. F. Olds comes back at Mr. McNeill, Chief of the Dominion Fruit Division, with some heavy artillery of facts and evidence, contending, first, that winter apples grown in Norfolk Co., Ont., with reasonably satisfactory culture, will keep well enough for ordinary commercial purposes, and submitting a letter from one firm who preferred the pack of the Norfolk Fruit-growers' Association to apples from the famous Trenton district. Fall apples, he finds, are not being planted in Norfolk, and he quotes other opinions, in support of his own, that it would be inadvisable to plant them on a commercial scale, it being difficult to dispose of those they already have. He also indulges in some pleasantries at the modified delineation of the fall-apple belt. We think the general reader will conclude the Norfolk County growers have the best of the argument. They can and do grow good winter apples on a considerable scale, and market them profitably as such. The growing of fall apples in this region might be all right in the hands of specialists conveniently situated, who could handle them as a tender-fruit crop, but the general planting of fall apples commercially does not commend itself as a prudent policy, and we are inclined to agree with Mr. Olds, that the Fruit Division should bend its energies to getting the owners of present orchards to adopt modern methods.

Cool-curing Rooms Needed.

If a manufacturing firm turning out twenty-five million dollars' worth of products a year could, by a capital investment of a million dollars, or even two million, save an annual loss of \$250,000 in shrinkage, besides enlarging its demand through supplying a superior article, reducing claims for defective goods and improving the quality decidedly, with a good prospect of adding half a million a year to the value of its output thereby, how long would it take the board of directors to decide that the investment should be made, especially if the proposed step were necessary to meet foreign competition on equal terms? That is about the position of the Canadian cheese industry in relation to the proposition of cool-curing rooms for cheese.

According to the Canada Yearbook, the Dominion exported to Great Britain, in 1908, 188,823,188 pounds of cheese, valued at \$22,763,736. These figures take no account of a considerable home consumption, or small quantities shipped to other countries. This magnificent staple is manufactured in thousands of plants throughout the country, chiefly Ontario and Quebec, and, thanks to a persistent and well-generalized educational campaign, is being produced under such good average conditions in both stable and factory that its quality has enabled us to well-nigh monopolize the British market. This world-market, however, must be held, even as it has been won, by persistent, strenuous endeavor to progress and to excel. New Zealand, as well as other countries, are ever ready to step in and command a share of the trade, and the equable, ocean-tempered climate of the Antipodean Island gives it one decided advantage in a point in which, owing to our hot summers, we are comparatively weak, viz., the curing of the cheese from the time they leave the hoops till they reach the refrigerated cars or the buyers' warehouses. New Zealand cheese are all practically cool-cured, and never reach the consumer within two months after they are made. Moreover, they arrive in Britain in a cool season, and at a strategic period of the market. If Canada, therefore, is to maintain her position, she must look to her laurels, and, among other things, pay particular attention to the question of artificial cool-curing.

So much for international competition. Let us bring the discussion down to a basis of direct individual interest. First of all, what is cool-curing? A cool-curing room now signifies a curing room with an ice-chamber in connection, the walls of both compartments being insulated sufficiently to permit the temperature being controlled and maintained below 60 degrees Fah. The more important advantages of such a room are saving of from one to one and a half per cent. in shrinkage of the cheese, with consequently greater weights and values to the patron, improvement in quality, which, though still inadequately favored by the buyers, frequently nets an eighth to a quarter of a cent. a pound more for the cool-cured cheese; an avoidance of many cuts in price as a result of the development of bad flavors and objectionable qualities in the cheese, if cured at ordinary temperatures; lastly, a greater demand for cheese, as a result of the improvement in quality. Speaking at Prescott last winter, Dairy Commissioner Ruddick emphatically asseverated:

"I state most positively, after comparing the results of hundreds of tests, I have invariably found the cheese cured at 60 degrees and under to be better in flavor and texture than other cheese from the same vat cured at higher temperatures."

And the British cheese merchants, local buyers, instructors and experts all say the same.

The first effect of high temperatures is to make the texture of the cheese rough and mealy, and in extreme cases to cause them to show a greasiness that is undesirable, destroying the silkiness of texture always present in cheese at its best. Bad flavors are intensified at the higher temperatures, and many cheese go off flavor, while all become sharp much sooner. The injury begins as soon as the temperature rises above 60 degrees; at 74, grease shows on the surface—in other words, the fat begins to fry out.

Cool-curing minimizes the development of defects in inferior cheese, and insures the curing of a good, well-made article into a fancy product.

* * * * *

A few figures as to saving of shrinkage. During five years, commencing in 1902, the Dairy Commissioner's Branch of the Dominion Department of Agriculture maintained for illustration purposes four central cool-curing rooms, at Woodstock and Brockville, Ont., and St. Hyacinthe and Cowansville, Quebec, to which 104 factories sent cheese. To ascertain the saving in shrinkage by cool-curing, a test system was followed. Every week at least two cheese from each make were selected and weighed; one was cured in a room corresponding to ordinary factory conditions, the other placed in the cool-curing room. Averaging and comparing the weights at time of shipping out gave representative figures by which to estimate the shrinkage. It is on the strength of such conclusive data that Dairy Commissioner Ruddick estimated the saving in shrinkage by cool-curing at 1 to 1½ per cent.

* * * * *

Along this line, a few data from the Woodstock central cool-curing room will be of interest. The number of cheese cured there in the five years was 58,923, weighing 4,688,831 pounds. The saving in shrinkage was 70,792 pounds, with a value at that time, when cheese were lower than they are now, of \$7,064.00. Taking the case of a single factory, Spring Creek factory in four years sent 685,851 pounds of cheese, on which the saving in shrinkage was 9,957 pounds, valued at \$970, which went to the Government, by way of compensation for hauling the cheese. After four years' experience of cool-curing, the company remodelled the curing room at their factory, at a cost of \$575, or a capital expenditure of only about 60 per cent. of the four years' saving in shrinkage, not counting other advantages at all. In five years, East-and-West Oxford sent in 849,760 pounds of cheese, on which the saving in shrinkage was 12,757 pounds, valued at \$1,270. They then fitted up a curing room of their own, at a cost of six or seven hundred dollars. So it was with many other factories, and, as a net result of the Government demonstration, there were, last winter, according to Mr. Ruddick, 30 cool-curing rooms in the Central Ontario district including the Counties of Prince Edward, Hastings, and Peterboro, besides quite a number in Western Ontario and the Lake St. John District of Quebec. In the East they are quite as well pleased as in the West. One salesman thinks the patrons of his factory have made at least \$600 profit a year by cool-curing on an output of a hundred tons, the extra cost of the ice-chamber in the first place having been only this sum. Another thinks that, from an outlay of about \$400, their patrons have derived \$900 advantage in three years. It was the privilege of our editor to inspect a number of cool-curing rooms this month in Oxford County, and, without going into details just here, it is enough to

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

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10. LETTERS intended for publication should be written on one side of the paper only.

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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 other papers until 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.

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

say that the close body, silky texture and clean flavor of the cheese bore emphatic testimony to this advantage of cool-curing, while patrons and makers, so far as could be learned, were all well pleased with the improvement.

* * * * *

In connection with the above figures, it should perhaps be explained that, while cheese is higher in price now, and the advantage of any saving in shrinkage correspondingly greater, on the other hand, the cheese, during the last year or two, have been shipped closer to the hoops, and consequently the saving in shrinkage has been rather less than in the Government's illustration curing rooms, where the cheese remained an average period of about two weeks. However, as the cheese still remain a week or more, and as the saving in shrinkage is said to be correspondingly greater in the first than in the second week, it is estimated that, under present conditions, with the cheese remaining an average period of seven to nine days, the saving in shrinkage would still be one per cent., or three-quarters to a pound on each cheese.

* * * * *

The average cost of fitting up a cool-curing room, with ice-chamber, for a 150-ton factory, has been placed at \$600 to \$800, depending upon the previous condition of the curing-room. Interest on \$800, at 5 per cent., would be \$40; annual expense for storing ice, probably \$50. For insurance, annual allowance for sinking fund, and risk of impairment of the investment (as by the close location of a new rival factory, a milk condenser, or a creamery, etc.), \$75.00 should be a liberal allowance, making a total annual debit of \$165. Credit against this an almost certain saving of 11 tons in shrinkage, worth, at 11 cents a pound, \$330. Saving in cuts, owing to possible development of defects in cheese cured at high temperatures, ability to hold cheese safely over flat markets, and premium in price owing to superior quality of cool-cured cheese, should easily amount to as much more. But put the aggregate advantage at \$500 a year. Deducting the

annual charge of \$165, we have a yearly gain of \$335 to the credit of cool-curing. Of course, in some cases, where the present facilities are fairly efficient, the advantage would be much less, though in these cases the cost of fitting up the cool-curing room would also be less. In other instances the cost would be rather more, and the benefits correspondingly greater.

Making out as weak a case as figures and experience will yield, we still have the conclusion that in any curing room where the temperature occasionally goes above 60 degrees, it will pay either to improve the insulation or to put in an ice-chamber, or probably both. Any cheese exposed to a temperature above 60 degrees for more than two or three days suffers a permanent injury in quality which no subsequent cool-curing will overcome.

As a means of meeting the capital indebtedness incurred, Joseph Burgess, who had charge of the Government cool-curing room at Woodstock, tells us he knows of one factory that put in a cool-curing room, and deducted the value of a pound a box off their make the following season, which went towards paying for the improvements. However financed, we must conclude that the establishment of a cool-curing room ranks as an investment with the underdrainage of wet fields. Either will repay the capital in from one to three years. What other investment will?

Plows and Poverty.

Plows and poverty is the alliterative heading of a graphic article in an American magazine, in which the writer contends strongly against the continual cultivation of hillsides as certain to result in waste of valuable soil.

By illustration, the argument is enforced that we plow because our fathers did, and not always because it is wiser to do so. An employee of the Hudson's Bay Company, who had caught and tamed a young beaver, kept him for a time at the trading-post where he was stationed until he became a great pet. In the end, the idea came to him to send him as a present to his chief, in London, which he managed successfully to do. After the beaver had been in his city home about a week, instinct began to assert itself, and he grew restless. He set to work one night and built a dam. It was not across a stream, but across the corner of a third-story office. He had used four chairs, the contents of a wood-box, stools, scrap-basket, boots and bootjack, and a shelf of books, and, having no mud, stuffed the crevices with old newspapers. In the morning he was a happy beaver, sitting on top waiting for the rise of the water.

The writer makes the charge that the strongest reason with many of us for doing a thing in a certain way is because our fathers and grandfathers did it in that way, though it may be quite unsuitable for present-day conditions. The London beaver was an indiscriminate builder of dams; he carried the habit from America. The American farmer is an indiscriminate plowman of land; he brought the habit from Europe. Plowing year after year came to be considered the mark of good farming. Allowing something for American exaggeration and positiveness, there is no question but like methods of repeated plowing have in this country wrought havoc with hillsides. Rain falls more gently in the Old Land; it comes down in torrents here. If the hillside is in forest, or even in permanent pasture, no great harm is done, but great gullies are washed out, and good surface loam rushed away, if the land is plowed and replowed year after year. The fact is not appreciated as it ought to be, that, if the hillside is to remain profitable, the plow must be withheld.

Wondering over these things has caused some American farmers to plant apple orchards on steep places, using hay mulch in place of cultivation. There are several prophets of this new school of apple-growers who have preached and practiced, and, above all, made money in the business. A Louisiana farmer planted his hillsides in mulberry trees. The fruit contains fruiting and dropping for three or four months, and furnishes food for pigs, which, it is claimed,

make the hillside worth about \$15 per acre every year.

Reference is made to the chestnut orchards that cover the upper slopes of the Appenines and other mountains of Italy. The lower slopes of the mountains, which have been cleared, appear to support a smaller population than do these higher levels on which chestnut trees thrive. If these trees were cleared off and the land cultivated, there would soon be no soil left. In France, also, orchards of grafted chestnut trees are used to make profitable the steep slopes of mountains and conserve the soil, which but thinly covers the rocks.

There is a lesson for us in all this. Many hillsides in Canada have been cleared and cultivated, which had far better been left in forest timber. The hillsides were cleared first by the early settlers, because they were best drained and freest from injury by frost. Since then conditions have changed, but there are still farmers who, in memory of the fine crops once raised thereon, refreshed by an occasional good crop of winter wheat, remain wedded to the cultivation of the hills, bestowing on them extra work, most of the manure, and reaping from them crops usually much below the average, while all the while a deeper and deeper layer of surface soil is being carried to the lakes and streams, and on to other people's flats.

But, having been cleared, what should now be done with the hills? In some cases reforest, or plant to some fruit or nut trees. In others they might be kept in permanent hay or pasture. Where the mower could be run, alfalfa hay could be grown for a number of years, without re-seeding, and make the slope more profitable than the level; where too steep for this, then, permanent pasture, in which alfalfa is a principal ingredient, would be the next best thing.

Another suggestion that might be made, and that would apply to level land, as well as to slopes, is to plow less frequently than has been the practice. Plowing and cropping year after year depletes the soil of humus, and tends to impoverishment of the best land. Instead of having one part of the farm for crops, and another for grass, it is well to have all arable land in meadow at least half the time. Soil humus and fertility will then both be conserved, and less opportunity given for destructive washing. Plowing carried to an extreme in any soil tends to poverty of the land.

Those who, in "old-oaken-bucket" days, have innocently exposed themselves to the dangers alike of contaminated water and carelessly-handled milk, are sometimes inclined to be skeptical concerning the scientist's revelations of the millions of bacteria there may be in a teaspoonful of the lacteal fluid. "How does it come," they ask, "if there are so many bacteria in milk, that the people who use it are so healthy?" To which, reply may be made that, in the first place, many of them are harmless, and for certain purposes, as for cheese and butter making, beneficial. As for some of the others, we confess we would rather have milk with a few hundred thousand bacteria than no milk without any bacteria. All the same, we would rather have it as pure as can be obtained, and would spare no pains to secure it so. Dangers unrecognized are dangers, nevertheless, and it is foolish to walk into them with one's eyes open.

A great increase in silos is the observation of travellers throughout the leading dairying and stock-raising counties of Ontario and Quebec. Silos attached to 44 barns out of 81 noted, is the report of our dairy editor, who travelled through South Oxford recently. And every cheesemaker spoken to commented on the steadily-increasing number of these economical and modern feed storages.

There is, says Dairy Commissioner Ruddick, an enormous unsatisfied demand for cheese in Canada. By improving the quality and lessening the proportion of heated, strong-flavored cheese, the consumption would be increased in both Canada and Britain. Cool-curing will help to do this.

HORSES.

Pony Registration Rules.

Animals will be admitted to registry in the Studbook of the Canadian Pony Society, under the Canadian National Records Association, as follows:

SHETLAND PONIES (Standard, 44 inches).

- (a) Animals imported from Great Britain, and recorded in the Shetland Studbook of Scotland.
- (b) Animals the sires and dams of which are recorded in the Shetland Pony Section of the Canadian Pony Studbook.
- (c) Animals recorded in the American Shetland Pony Club Studbook, provided they are descended from ancestors imported from Great Britain, and recorded in the Shetland Studbook of Scotland.
- (d) Animals imported from Great Britain prior to January 1st, 1909, not recorded in the Shetland Studbook of Scotland, will, on passing inspection, be recorded as foundation stock.
- (e) Animals descended from known ancestors not recorded in the Shetland Studbook of Scotland, imported prior to January 1st, 1909, will, on passing inspection, be recorded as foundation stock.

WELSH PONIES (Standard 14.1).

- (a) Animals imported from Great Britain, and recorded in the Welsh Pony and Cob Society Studbook.
- (b) Animals the sires and dams of which are recorded in the Welsh Section of the Canadian Pony Studbook.
- (c) Animals recorded in the American Welsh Pony and Cob Studbook.
- (d) Animals imported from Great Britain prior to January 1st, 1909, not recorded in the Welsh Pony and Cob Studbook, will, on passing inspection, be recorded as foundation stock.
- (e) Animals descended from known ancestors not recorded in the Welsh Pony and Cob Studbook, imported from Great Britain prior to January 1st, 1909, will, on passing inspection, be recorded as foundation stock.

NEW FOREST PONIES.

- (a) Animals imported from Great Britain bred by reputable breeders. A certificate to this effect must be provided by the Secretary of the English "Society for the Improvement of the Breed of New Forest Ponies."
- (b) Animals the sires and dams of which are recorded in the New Forest Section of the Canadian Pony Studbook.

POLO AND RIDING PONIES (Standard, 14.2).

- (a) Animals imported from Great Britain, and recorded in the Polo and Riding Pony Society's Studbook.
- (b) Animals the sires and dams of which are recorded in the Polo and Riding Section of the Canadian Pony Studbook.

EXMOOR PONIES.

- (a) Animals imported from Great Britain, bred by reputable breeders. A certificate of breeding, signed by the breeder, must accompany the application for entry. Name of vessel on which imported, and port of entry, must be given.
- (b) Animals the sires and dams of which are recorded in the Exmoor Section of the Canadian Pony Studbook.

ICELAND PONIES.

- (a) Animals imported direct from Iceland.
- (b) Animals the sires and dams of which are recorded in the Iceland Section of the Canadian Pony Studbook.

Applications for registration of imported ponies must be accompanied by proper certificates of identification.

Name and address of breeder must be supplied, name of vessel on which imported, and port of entry.

HACKNEY PONIES (Standard, 14.1.)

Imported.

Recorded in the English Hackney Studbook.

- (a) A stallion full-registered will be given full registry.
 - (b) A stallion half-registered, if imported prior to January 1st, 1909, will be given full registry.
 - (c) A mare full-registered will be given full registry.
 - (d) A mare half-registered will be given half-registry.
 - (e) A mare recorded as "Inspected," will be recorded as "Inspected," Canadian-bred.
- By sires recorded in the Canadian Pony Studbook.
- (a) A stallion or a mare out of a dam full-registered will be given full registry.
 - (b) A mare out of a dam half-registered will be given full registry.
 - (c) A mare out of an "Inspected" dam will be given half-registry.

(d) Mares not less than two years of age may be inspected, and, if accepted, will be recorded as "Inspected" foundation stock.

By sires recorded in the Canadian, American or English Hackney Studbooks.

(a) A mare, provided her dam is a pony recorded as inspected foundation stock, will be given half-registry.

(b) A mare out of a half-registered dam will be given half-registry.

Ponies recorded in the Canadian or American Hackney Studbooks:

(a) A stallion recorded as a pony in either the Canadian or American Studbook will be given full registry.

(b) A mare recorded as a pony in either the Canadian or American Studbook will be given corresponding registry.

The fee for registration is as follows:

To members for each registration, \$1.00.

To non-members, \$2.00.

Transfers, 50 cents each.

Duplicate certificates, 50 cents each.

Life membership, \$25.00.

Annual membership, \$2.00.

All correspondence should be addressed to Accountant, National Live-stock Records, Ottawa.

Views of a Light-horse Man.

Editor "The Farmer's Advocate":

We will answer, according to our own experience, the question of cost of raising a colt to the age of three years. The service fee is about all that is to be considered up till foaling time, as the mare, if carefully handled, will fill a horse's place on a seeder or harrows, and sometimes even on a cultivator, before foaling, providing she is not foaling early.



Marden Peach.

Shire filly. First at Royal Show, 1908. First and Gold Medal, Bath and West of England Show, 1909.

Allowing \$10.00 for risk of mare at foaling time, \$15.00 for service fee, and \$10.00 for pasture of mare for the summer, the cost of an average colt would be \$35 when he is weaned. The colt's first winter's feed would come to about \$14.00, allowing 4 pounds per day of crushed oats or bran, at \$1 per cwt., for 180 days, \$7.20; one-half bushel flaxseed, ground, 80 cents; one ton of clover hay, \$6.00; cost of pasture as a yearling, at one dollar per month, \$6.00. The second winter costs us little more than the first, the only difference being a little more fodder of some kind. If cut hay and straw, or corn, be fed twice a day with the crushed oats and bran, it need not cost any more, but would be as before, \$14.00. The third summer, the colt being more troublesome, as a rule, we will value his pasture at \$10.00. He is now two and a half years old, at a cost of \$79.00. If he is a heavy colt, he should now be able to do enough light work to pay for his feed, if carefully handled. As to cost of breaking, the task shouldn't be a hard one, providing his owner has taken the precaution to keep his toes trimmed two or three times a year, and, of course, taught him to lead early. He will not usually occupy much valuable time, if taken when the snow is not too deep, and in a slack season. Breaking will be a nice pastime for the boys or hired man. Allowing for care

and handling \$21.00, the colt would cost, at three years of age, \$100.00, which should leave to the producer a profit of from \$60 to \$75, and in some cases, where an extra good one is produced, as much as \$100.

The cost of raising a light colt is much the same as is that of a heavy one, the light colts being, as a rule, smarter, or entailing less risk, and fewer losses at foaling time. However, he requires more skillful handling, and does not become useful on the farm as early as one of the heavy breeds. We have, for a number of years, been engaged in the breeding and handling of light horses, more particularly, and have been fairly successful in producing high-class animals for saddle, harness and combination purposes. Careful mating and good handling go a long way in this business, as only the better class pass well. S. B. ARMSTRONG.

Wellington Co., Ont.

The Illinois Stallion Law.

A new law governing the keeping of stallions for public service in Illinois was recently passed by the Legislature of that State, and, having received the signature of the Governor, it will go into effect January, 1910. Following are its provisions:

Sec. 1 provides that any stallion offered for public service in this State shall be enrolled in the office of the Secretary of the Illinois State Board of Agriculture, and all license certificates recorded in the county or counties in which such stallion is used for public service.

Sec. 2 provides for the formation of a stallion registration board consisting of five members, the Secretary of the State Board of Agriculture, the State Veterinary, the President and Secretary of the Illinois Horse-breeders' Association, and the president of the Illinois Farmers' Institute, and defines the duties of the said Board.

Sec. 3 requires the owner of a stallion to furnish an affidavit signed by a licensed veterinary, to the effect that he has personally examined such stallion, and that, to the best of his knowledge and belief, the stallion is free from hereditary, infectious, contagious or transmissible disease or unsoundness, with the studbook certificate of registry and all other necessary papers relative to his breeding and ownership, before a license certificate will be issued to the owner.

Sec. 4 specifies the diseases which shall disqualify a stallion for public service. They are periodic ophthalmia (moon blindness), bone spavin, ring-bone, bog spavin; curb, when accompanied with curby formation of the hock; or any contagious or infectious disease.

Sec. 5 requires the keeping of a record of all stallions enrolled in the State of Illinois, such stallions to be classified as "pure-bred," "cross-bred" or "grade," and allows the grant of a

temporary license certificate without veterinary examination, upon affidavit of the owner that the horse is free from disease or unsoundness. These temporary licenses are good only until veterinary examination can reasonably be made.

Sec. 6 requires the posting, during the entire breeding season, of copies of the license certificate, both within and upon the outside of the main door where the stallion is used for public service. Each bill and poster and each newspaper advertisement must show the certificate number, and state whether it reads "pure-bred," "grade," or "cross-bred."

Sec. 7 directs the form in which the license certificates shall be made in the case of "pure-bred," "cross-bred" or "grade" stallions, as the case may be.

Sec. 8 provides a fee of \$2.00 for the enrollment of each stallion and for the issuance of the license, which is good for one year, and provides for the transfer of the certificate upon change of ownership of the stallion.

Sec. 9 provides that every stallion passing inspection shall be exempt from further inspection, unless there is complaint that such stallion has some disease which was not evident at the time of the previous inspection. Such complaint should be filed with the Secretary of the Stallion

Registration Board, who has power to have another examination made.

This section also gives the stallion a lien on all colts sired by the stallion for a period of one year from the date of foaling.

Sec. 10 fixes a fine of from \$25 to \$100 for each violation of any of the provisions of the act.

Sec. 11 directs the use of the funds arising from fees collected under this act, and provides a compensation of \$5 for each day actually employed under the provisions of this act for each member of the committee excepting the secretary. The secretary shall receive for his service an amount agreed upon by the Board.

The provisions of the new law are similar to those now in force in Wisconsin.

Leg Swells When Standing.

I bought a registered Clydesdale mare when three years old. Since then she has had lymphangitis two or three times every year, but I always managed to effect a perfect cure. Last April one leg swelled from foot to hock. I worked her all spring, and the leg would become reduced to nearly its normal size during the day, but would be swollen again next morning. I turned her on grass as soon as possible, and the swelling decreased, until the leg was almost its normal size; but I notice, if she stands for even one hour, it becomes enlarged. I noticed in a recent issue that iodide of potassium is recommended for such cases. Would it give good results in this case?

J. O. C.

Your mare doubtless is one of the beefy-legged kind that is predisposed to lymphangitis and stocking. The repeated attacks of lymphangitis has increased the tendency to filling below the hock, notwithstanding the fact that each attack was apparently perfectly cured. There is now some organized tissue. This is indicated by the fact that the leg has not quite regained its normal size since last April, even though she has been on grass for considerable time. It is doubtful if this organized tissue can be removed by absorption; and if not, there will always be a strong tendency for the leg to fill when she is standing, and if she should have another attack or two of lymphangitis, there is a great danger of the leg remaining considerably enlarged, a condition known as elephantiasis. Theoretically, iodide of potassium is the proper drug to give, and in practice we get better results from it than from any other treatment, but we must not expect too much from it. It will not always remove chronic thickenings of the legs. As it acts by stimulating the absorbents, and thereby causing a decrease of the thickening, by the process of absorption, its actions are slow. It is worth a trial in this case, but you must have patience, and continue treatment for at least six weeks. Give her one dram three times daily in damp food. If her appetite or desire for water fail, or her skin becomes scrubby, cease giving the drug for a few days, and then give 40-grain doses. But I think she will stand dram doses without showing constitutional disturbance. While she is on grass, this is all the treatment she will require, but when kept in the stable she should be given regular work or exercise, the leg well hand-rubbed frequently, and bandaged at night, to aid circulation and prevent swelling as well as possible. Unless worked regularly, she should be fed little grain—just sufficient to keep her in fair condition. If necessary to keep her bowels moving freely, give a pint of raw oil occasionally.

"WHIP."

Liberal Profit in the Best.

Editor "The Farmer's Advocate":

To one who has never weighed and charged at market price the feed consumed by colts, your question is a little difficult, especially when we think of how many ways there are of feeding a colt. Some are brought through by the skin of their teeth (as the saying is)—just the life in them, and no more; others are fairly well fed; and others, again, are fed all and everything that is good for them. The latter way, in my opinion, is the way to most profit and pleasure, and the one on which I will try to base my calculations.

According to my estimate, it will cost, if all hay is used for winter feeding, and no straw, about \$130 to raise a draft colt to three years old. By feeding half straw and half hay the second and third winters, the cost might be reduced to about \$110. From this would be deducted what the colt had earned as a worker.

My experience is that, with proper usage, a mare in foal will do all farm work right up to time of foaling as well as a gelding, and, while I do not approve of working them much after foaling, I think it would not be expecting too much of her to earn her own and foal's keep the first summer. This would leave the foal, at weaning time, with only the service fee against him—\$10.00.

I estimate that, for the first winter, it will take an average of one gallon of oats, or its

equivalent, a day, for six months, at 40 cents, \$9.00, and 2,500 pounds of hay, at, say, \$10.00 per ton, \$25.00; total, \$34.00. For second summer grass, \$8.00; second winter, 45 cwt. hay, \$22.50; oats, 33 bushels, at 40 cents, \$13.20; total, \$35.70. Third summer's grass, \$10; third winter's hay, 3 tons, \$30.00; oats, 45 bushels, \$18.00; total, \$48.00. Total cost when all hay is used, \$133.20.

By substituting bran for part of the oats, a better ration would be obtained, but the cost would be about the same.

I would not charge the colt with attendance. We have the manure against that. Neither would I charge for breaking, as he can be doing some light work during the process.

It is hard to estimate what the colt's work is worth until he is three years old, for, when other horses are at hand, sometimes the colt does very little. And, again, when older ones have been sold, often the colt's services have been quite valuable. But I think it would be fair to say, on an average, that, after allowing for work done, we have the colt at three years old for an even \$100.

Three-year-old Clydesdales, which are from good parent stock, and have been well fed and cared for, would sell in this locality for an average of \$200; fillies would bring more, but I think the above would be a fair average. These figures show a profit of \$100.

Where the profit comes in is in raising only the best draft horses. There is no money in raising an indifferent class of horses, for no one seems to want them, even at a low price; while almost everyone in need of a horse is willing to pay a fancy price for choice stock, and, as is well known, the cost of production in both cases is the same.

The advice we all need pressed into our memories hard and often is to use only the best mares and the best pure-bred stallions available, with comfortable quarters for the progeny, good care, good feed, and plenty of it; then, a liberal profit is assured.

CHARLES DUNLOP.

Carleton Co., Ont.

LIVE STOCK.

Pig Industry Declining in Britain.

General regret has been expressed over the shrinking of hog production in Canada, especially at a time when prices have risen to a record figure. Some other countries are in the same plight, if we may judge from a resolution passed

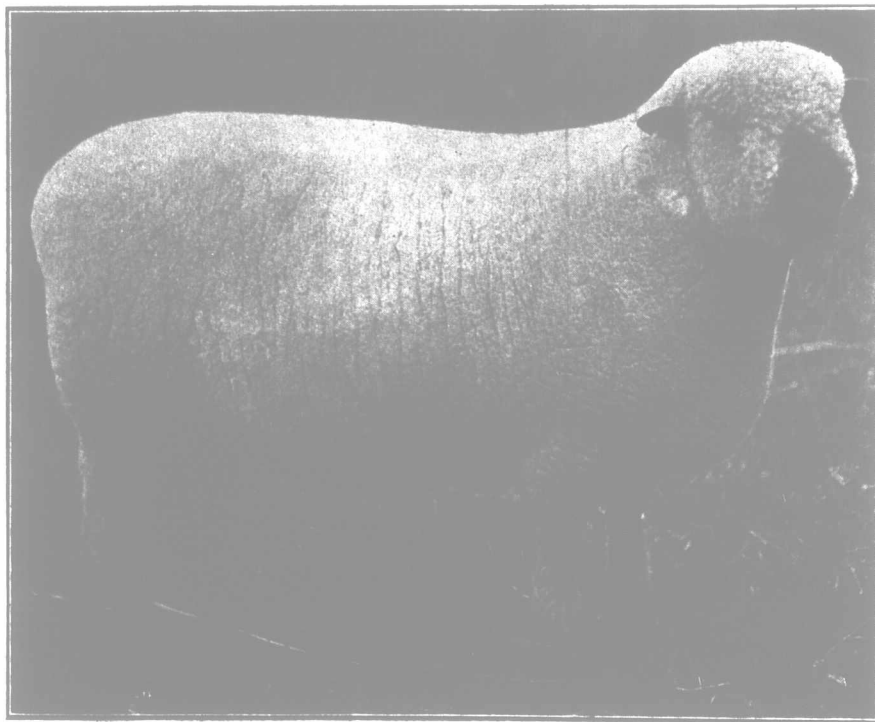
constantly feeling a want of supply, and is not surprised at the fact that 22½ million pounds sterling go out of the country each year for imported bacon and hams. We hope that all editors of agricultural papers will do their best to urge what to us is the best policy, viz., a regular and average supply of pigs. To secure this, we suggest, among other means, that there should be a modification of restrictions, Government compensation for pigs surrendered for the public health, and that there should also be uniformity of inspection throughout the Kingdom."

The Sheep Industry.

An able paper was read by Mr. George McKerrow, Pewaukee, Wisconsin, U. S., at the tenth international conference of sheep-breeders, held at Gloucester, England, the week of the Royal Show, the title being, "How Can we Improve the Sheep Industry?" Reference was made at the outset to the antiquity of this industry, which is among the oldest of man's occupations, and in all ages, all climes, and in the foremost civilized countries it has proved to be one of the best for people and country alike. Mr. McKerrow remarked that it is conceded all over the world that live stock on the farm is the great conservator of fertility. It is also conceded that no domestic animal is more valuable in conserving soil fertility than the sheep. This being true, it is, he added, the duty of every farmer to consider carefully the question of sheep husbandry, and "the adaptation of the spot of earth the good Lord has granted him in his stewardship to the production of wool and mutton." It was mentioned that the sheep not only returns to the soil 80 per cent. or more of the fertility contained in the food he consumes, but he consumes classes of food that other animals neglect; he is a browser, and in the newer districts of the world helps to eradicate various shrubs that are a nuisance and obnoxious to pastures. On the cultivated farms he becomes a weed exterminator and conservator, consuming and turning into wool and mutton 75 per cent. of the weeds in most agricultural districts, thus laying claim to being one of the most helpful, if not the most helpful, domestic animal in improving conditions upon the farm, as well as conserving its fertility.

A glance was taken at the causes of the decrease in mutton and wool supply, due to many of the great pastures in North and South America, Australia, New Zealand and Tasmania being turned into farms by the settler, who, with the aid of irrigation, and better methods of dry-farming, is making his living along other lines than that of sheep husbandry. This means a going off of the mutton and wool supply from the ranches. The population in all these countries is rapidly increasing, and must be fed, and the small farmer in many districts, rather than the rancher, will now have to settle that question. Mr. McKerrow observed that in the United States of America it was no longer a question of exporting mutton to feed the Briton, but it was a question of keeping up the mutton supply for their own markets. The American people, he stated, are becoming more and more mutton-eaters, and it was evident that the better mutton that could be given them, the more they would eat of it. This was also true in other countries.

As might be expected from the fact of his being President of the Wisconsin State Board of



Shropshire Shearling Ram.

First at Bath and West of England Show, 1909.

by the Birmingham and District Butchers' and Pork Butchers' Trade Association, which is as follows:

"That this Association views with regret the fact that the Government returns for last June showed a lessening in breeding sows in England, 6,206; Scotland, 2,367; Wales, 2,208; and Ireland, 18,714. We also view with alarm the fact that pigs have risen in price nearly 50 per cent during the last twelve months. We also notice with regret that the offals from corn from several large mills in this country are being exported to Danish feeders, and we strongly urge that all those engaged in agriculture in the United Kingdom should bear these facts in mind, and take a greater interest in the breeding of pigs. The trade itself feels almost on a famine area, and is

Agriculture, Superintendent of the Wisconsin Farmers' Institutes, and President of the Wisconsin Sheep-breeders' Association, Mr. McKerrow believes in organization, and he devoted attention to this branch of the subject, showing what has been accomplished in this way. Improvement, he said, should be the watchword of sheep husbandry. Every flockmaster should steadily improve his methods of handling his sheep, and he pointed out the deleterious effects of selling culls for breeding purposes. The culls should go to the butcher, and should not go into the hands of breeders and feeders for the upbuilding of the breeds in home and foreign lands. The general ideal of the best breeders of mutton sheep is, he pointed out, an animal with a vigorous constitution, a mutton conformation that meant the

THE FARM.

Litmus-paper Test for Soil Acidity Not Reliable.

It has long been known that the clovers, including alfalfa, do not succeed well on acid soils, and farmers have been advised, before sowing alfalfa, to give their soil a dressing of lime, at the rate of 1,000 to 1,500 lbs. per acre, if they had reason to believe that acid was present in injurious quantity. It has often been stated that the acidity of the soil could be tested with litmus paper. The directions were to take a strip of the blue litmus paper, press it upon the moist soil, and if it changed to a pink color, the soil was acid, and required lime to make it fit for the growth of alfalfa.

In a series of experiments on alfalfa-growing, recently, conducted by the New York Experiment Station, litmus paper was used to determine whether the soil of the fields under test was acid. The results were very unsatisfactory, and tend to show that litmus, as commonly used, is not a reliable indication of acidity in the soil, so far as the acidity affects alfalfa. There was little apparent variation in the degree of acidity in the different soils, if the depth of color of the litmus be taken as a measure. Yet, some of these soils were much benefited by liming, and some were not.

The litmus-paper test is so exceedingly simple that it would be of great use to the farmer if correct, but it is to be feared that it is too unreliable to use.

Professor Harcourt, of the Ontario Agricultural College, communicated with by "The Farmer's Advocate," in reference to the above conclusion, agrees with it. He thinks that the nature of the growth on the soil is vastly superior to litmus paper as an indication of acidity. He recommends applying lime on small areas, and noting results.

greatest development of the high-priced parts of the carcass, such as the leg of mutton, the loin and the rib, but a happy medium in size for the breed, with thick flesh and smoothness. Allusion was made to show-ring standards, and objection taken to the placing of awards on over-fleshed animals, whose carcasses would not bring the best prices when cut up for the consumer, because over-fat; animals whose usefulness had been unnecessarily impaired by long feeding on heating and forcing foods. In this respect he believes English judges were worse than American.

On breeding questions, Mr. McKerrow said the mutton-producer decided upon his breed for improvement, and, if intelligent and thoughtful, looked for constitutional development in the sire he might be buying. This development was manifested in many by a large heart-girth, a well-developed dinner-basket, a bright, large and bold eye, a strong, masculine neck and head, a bold carriage and active movement, which also are all indicators of prepotency. This animal must also have the best mutton development—a heavy leg of mutton, a wide, thick loin, and well-sprung rib, and thick flesh throughout. Constitution meant more and stronger lambs, while mutton development and quality meant earlier maturity, better mutton carcass, and more money for each individual lamb, a greater profit to the producer, with more healthy energy and pleasure to the consumer.

Further, it was pointed out that good feeding is as necessary as good breeding, and useful hints were given on this topic.

Test of So-called Anti-Abortion Serum.

The act of Congress, making appropriations for the United States Dept. of Agriculture, for the fiscal year ending June 30th, 1909, provides as follows:

"That the Secretary of Agriculture is authorized to purchase in the market samples of all tuberculin serums, antitoxins or analogous products, of foreign or domestic manufacture, which are sold in the United States for the detection, prevention, treatment or cure of diseases of domestic animals, to test the same, and to publish the results of said tests in such manner as he may deem best. . . . For some time past there have appeared in certain agricultural and livestock papers advertisements of 'the Robert's serum treatment' for abortion in cows, by the Dr. David Robert's Veterinary Company, Waukesha, Wis. In the advertising matter sent out by that company, there is an order sheet giving a list of 'remedies,' one of which is 'Anti-Abortion Serum, for preventing and curing abortion in cows.'"

In accordance with the provision of law above quoted, the Department recently examined a sample of the preparation referred to. Analysis by the Bureau of Animal Industry shows that the preparation is not a serum, and contains no serum. The sample contained approximately 98 per cent. of water, the remainder consisting of phenols (carbolic acid), oil of cloves, and a very small proportion of what appeared to be some form of vegetable matter.

Live Stock in Japan.

The latest available statistics in regard to live stock in Japan are for the year 1905, when the following totals were printed: Oxen, 233,733; cows, 788,985; bulls, 486,315; mares, 813,056; stallions, 554,682.

It is rather surprising to note that the number has steadily decreased since 1900, but it is more than likely that there has been a considerable increase in the last two years, owing to a movement, encouraged by the Government, to improve the breeds of cattle and horses, and to increase the number to meet the growing demand. It is only in later years that the Japanese have taken to the use of milk and butter, and the present demand is not great, while there is practically no demand for cheese, except among the foreign residents, and to supply hotels, etc.

The imports from the United States in 1907 were: Nine horses, valued at \$1,778; bulls, oxen and cows, 179, valued at \$15,792; all other animals, \$452; total, \$18,022. The imports from other countries were as follows: England, \$131,672; France, \$67,988; Canada, \$9,266; Australia, \$56,956; and Korea, \$186,137.

The first shipment of frozen meat from Australia to England left Brisbane, by the British India Company's steamer, Dorunda, May 21st, 1881. It consisted of 354 sheep and 100 quarters of beef. Success did not immediately attend the venture, but the shippers were not discouraged, and the works devoted to freezing have since multiplied, and the volume of trade grown considerably. In 1907, the quantity of beef frozen and preserved was 51,074,653 pounds, and of mutton 10,253,893 pounds. The bulk of this went to England.

petency on the farm, perhaps he could be induced to stop on a farm if given a salary, like an Agricultural College president gets, with a few extras, and some presidents to do his work, as only they could do it.

Personally, a life that is mapped out for the farmer by those who know very little about it, would have no attraction for me. I believe in taking enjoyment out of my own life, and am considering myself quite as much as others.

GEO. RICE.

Notes on the Wheat Crop.

Editor "The Farmer's Advocate":

We do not remember a season when winter wheat varied so much in appearance. In this locality, about one-fifth of the crop is as good as it could be, another fifth will give an average yield, while the remaining three-fifths will not yield above 15 bushels per acre. The cause of this difference is found in the condition of the seed-bed last fall—wherever the moisture was conserved, and germination of the seed could take place in reasonable time, there the wheat is good.

Last autumn was so unusually dry, following a dry summer, preceded by a winter of little snow, that it was almost impossible to obtain enough moisture for germination, excepting on well-worked summer-fallows.

From August 4th to November 25th we had only a few showers, while at the same time there was a high range of temperature; consequently, stubble land, which constituted three-fifths of the area sown to wheat, had no chance to do well; germination took place very late, and the growth was weak. And, though the winter and early spring were favorable, the cold, wet period following was too trying to the weakly plants, and we now see the effects.

Two years ago we gave in "The Farmer's Advocate" an account of our system of wheat cultivation, namely, to ridge our summer-fallows just before haying, then give them thorough surface cultivation up to seeding time. This plan has always given us splendid results, and this year we expect a crop of 35 bushels per acre. Our stubble wheat has not done as well as usual, one field having a hill facing the west running across it, which lay bare and exposed all winter, and another field having some hardpan patches in it, where the plants suffered most by the cold, wet spring, yet, by present appearance it will yield about 20 bushels per acre. Ridging fallows at odd times during harvest will do, if the harrow and roller follow immediately, but why fallow in the old-time way, when there is a better way? We have not cross-plowed our land for eighteen years, and never purpose doing so. By keeping the lands the same size and way, we are prepared for any weather, wet or dry. When seeding-time arrives, we have only to double-disk across lands; drill and harrow after. The land being fine and moist, germination takes place at once, and the plants grow vigorously up to hard, frosty weather. We double-disk and cultivate our stubble land as soon as the crop is off, thus stopping surface evaporation at once, besides working the surface soil into fine tilth, so that it holds any rain that falls, while in the meantime moisture is rising from below, and usually by sowing time there is plenty of moisture for germination.

This plan is not recommended for dirty land, which should never be sown to wheat, but any grain crop following roots or sod, by this plan will give profitable returns, as we have proven by several years' experience. There are two points in this method we must emphasize: First, to cut the grain as low as possible, so as to leave but little stubble; second, to work the soil until every particle is moved to the depth of three inches, as merely scratching the surface will not do on the ordinary Ontario farm. What wheat requires is a fine seed-bed, with a comparatively firm bottom, and a fair amount of available plant food within easy reach. This plant food is found in greatest quantity in the surface soil; then, why turn this under, by plowing, beyond the reach of the rootlets of the young plants, when they most need it? Besides, we have found that the more the soil is moved and mixed, the more productive it becomes; hence, we cannot over-cultivate when the soil is in proper condition.

The fear, expressed some years ago, that there would soon be an overproduction of wheat, has not yet been realized. In fact, stocks of old wheat were never lighter, and it does not look as if wheat would be low-priced for some years to come. Wherever the soil is suitable, Ontario farmers should sow a good acreage. It distributes both the seeding and harvest operations; it gives a good quantity of straw and chaff; it is good to seed to clover and grasses, and, besides, under proper management, it is a paying crop. I am perfectly safe in saying that, for a period of thirty-five years, our average yield has been 30 bushels per acre, on about an equal amount of fallow and stubble land. Only in one season had we any quantity to plow up. The



Walton Rose 56th.

Middle White sow. First at Bath and West of England Show, 1909.

Farmers Retiring.

I do not believe it should be required of any man that he should work all his days at such a strenuous business as farming, and I would like to see it possible for farmers to acquire a competency a little easier and earlier in life, in order that they may enjoy a well-earned rest. Then I think others would be attracted to the profession of farming. A life of continuous toil is not an inviting one.

In this respect, I take issue with that Agricultural College president in the States, who, speaking on this vexed question, how to keep the farm covered with people, is reported to have said, amongst other things, that "Some means should be devised to keep farmers from retiring." He said that after they acquire a competency they retire and cease to be producers.

And why should they continue to toil on after having a competency? Of course, the more they produce the better for others and the nation, because the nation has much need of farm produce, as it adds to the wealth of the country and furnishes what cannot be dispensed with. But after a farmer has gained a competency, of what use to him is more? Why should he be required to toil all his days, when many others are very likely leading lives of luxury and dissipation? The fact of the matter is the farmer is considered a beast of burden, who should work for the benefit of others, and these others are all doing their best to rob him of the fruits of his endeavor. Some would have the farmer work all his life, and, perhaps, then turn his carcass into fertilizer. We might expect some more sympathy from an agriculturist (that word has been well defined as one who works the farmer rather than a farm), but is it not a fact that even College presidents are so far removed from actual farm conditions that they have no personal knowledge of farm work, and are not in touch with farmers?

If it is desired to keep the farmer with a com-

secret of our success has been thorough cultivation, sowing early (from 1st to 20th September), sowing the best seed, and keeping one-fourth of the farm seeded down.

Our soil is mostly a heavy clay, and only by growing plenty of clover and grasses can we keep it in a friable condition. We have made our first sowing of alfalfa this spring, and it has come up splendidly—better than clover. If it succeeds on our land, we shall be pleased to credit "The Farmer's Advocate" for keeping its merits so constantly before us.

FOYSTON BROS.,
Simcoe Co., Ont.

Benefits of Drainage.

In a bulletin issued by the Massachusetts State Board of Agriculture, Prof. Wm. P. Brooks, Director of the Agricultural Experiment Station, has a treatise on drainage, and from a section of this, dealing with the beneficial effects of underdraining, a few condensed extracts may be given.

First.—Drainage deepens the soil. Only that portion of the soil is accessible to the roots of most of our valuable plants which lies above the water-table. If the average depth of the water-table below the surface of ground during growing season is two feet, the total mass of soil through which the roots extend, and on which they can feed, is only one-half as great as it would be if the average level of the water-table were four feet below the surface. Reducing the level of the water-table, in one sense, therefore, enlarges the farm. The lower soil is not so rich as that nearer the surface, but its contribution to plant-growth is important. The roots of most of our common crops penetrate far more deeply than is generally supposed, and there are few, if any, among the common cultivated crops that will not send roots to a depth of four feet, provided soil conditions are favorable.

Second.—Drainage promotes more perfect aeration. The action of the oxygen of the air upon the various soil constituents is favorable in several important directions. It promotes oxidation, and gradually renders soluble and available numerous soil compounds which, but for this action, must remain inaccessible to the growing crop. Only in well-aerated soil do the organisms whose activity is essential to the formation of soil nitrates flourish. Well-aerated soils are favorable to the multiplication and activity of numerous other beneficial micro-organisms whose activity increases the productive capacity. The living root itself can maintain a condition of healthy activity only when the soil contains air, as well as water.

Third.—The average temperature of the soil through the growing season is raised by drainage, and the growing season itself is thus practically lengthened.

Fourth.—Better tillage becomes possible. Wet soil never works well.

Fifth.—The probability of injury to growing crops in periods of drouth is reduced. This appears to be due to the greater range of plant roots, and to the physical condition of the soil being improved, so that its capillary powers are increased.

Sixth.—Seeds germinate more certainly and perfectly.

Seventh.—Surface washing is lessened. Water is free to enter the soil, instead of running off over the surface.

The above but states in other and more scientific words, and from another country, what our correspondents who have written on the subject in late issues have said in regard to the benefits of underdraining.

Sugar-beet Factories.

In Canada there has been a decrease in the number of sugar-beet factories in the last five years, but on the other side of the line it is different. In 1896 there were six sugar-beet factories in the United States, having a capacity for slicing 4,000 tons of beets daily. In 1908 there were 64 factories, with a total capacity of 50,000 tons of beets daily. The production of beet sugar rose from 36,000 tons, in 1898, to 481,000 tons in 1906, an increase of more than thirteenfold in 8 years. The price of beets has risen steadily from \$1.10 per ton in 1896, to \$5.35 last season. There are factories now in sixteen States, Colorado leading all others in output from sixteen factories. Michigan has an equal number, with smaller output, then follow in order, California, nine factories; Utah, five; Idaho and Wisconsin, four each, and one each in ten other States. Where irrigation is practiced to some extent, the growing of sugar beets seems to be most popular. United States Secretary of Agriculture Wilson believes there are possibilities of great expansion of the industry.

Lightning Rods.

Editor "The Farmer's Advocate":

I noticed in a late issue of your paper a reference to homemade lightning-rods, and I have also seen the subject mentioned a considerable time ago. We intend to put up such a rod as you describe. Some time ago a barn was burned by lightning in this district, and very soon lightning-rod agents were around like crows on a dead beast. They were charging from 13 to 22 cents per foot, just as they could make a deal. Not knowing much about lightning, nor how it works, we are at a loss to know how to attach rod to building. Would spike made of $\frac{1}{4}$ -inch round iron, with eye through which rod could be run, do?

P. E.

For the benefit of others who may also be thinking of putting up homemade rods, we give somewhat detailed directions. The rods we recommend are made of nine strands of No. 9 soft, galvanized wire twisted together. In the case of an ordinary single barn, it is well to have rod run along the whole length of ridge, and descend at each end, and enter the ground six or seven feet, thus giving double ground connection. Upright points are added afterwards, pieces seven feet long having been cut off the cable after being twisted. They are usually placed about 20 feet apart.

First find total length of rod needed, including grounded ends and upright points, and run out the nine wires, one after another, the full length, allowing for six inches shrink in twisting to 100 feet, one end of each wire to be fastened to a stake driven firmly into the ground and well braced, and the other end looped close to the hub around a spoke of a wheel of wagon set at proper distance, and in right position, and well braced. The wires should be of even length, and fairly but not very tight. Fasten wires securely at both ends, raise the wagon wheel as if for greasing, and turn until sufficiently twisted. Keep cable out of grass or straw while being twisted. Next, having cut cable clear at both ends, cut off pieces needed for uprights. Then place rod in position, holes having been bored or dug for earth terminals. Fasten in proper place blacksmith-made iron tripods, to hold uprights in position. Bend and open out about 18 inches of one end of pieces of rod to be used as uprights, and wrap or twist each wire separately around main rod. The upper end should be opened out a few inches and spread apart in all directions. The main rod can then be fastened solidly to building by staples, but it is probably better by means of a cork under rod at staple, or some other device to keep it an inch or more from building. It would not be possible to draw rod through solid eye of spike; but if eye were open, and could be closed after rod was laid in, it would be all right. Another plan is to drive two four-inch nails in the shape of an X, the rod to be placed above where they cross. Just before the nails are driven full distance the heads should be bent inwards with claws of a hammer, so as to clasp the rod, and then driven home.

The Two-furrow Plow.

Editor "The Farmer's Advocate":

Two years ago I purchased a two-furrow walking plow, and I find it has its disadvantages, as well as advantages. If your fields are large and free from stone, and fairly level, a two-furrow plow is a decided advantage. If the fields are small, they are not of much use, and if the fields are stony, it is impossible to do good work. Three horses will haul a two-furrow plow as easily as two will haul a single plow. You can plow some more than with a single plow, but not twice as much, as is claimed by the manufacturers. A single plow will turn from 12 to 14 inches, while my two-furrow plow only turns 20 inches. Some of them, I believe, turn 22 inches. I should like to hear from others who have used them.

W. R. McCREADY,

Carleton Co., N. B.

In a late crop bulletin, published by the Ontario Department of Agriculture, many correspondents report an increased area sown to buckwheat, on account of the lateness of the season for spring grain.

A Huron County farmer, in reporting to the Ontario Bureau of Industries, remarks that, on account of the wet spring, there has been the greatest run on drain tile ever known. So the wet season may prove a blessing in disguise.

GARDEN & ORCHARD.

Norfolk Winter Apples a Good Commercial Proposition.

Editor "The Farmer's Advocate":

In answer to Mr. McNeill's objections to statements contained in my previous letter, in your issue of June 10th, I will have to take them up singly, and I will endeavor to be as brief as possible.

First, he asserts that he did not make a signed statement that our winter apples were practically fall apples, and should be picked in September. I have looked over his signed statements in the Fruit-growers' Report, and I do not find it there. Unfortunately for Mr. McNeill, I believe he makes a good many statements to which he would not like to see his name attached in print. I can, however, if necessary, produce affidavits that he did make that statement on the platform in Toronto, at the meeting of the Fruit-growers, in 1906. Let us see what he said in his signed statement. On page 58 of the Fruit-growers' Report of 1906 he says: "The district No. 1 comprises the Lake Erie group of counties, and includes the western end of Lake Ontario." Then he goes on to describe the other districts, and says: "The effect of this is that winter apples in this section are mature perhaps a month before they are mature in districts Nos. 2 and 3, the practical effect of which is to put district No. 1 out of business when ordinary conditions prevail, as far as the winter-apple trade is concerned."

Now, I would like to ask Mr. McNeill if districts 2 and 3 pick their apples in November? According to his reasoning, if these districts pick theirs in October, and our district is a month earlier, we must harvest ours in September. The fact is, however, that we never pick our late winter apples before October, and often run on November, and we pick as soon as we consider them fit.

Secondly, Mr. McNeill objects to district No. 1, as shown on his map, being described as lying south of a practically straight line drawn across the southern part of Ontario. I have seen his large map, and a great many of his smaller ones, a copy of which appears to be placed in almost every Government report where fruit is mentioned, and I think, after careful inspection, that the small ones are good copies of the large one. I have traced out the lines on both Mr. McNeill's former map and his later one, and, Mr. Editor, if you would publish the two maps side by side, I believe you would have a monopoly of Mr. McNeill's last signed map, as I feel quite sure that it will never appear in the Government reports. The next time the Government wishes to gerrymander, if they do not give Mr. McNeill a job, they will miss the chance of a lifetime. Now, I know nothing about conditions outside of our own county, but I see that some growers in Elgin are objecting to being placed in the fall-apple belt, so he kindly draws his new line through Elgin, and swerving south-east to a few miles south of Simcoe. As it is only about six or seven miles from Simcoe to Lake Erie, I do not know whether some of the lake is taken in or not. As soon as Norfolk is passed, it turns north and west to Brantford. I hardly think that elevation cuts much figure along that line. I take very little stock in Mr. McNeill's elevation hobby. There may be something in it under certain conditions, but how is it that in our association we vary from 576 feet to over 815 feet? And let us study his pet district, No. 3, and see if it is above 700 feet elevation, and you will find Belleville 251, Brighton 303, Oshawa 331, Trenton 258, and Picton 322 feet. Now, if Mr. McNeill can find anyone who sees any resemblance between his new lines and the map as printed, that person will certainly be the careless observer that he speaks about.

Thirdly, as to keeping quality, Mr. McNeill says that if all the varieties are well grown, thoroughly sprayed, thinned, carefully picked, and carefully stored at the right moment, they may keep. Now, I doubt if there has ever been a barrel put up in Norfolk County as he has described. We do spray fairly well, but very few trees have ever been thinned, and the fruit is picked no more carefully than in other districts, yet, before I get through with this article, I will give you the experience of one who has handled Norfolk apples for years. We have never stored apples here, as we have been realizing prices we considered not advisable to refuse. One thing that we consider bears out our contention that our apples are giving satisfaction is that every buyer we have sold to is anxious to buy again from us. Perhaps they do not know any better, or have not read Government reports on apples.

Mr. McNeill next takes exception to making the reputation of southern apples. He goes on to state his own unpleasant experience in Essex County. In a conversation I once had with Mr.

McNeill, he told me of this. I said that my difficulty was that, since attending to my orchard, the season was not long enough. He said that the last two or three years had been especially favorable for us, but that things would not be so agreeable when a year like 1886 or 1887 came along. I inquired of him about the care he was giving his orchard—whether he was spraying, cultivating, fertilizing and pruning as we were now? He answered in the negative. I told him that that would have made a month's difference in the ripening of his apples. Evidently he thought that I was past redemption, for he turned and left me without a word. Because more than twenty years ago, in an Essex orchard, Mr. McNeill raised poor apples on trees that were neglected, it is a clear case in his mind that all southern apples do not come up to the standard when ordinary conditions prevail (see page 58, Ontario Fruit-growers' Report, 1906). A year ago last winter I was in Winnipeg, and being interested in apples, I naturally took notes on the trade there. As an example, I went into a store where they were handling large quantities of apples in a retail way. The barrels were marked Nos. 1 and 2. Now, if these apples had been grown by a member of the Norfolk Fruit-growers' Association they would not have been considered as being useful for anything more than cider. Our canning factory would not have touched them. At least one-half of those apples were not fit for human food. I handed the storekeeper one of our Association cards and asked him to get into communication with our Manager another year, and I would guarantee that we would give him a better quality of apples. He asked me what district I came from, and when I told him from Norfolk County on Lake Erie, he said that southern-district apples were considered poor stock. I told him he must have been reading some of Mr. McNeill's speeches. "Well," said he, "the Government reports will bear me out in my contention." Now, this is the kind of emphatic attention Mr. McNeill is publicly drawing to our apples, both at home and abroad. This attention that he says he is drawing to our apples is, no doubt, worth hundreds of dollars to buyers who operate in other districts, but I very much doubt if it puts a cent in the pockets of the growers of Districts 2 and 3.

Now, as to the next error, Mr. McNeill does not think that winter varieties will pay in Southern Ontario. This certainly sounds rich. As I quoted before, according to his official statement, owing to our early ripening, we are practically out of the winter-apple trade. Then he says, in the clause preceding the one I am referring to, that he has drawn attention publicly and emphatically of fruit dealers, apple buyers and large consumers to the poor keeping qualities of our apples. Now he says our apples are so large and fine he actually would not cut down orchards of good winter varieties. Mr. McNeill is certainly doing his best to make our winter varieties of as little value as possible. Now, let me give an idea of the result of his three years of missionary work on behalf of fall apples. I obtained the number of early-apple trees sold by two of our main nursery agents in our district this year. One man sold about 7,000 apple trees, and of these three trees only were earlier than the Snow apple. The other agent disposed of 5,610 trees, none of them being earlier than the Snow apple. I think this should satisfy anybody who is not prejudiced about the incorrectness of Mr. McNeill's opinion regarding our apples.

In answer to the next clause, I want to put in the following letters, which speak for themselves.

Portions of a letter, written June 29th, from Rogers Fruit Co., Winnipeg, Man., who got half of our 1908 crop:

Regarding the keeping quality of your apples, would say that we are not speculators, consequently hold very few for late trade. As long as we kept them the quality was satisfactory, and it was not necessary for us to repack the stock.

The last apples we had in cold storage was on February 20th. This was one car of Spies, and we delivered them without repacking, and had no complaints whatever.

If we deal with you this year we will probably put in two or three thousand barrels for later use. (Signed) ROGERS FRUIT CO.

Mr. W. F. Olds, Simcoe, Ont.:

My attention has been called to a series of writings copied from "The Farmer's Advocate" and printed in your local paper, regarding the keeping qualities of Southern Ontario apples. Judging from the contents of these writings, I concluded that someone nearer the throne has an attack of brain-storm, and has out his hatchet trying to discourage Southern Ontario growers from raising the profitable winter varieties of apples. Now, I cannot understand why any party should make any such absurd assertions in regard to the keeping qualities and valuation of your winter fruit, and in justice to the good work of your association, I feel it my duty to try and

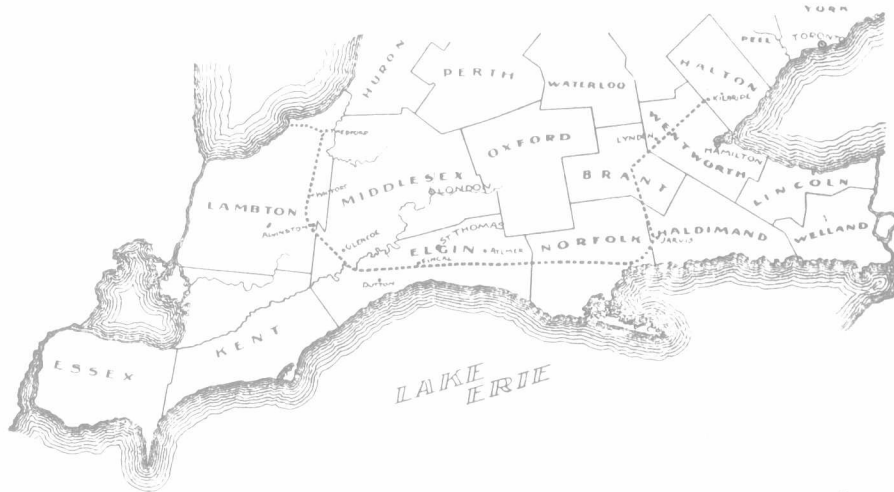
correct this unfounded statement. As you are probably aware, our concern has handled Norfolk County apples since 1896, and the keeping quality of this fruit has always been the very best. During the years of 1896 to 1903 we bought apples both from your county and also from the Brighton and Trenton district, and never could see any difference between the keeping qualities of the fruit, providing it was properly graded and packed. However, since then the packing and grading of your fruit has been so improved upon, in 1906 and 1907 we bought all of our long-keeping fruit from your county, which simply goes to show what modern methods of spraying, fertilizing and cultivation will do.

Mr. McNeill may be all right in his statement as to some of the counties, but he is certainly erroneously advised as to Norfolk County, and I think, in justice to the great work your county

Mr. McNeill asks for us to inform him where even 100 barrels of our apples have been stored. This firm has handled several thousand barrels of our apples. This would satisfy anyone but perhaps Mr. McNeill. I have the opinion that he is like the Scotchman who said that he was open to conviction, but he would like to see the man who could convince him.

The next clause and the last I shall take up is the objection of Mr. McNeill that I take it for granted that all orchards are as well taken care of as my own. Neither Mr. McNeill or anyone else can point to a statement, either signed or unsigned, to that effect emanating from me. I know there are hundreds of orchards not worth the ground they are standing on through neglect, and I believe if he would devote his attention more to getting the owners of these orchards to adopt modern methods of caring for them, and less to

booming the fall apple, it would be more creditable to his ability, for I can assure him that, as long as we can grow the winter apple of the quality we do now, we will certainly not touch the fall apple. Apple-growing in this country is only a side line, as in August it would be impossible to get the requisite help, as every farmer has so much other work to do at that time. The weather is often so hot at that season that every farmer would almost need a cold-storage plant. All culls would have to be thrown away, for the factory would not touch them, and if there happened to be a glut on the market for two or three weeks, they would be a total loss. If I had a very great spite towards one of my neighbors, and wanted to do him all the harm I could on the apple deal, I would advise him to plant a few acres of early fall apples. We had some 3,000 barrels of early varieties last year in our Association which we tried to sell separately. We found no buyer who would touch them, unless he could get our winter stock as well. We had to take less for our winter apples than they were worth to enable us to get rid of the earlier varieties. W. F. OLDS, Norfolk Co., Ont.



The Latest Fruit-district Map.

As submitted by Mr. Olds. Not hitherto published.

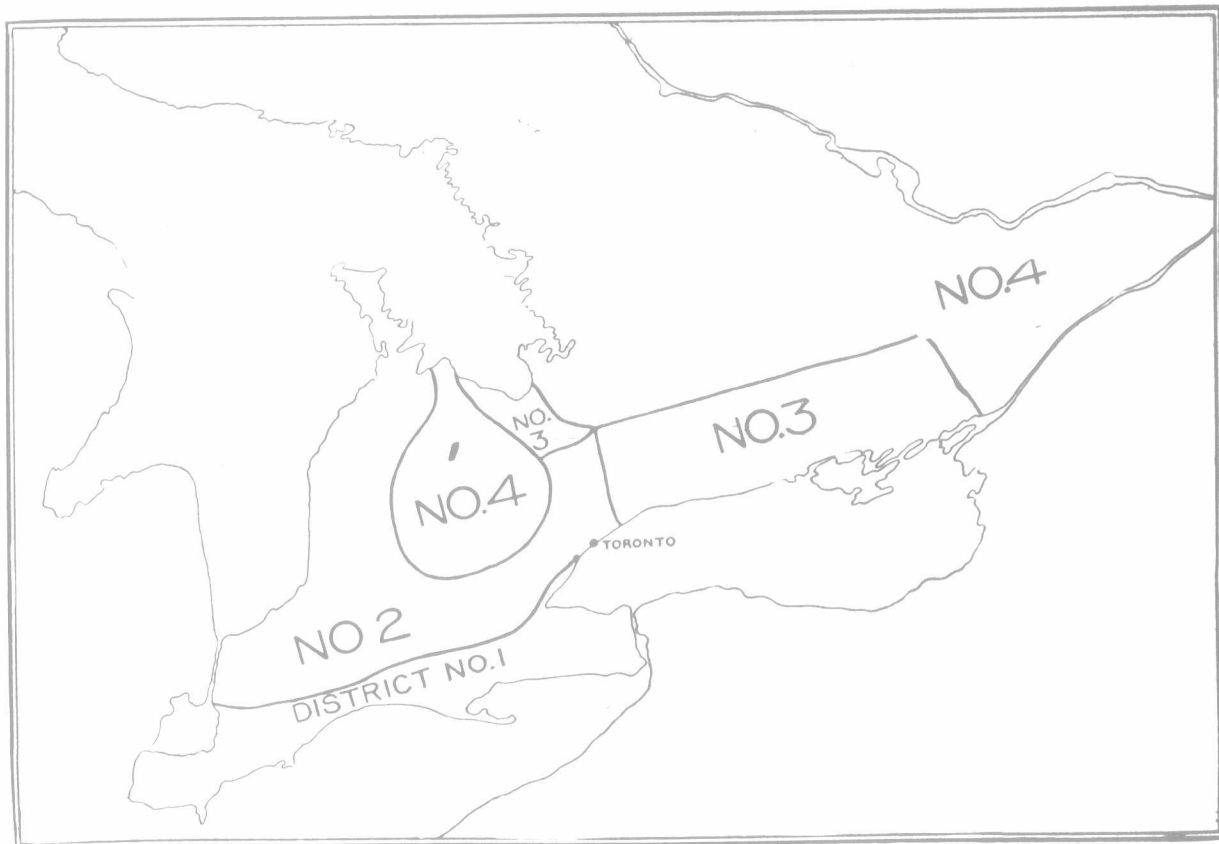
has done, he should satisfy himself by actual tests before making any such assertions. I know from actual experiments that we have made in our storage plant that on your Kings, Spies and Baldwins I have never found their equal.

If Mr. McNeill thinks by going 100 miles north he can get better value in winter fruit, why then is it that Northern Michigan does not get longer prices than New York? Speaking about the value of apples, let me say that this concern has paid more for your fruit than we could have purchased from other sections in Ontario, and we assure you we are not paying any premiums on the top of the 75c. per barrel duties, if we did not consider your quality better. I think the whole apple proposition lies in the work that the district puts on their orchards, and as long as your Association keeps up the good work, my advice would be to stick to the varieties which you have been so successful with—particularly Spies, Kings, Baldwins, Greenings and Russets—and cut out as much as possible the other varieties, both fall and winter.

Trusting this letter may help to discourage any attempt to change your growers in raising fall varieties, as we hope to continue to buy your winter fruit, I am, T. H. TELLSON, Produce Distributors' Co.

Curculio on Apples.

Apple injury by the Curculio (*Conotrachelus nenuphar*) is one of the most serious insect troubles in the Maine orchards, and one least recognized by apple-growers. As it is to all appearances rapidly on the increase, orchardists in the affected region cannot afford to neglect the alarming situation. One fruit-grower in the State reports 60 barrels of worthless fruit last season, and prospects of several hundred dollars' loss this year. Various orchards over the southern third of the State are in a similar condition. Owners who have had trouble with garbled and pitted



The Original Fruit-district Map.

apples have been urged by the Experiment Station to examine their fruit at once for the crescent-shaped wound which the curculio makes, and to send at least a quart of suspected fruit for examination.

This trouble is of such a serious character and of such economic importance that the Maine Station has kept a record of orchards where complaints of deformed fruit in the fall have been made, and visited these the next spring (1907, 1908, 1909), at which time the trouble could be definitely determined. The curculio has been bred by the Station Entomologist, from the young apples troubled in this way, the effects of the curculio wounds on apples at different stages noted, and the situation carefully studied.

The methods of controlling this pest are tedious but effective and possible, and (if apples are to be grown in orchards now infested) necessary. They are also beneficial to the orchard in other respects.

The Station has published an illustrated circular on the plum curculio and the apple, giving life history, notes and remedial measures. Address the Maine Agricultural Experiment Station, Orono, Maine.

High-ridge vs. Modified-ridge Culture for Potatoes.

Aroostook County, Maine, is noted all over the East as a place where potato-growing is made a specialty. What may be called high-ridge culture is almost universally practiced. The planter most in use deposits the seed very little, if any, below the surface of the ground, and the disks at the rear of the machine cover it, making a ridge about four inches high. Each cultivation increases the height of this, until an A-shaped ridge has been formed, with the tubers above the level of the surface between the rows. This answers very well in wet seasons, such as Aroostook County often experiences, but in dry seasons the crop is much more injured by drouth than if modified level culture were practiced. The seasons of 1905 and 1906 were both dry, and the crop was considerably below the normal in consequence.

The Maine Agricultural Experiment Station decided to make a test to determine which of the two methods of culture were preferable. In the modified-ridge method the seed is planted considerably deeper than with the other, and the ground is kept level with weeder and cultivator until about the close of cultivation, when a low, broad ridge is thrown up. It cannot be said that the results were conclusive. The first season the experiment was tried, that of 1907, was very wet, and, therefore, specially favorable for high-ridge culture. The year 1908 was a normal season, with no special lack of rain to influence the yield in one method more than in the other. In 1907 the yield was practically alike for both the high-ridge and the modified-ridge methods. The result in 1908 was but slightly different, being in favor of the modified-ridge method by but 109.3 barrels per acre to 105.8 barrels where the ordinary or high-ridge method was practiced.

It might be added that, for Ontario conditions, Prof. Zavitz believes in and practices practically level culture for potatoes.

Fruit Shippers' Troubles.

COMPLAINTS THAT TORONTO COMMISSION HOUSES DO NOT GIVE A SQUARE DEAL.

Toronto should be one of the best markets in Canada for fruit. The fruit-grower, however, does not think so, and especially the grower of small fruits. It looks now that unless the Toronto dealer, or better, perhaps, the fruit-commission man, does not mend his ways many fruit-growers will in future boycott this market altogether.

The strawberry-grower is the complainant this season. Aside from grievances against the express and transportation companies for not providing proper facilities for the quick carrying of perishable fruit, there are other things which the grower is storing up against Toronto, which may materially lessen the supply of fruit coming to this market.

The writer, in conversation with a Niagara district grower the other day, elicited the information that strawberries shipped to Montreal netted the grower a cent per box more than fruit shipped to Toronto the same day, though transportation charges to the former point are very much higher. In the height of the season berries sent to Montreal netted the grower five cents and over per box, while in Toronto he was doing well if he netted four cents. This grower is authority for the statement, also, that the consumer in Montreal gets his berries just as cheaply as does the consumer in Toronto. We know something about what the consumer in Toronto has had to pay. The ruling retail price has been 10c. per box, or three boxes for 25c. On a few days berries, not of the best quality, could be had at four boxes for 25 cents.

The individual whom the grower alleges as most responsible for his not getting a fair share of the price the consumer pays, is the Toronto

fruit commission man. The charge is made that he does not do business on the square. One of the practices resorted to when a consignment of fruit comes in, is to turn it over to an employee at a low price, charging the grower a commission for selling. This employee, for the firm, resells to the retail trade at a handsome profit. In other words, the commission man not only does a commission business, but a wholesale fruit business as well. This fictitious way of selling enables him to charge a commission on selling, which he would not get if he bought the fruit outright from the grower in the regular way.

The scheme as outlined is not a new one in the commission business. We have heard of the same thing being done in the cattle trade. A commission firm will sell a load of cattle to an employee or member of the firm, thus being able to make two profits, one on the commission for selling, and another when the cattle are resold. The men in the fruit business, as far as we know, are no less unscrupulous than those in the cattle business, and the growers' complaint has probably some foundation in fact.

The growers also have a complaint to make regarding the quotations given out on Toronto fruit market. The particular grower referred to stated that a large share of the strawberries sent to Toronto brought only 3½ cents per box. Quotations showed that none were sold less than 4 cents, and from that up to 6 cents, during the flush of the season. The quotations given out, no doubt, represented actual sales, but they did not tell the whole story, the higher prices being quoted to attract shippers.

And there is something more. The last week of the season no strawberries were shipped from the Niagara district to Toronto, as growers were able to get 5 cents per box for them at the canning factories, or one cent more than the same berries would net them in Toronto the same day. And while the grower has been dissatisfied with his returns, the consumer there has to pay about same price for his fruit as the consumer elsewhere.

The two cars of strawberries shipped from St. Catharines this season to Winnipeg gave a fair return, especially the lot shipped in a ventilated car. Growers will, therefore, be inclined to look with more favor upon building up a trade in outside markets rather than depend upon markets nearer home.

However, the home market should not be neglected. Would it not be possible for the growers to place some responsible party in Toronto to receive and handle their fruit for them? W. J. W.

Spraying Potatoes in Dry Seasons.

As is well known, both early and late blight on potatoes are much less prevalent in dry than in wet seasons. In the State of New York the season of 1908 was dry throughout, and late blight was practically unknown; nevertheless, the conclusion of the Experimental Station, Geneva, N.Y., is that even in dry years it pays to spray with poisoned Bordeaux. This conclusion was reached from observation, not only of their own experiments, but also of those of farmers in different parts of the State who joined with them in conducting experiments after the fashion of the Experimental Union at Guelph, Ont.

In the words of a report from the Geneva Station: "It is unwise to neglect spraying in dry seasons. Even when there is no blight, five or six sprayings should be made during the season. In dry weather the wounding of the leaves by bugs, flea beetles, and other insects, is more injurious than in wet weather. Unless regular spraying is practiced the application of poison for bugs is likely to be neglected. Flea beetles flourish best in dry weather. It is an established fact that thorough spraying at the proper time will lessen the damage done by flea beetles. If flea beetles are not at least partially checked by spraying with Bordeaux mixture, it is positive proof that the work has not been done properly. With us the opinion is steadily growing that very few farmers spray thoroughly enough to secure the maximum profit from the operation. There seems to be little danger of overdoing the matter." There were gains of from 30 bushels and upwards per acre, even in the dry season of 1908, as a result of spraying with Bordeaux, compared with areas on which insecticides only were applied.

The relation of weather records to winter injury of fruit trees, and its practical bearing upon what varieties of apples are safe to plant in a given locality, is treated in some detail in Bulletin 164 of the Maine Experiment Station, and it is held that the peculiar "crotch injury" of apple trees, so common in the summer of 1907, is probably a form of winter injury or "frost patch."

The decorative floral display will again be a feature of the floriculture exhibit at the Canadian National Exhibition, Toronto, this year. These immense banks of flowers cover 500 square feet, and the premiums total \$1,100.00. Those who saw this display last year will not miss the opportunity of seeing it again.

POULTRY.

Keeping Poultry Free from Lice.

One of the most difficult and trying problems which the poultry-keeper has to meet is that of keeping his poultry houses and stock reasonably free from lice, mites, and other external parasites.

The Maine Experiment Station, in a circular just received, gives formulae for preparations which have been found more satisfactory and much less expensive than the proprietary preparations on the market.

In keeping a poultry plant free from lice, there are two points of attack: one, the birds themselves; the other, the houses, nest-boxes, roosting-boards, etc. For the birds themselves, experience has shown that the best way to get rid of lice is by the use of a dusting-powder, to be worked into the feathers. The lice powder used at the Station is efficient and cheap, and made as follows: Take three parts gasoline, one part crude carbolic acid; mix these together and add, gradually stirring, enough plaster of Paris to take up all the moisture. Do not use more plaster than is necessary, but mix thoroughly. The resulting mixture should be a dry, pinkish powder, with strong odor. This powder, well worked into the feathers, is said to be more effective than any other known.

For a spray or paint, to be applied with pump or brush to roosting-boards, nest-boxes, etc., a mixture of three parts of kerosene to one part crude carbolic acid is used. In both these formulae it is highly important that crude carbolic acid be used, instead of the refined product. It is a dark-brown, dirty-looking liquid, and its value depends on the fact that it contains tar oil and tar bases in addition to the pure acid. All spraying or dusting with either of these insecticides should be repeated at least once after an interval of about a week.

Germs in Eggs.

Yet another obstacle has been found in the way of the seeker after pure food, as it would appear that even the egg is not now to be considered above suspicion in this respect, although its wholesomeness and value in the dietary still remain to be challenged. At a recent meeting of the International Congress for Applied Chemistry, held in London, some interesting facts were stated concerning bacteria in eggs, as a result of chemical and bacteriological studies on this question. The eggs dealt with were those of two varieties of the ordinary domestic fowl, viz., Barred Plymouth Rocks and White Leghorns. The investigations were made in all cases within 48 hours of the eggs being laid. The bacteriological examination of sixty-three eggs showed the presence of thirty-five species of bacteria. Of twenty-six fertilized eggs, eleven had a greater number of bacteria in the yolk, and nine in the white, while in six the numbers were almost equal. In nine unfertilized eggs, only one white and three yolks showed the presence of organisms—mould. The opinion was given that, for storage purposes, unfertilized eggs were far preferable to fertilized.

THE DAIRY.

The Cool-curing of Cheese.

By J. A. Ruddick.

In dealing with the subject of the cool-curing of cheese at this time, I wish to address myself particularly to the patrons of cheese factories, including those who send their milk to proprietary factories, as well as those who belong to co-operative or joint-stock companies. I do so because the patrons, or those who produce the milk, should bear the greater part of the expense of providing the necessary improvements. The patrons are more vitally interested in this question than any other class connected with the dairy industry. The cheese manufacturer will receive only a slight indirect benefit by equipping his factory with a cool-curing room; the direct gain and principal advantages will accrue to the man who supplies the milk and who is interested in the returns from the sale of cheese. It is the patron, also, who is most interested in the future of the cheese industry, and I wish to show as briefly as possible how much the future of the cheese industry in Canada will depend on whether the cheese are cool-cured or not.

There never was a time since the cool-curing of cheese was first advocated that this improvement in Canadian cheese was more needed than it is at the present moment. Canadian cheese-makers have as yet scarcely realized the character of the competition which they are meeting to-day, and which is annually growing more important, in the cheese which comes from New Zealand. This New Zealand competition has an importance out of all proportion to the volume of cheese shipped, for the reason that New Zealand cheese are all

practically cool-cured. The temperature in New Zealand curing-rooms very seldom reaches the danger point. As the steamers which carry the cheese to England must cross the tropics, it is absolutely necessary to carry all produce in cold storage. Every box of cheese shipped from New Zealand to Great Britain is carried in a cool temperature while in transit; and even though they may be shipped in a comparatively green condition, the long voyage of 40 to 50 days before they reach England gives the cheese time to reach a fair condition of maturity, under very favorable curing conditions. The cheese, therefore, are not only cool-cured, but fairly well matured before they can possibly reach the consumer.

With an annual increase in the receipts of New Zealand cheese, which begin to arrive about the month of December every year, the English buyer is not so keen as he formerly was on stocking up with Canadian summer-made cheese unless these cheese are of finest possible quality, and of a character to compete successfully with the New Zealand cool-cured cheese. As I have said before, the effect on the market of this sort of thing is much greater than the actual quantity of New Zealand cheese would warrant; but it is the results that count. If Canadians continue to send a large quantity of heated immature cheese to Great Britain, the consumption is bound to fall off and the lessened demand will materially affect the price. As the cheese business is the mainstay of a large number of Ontario and Quebec farmers, this question should be of very deep interest to them.

The bearing that cool-curing has on the future of the Canadian cheese trade is, in my judgment, the most important phase of the question, but it may not appeal to the dairymen so readily as the direct gain from saving of shrinkage and extra price received for the cheese. Some of the advantages of cool-curing may be summed up as follows:

(1) There is an actual saving of shrinkage, amounting to 1 to 2 per cent. of the weight of the cheese, according to the length of time the cheese are allowed to remain in the curing-room. This saving of shrinkage means that the cheese retains more of its original moisture, and thus the meaty texture is preserved. Such a condition encourages greater consumption, increases the demand, helps to keep up the price.

(2) There are many cheese of such a character that they will develop bad flavors if ordinary-cured, but which will show no serious defects of flavor if cured at a proper temperature. In this way cool-curing saves many "cuts" in price and enhances the reputation of the cheese.

(3) Cool-cured cheese are worth more money and usually sell for a higher price than ordinary-cured cheese, everything else being equal. They should always sell for more money than ordinary-cured cheese.

(4) Every box of cool-cured cheese which is put on the market raises the standard of quality for all Canadian cheese. The large quantity of cool-cured cheese which has been turned out during the past few years has undoubtedly raised the value of all cheese made in Canada. This is an advantage which many people seem to overlook; but, since it is a fact, it is the duty of every factory in the country to do its share in making the improvement which results in benefit to all.

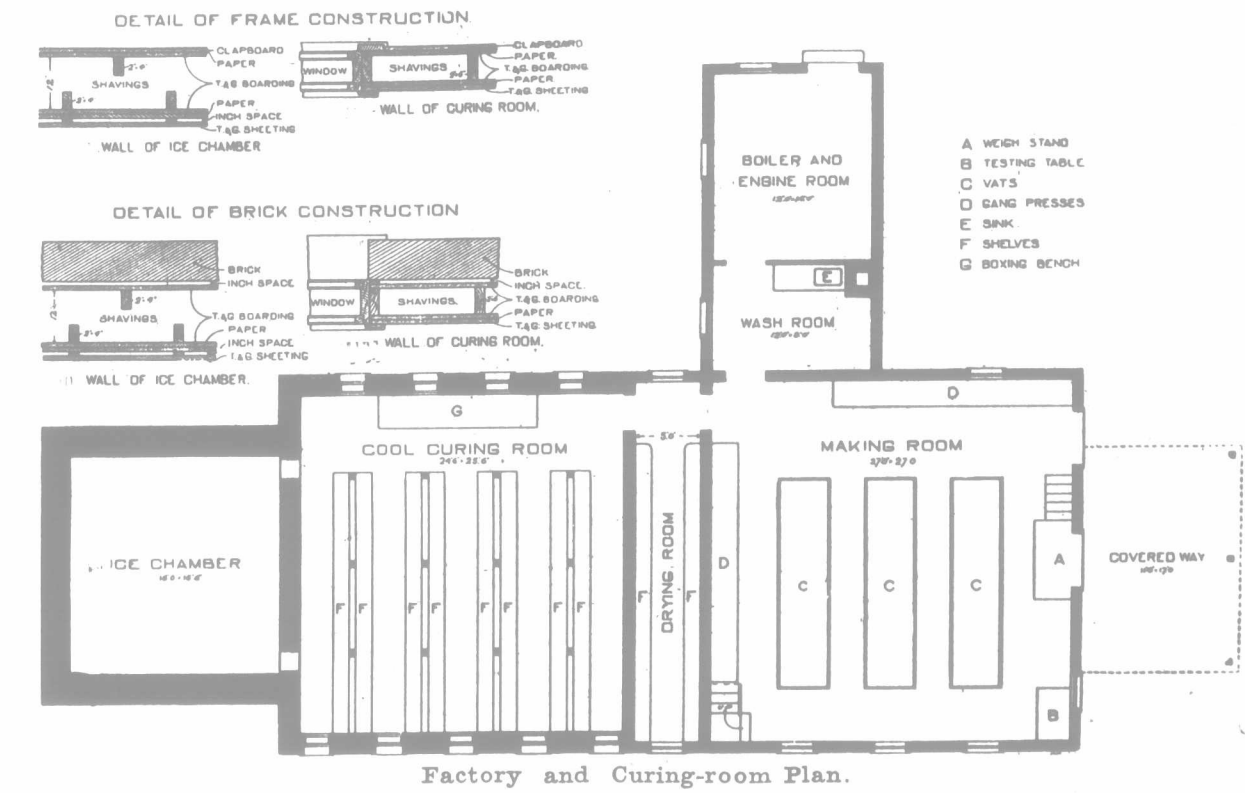
(5) When the cheese factory is equipped with a cool-curing room the salesman is more independent and is not forced to sacrifice cheese on account of weather conditions. The cheesemaker is relieved in many cases from unjust cuts on account of deterioration in quality from causes over which he has no control.

(6) Cheese which are cool-cured, say, at 60 degrees, will develop a better flavor—a more typical cheese flavor, than if the same cheese were cured at ordinary temperatures. Nothing promotes the consumption of cheese so much as a pronounced and well-developed "cheese" flavor. This typical and essential flavor is not developed at extremely low temperatures, and high temperatures develop inferior flavors at the expense of the desirable cheese flavor.

So much for some of the advantages of cool-curing. There are no disadvantages. The cool-curing of cheese involves no extra labor in the operation of the factory, and interferes in no way with the running of the business, unless we may look upon it as a slight disadvantage that the cheese should be left in the curing-room about a week longer than if ordinary cured.

The cost of converting an ordinary curing-room into a cool-curing room will depend on the class of building. The writer has the figures of a number of cases, and they vary from \$400 to \$750, according to size, local cost of material, the additional amount of insulation necessary, etc. The above figures included the replacing of a wooden floor with one of cement concrete. The cost of equipping a new factory with a cool-curing room need be very little extra, except for the ice chamber.

Taking a factory with an annual output of 200,000 cheese as a basis of calculation, the account should stand about as follows at the end of three years:



Factory and Curing-room Plan. Ground-floor plan and some details of construction for a moderate-sized cheese factory with cool-curing room.

600,000 lbs. cheese—	
Shrinkage, 1½ per cent., at 11c. per lb.	\$ 990
Saving of cuts and extra price, say ¼c. per lb.	750
	\$1,740
Original cost of improvements.....	\$ 800
Interest on same, at 8 per cent.....	192
Putting up ice, at \$50 per year.....	150
Profit on cool-curing	598
	\$1,740

quite safe to say that the patrons have realized \$900 in three seasons from an outlay of about \$400."

There are nearly 100 cheese factories in Canada which have been equipped with cool-curing rooms, and one of the best arguments in favor of the general adoption of the system is the fact that all those who have had experience with it are well satisfied with the results, and would not think of going back to the old way.

Plans and Specifications for Cheese Factories with Cool-curing Room.

Inauguration of a campaign through "The Farmer's Advocate" for the more general provision of cool-curing rooms at cheese factories, renders it advisable to republish at the outset plans and specifications for a modern cheese factory, prepared by Dairy Commissioner J. A. Ruddick, for a medium-sized factory and cool-curing room. Mr. Ruddick is the best-posted man in Canada on the subject of the cool curing of cheese, while the operation of the Government cool-curing, coupled with some experiments with different kinds of insulation, has afforded him opportunities for collecting useful data on this subject.

The plans herewith presented are the result of much experience and study, and are taken from the 1906 annual report of the Dairy Commissioner. Of course, as the author has taken pains to explain, it would be impossible to make a plan that would be exactly right in regard to size and arrangement to meet every case, and nothing of the kind has been attempted. Certain principles have been incorporated, and these may be carried out in a variety of ways. The insulation is especially important, and should be followed closely. The arrangement of machinery is according to scale, and has been considered with a view to

The figures given above are conservative. The extra price obtained for cool-cured cheese has amounted to fully one-quarter of a cent in many cases.

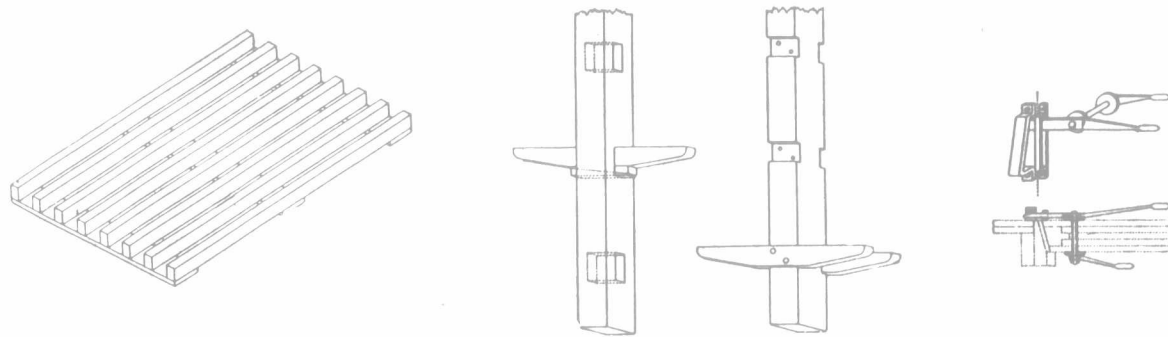
There are many old curing-rooms sufficiently large to allow an ice chamber to be constructed within the present walls and still leave room enough for cheese shelving. In such cases the cost of improving the curing-room would be less than \$800.

The ice chamber should be about one-quarter to one-third the size, in cubic capacity, of the curing-room.

The calculations and estimates here given are based largely on the writer's experience with the Government cool-curing rooms, in which 190,087 boxes of cheese were cured during the period from 1902 to 1906.

J. A. Holgate, salesman of the Foxboro factory, erected two years ago in Hastings County, states that after a careful calculation he estimates that the patrons of that factory received at least \$600 a year profit from cool-curing, on an output of 200,000 pounds of cheese, besides the satisfaction of having an article of cheese that all the buyers want. He states that the factory cost about \$600 more with the curing-room than it would have cost without the ice chamber.

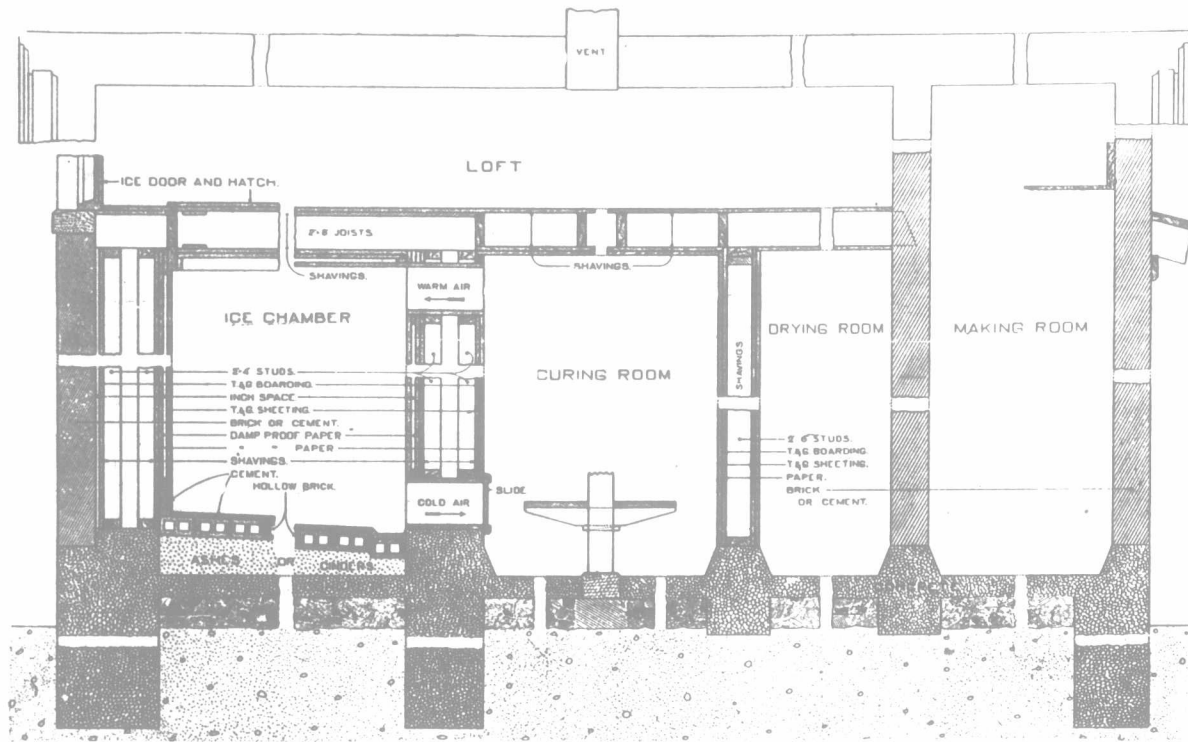
G. A. Gillespie, of the Central Smith factory, Peterborough, makes this statement: "It is



Detail of Racks, Posts and Brackets, and Door-fastenings.



Longitudinal Section of Factory and Cool-curing Room.



Details of Construction for Brick Building.

economizing space and labor. Many factories are inconveniently arranged, with the result of waste space and extra labor required to do the work.

The drying room is a new feature, but Mr. Ruddick has urged that it is advisable in connection with a cool-curing room. It is intended for holding the cheese over one night, in order that the surfaces may become thoroughly dry before they are placed in the curing chamber. Experience has shown that there is less tendency to mold where this practice is followed.

With these explanations we submit the plans, specifications and details of construction, remarking that any factory intending to erect a cool-curing room should not fail to communicate with Mr. Ruddick, explaining its situation and requirements and asking suggestions, which will in all cases be freely given.

SPECIFICATION FOR A CHEESE FACTORY WITH A COOL-CURING ROOM, TO BE CONSTRUCTED OF WOOD.

Wood.—All lumber employed must be thoroughly dry and sound, without loose knots or shakes, and should be odorless.

Spruce and hemlock are the best, in the order named. Pine is not so suitable for inside sheathing, on account of its odor.

All boards employed should be dressed, as well as tongued and grooved.

Unseasoned lumber must be carefully avoided. When building in winter, fires must be kept going so as to have all materials as dry as possible. This is very important, as dampness in insulation destroys its efficiency.

Paper.—All papers used to be strictly odorless and damp-proof. Damp-proof insulating papers can be had in rolls of 500 to 1,000 square feet, 36 inches wide.

Tar paper, felt paper, straw paper, rosin-sized paper, and all other common building papers are not suitable, and should not be used.

Use double thicknesses of paper in all cases,

each layer lapping two inches over preceding one. The layers should extend continuously around all corners. All breaks to be carefully covered.

Shavings.—Must be thoroughly dry, free from bark or other dirt. Shavings from some odorless wood—such as hemlock, spruce or white wood—to have the preference.

Shavings in compressed bales, weighing from 60 to 100 lbs., may be procured from various firms.

Bales of shavings received in a damp condition should be opened and the shavings exposed to the air and stirred occasionally until they are dry.

The spaces in the walls should be filled gradually as the inside sheathing is being put on, and the shavings well packed.

About 8 lbs. of shavings, closely packed, will be required for each cubic foot of space filled. For a room 8 x 8 x 7 feet, built on this specification, 3,000 lbs. will be needed.

Cinders.—Coal cinders should be used wherever possible to cover the earth over area of ice chamber, in preference to sand, gravel or tanbark.

Foundations.—The building to rest on stone or concrete foundations.

Floors.—Throughout the building to be of cement concrete, constructed according to the "Specification for cement floors." The area under ice chamber need not be provided with the usual finish or wearing surface, as it is intended only to give solidity to the ice-chamber floor.

Floor of Ice Chamber.—Lay a false floor six inches above concrete and fill space between concrete and false floor with cinders, dry ashes, tanbark or dry sand.

Fix 2 x 12 in. joists, as shown on plan. Cover with two courses of matched lumber, with 2-ply of damp-proof paper between. Cover the whole with galvanized iron, with soldered seams, and flashed along the walls about 8 inches.

The main floor of ice chamber should have a slope of 1 inch in every 4 feet, to a gutter con-

nected with the drain, to carry off the water from the melting ice.

The drain must be trapped to prevent passage of air.

Drainage.—Provision for drainage to be made by forming the usual gutters in the cement floor of the making-room and press-room. The floor should be made with a slope of 1 inch in every 4 feet towards the gutter. A glazed tile drain with cemented joints should be provided to carry all drainage to a safe distance, and thus avoid creating a nuisance near the factory, or running the risk of contaminating the water supply.

Walls.—Set up a 2 x 6 inch studding, and cover outside with one course of matched lumber, two-ply of damp-proof paper and siding, or clapboards. For inside finish of making-room, line up with matched lumber. For finish of curing-room, cover inside of studs with two courses of matched lumber, with two ply of damp-proof paper between. For inside finish of ice chamber, set up another row of 2 x 6 inch studs, to alternate with outside row. Cover inside of studs with two courses of matched lumber, with two ply of damp-proof paper between. Over this lay another ply of damp-proof paper, 1-inch furring strip, and finish with one course of matched lumber. The inside row of studs should be placed so as to leave a space of 12 inches for shavings between the inside and outside sheathing.

Partitions.—Between making-room and drying-room to be of 2 x 4 inch studs, with one course of matched lumber on both sides. Partition between drying- and curing-room to be of 2 x 6 inch studs, with two courses of matched lumber and double ply of damp-proof paper on each side of studding. Partition between ice chamber and curing-room to be same as walls of ice chamber.

Ceilings.—Making-room to be vaulted by laying one course of matched lumber on under side of rafters and cross pieces fixed at suitable height. Ceiling in drying-room to consist of one course of matched lumber on under side of joists. Ceiling of curing-room to consist of two courses of matched lumber with two ply of damp-proof paper between. The ceiling of ice chamber to be the same as walls of ice chamber. On upper side of joists lay two courses of lumber with two ply of paper between, over area of ice chamber; over curing-room and drying-room one course of matched lumber.

Spaces to be Filled.—Fill all spaces between joists and studs in walls, floor, ceiling and partition of ice chamber, and all spaces between studs and joists in walls, ceiling and partition of curing-room, with planing-mill shavings, as shown on plan.

Windows in Curing-room.—Should not be over two feet square, and placed between the rows of shelving close to the ceiling. The sash should be double, and each double glazed, and be carefully fitted. They should be hinged at the top. Each window should be fitted with a wooden shutter to keep out direct rays of the sun, but not to keep out the light.

Curing-room Doors.—Doors to be built up with two-inch skeleton frame, covered on both sides with two courses of matched lumber with two-ply of damp-proof paper between. Edges to be bevelled and covered with felt. Doors to be fitted with a wrought-iron door fastener.

Blue-print originals of plates, drawn on a quarter-inch scale, will be sent free of cost to any person intending to build a new factory or remodel an old one. Application should be made to the Dairy Commissioner, Ottawa, Ont.

SPECIFICATION FOR A CHEESE FACTORY WITH A COOL-CURING ROOM, TO BE CONSTRUCTED OF BRICK, OR CEMENT AND WOOD.

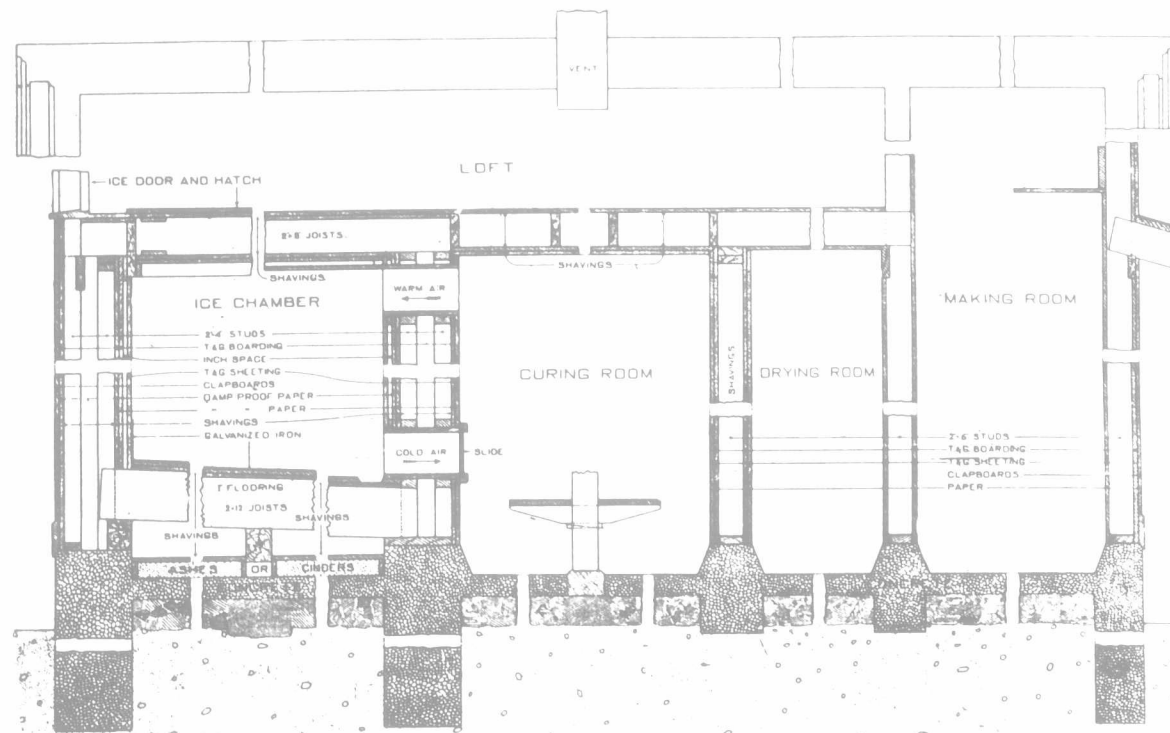
The specifications for materials are the same as for wood construction.

For foundations, floors, drainage, ceilings and curing-room windows and doors, see specifications for wood construction.

Floor of Ice Chamber.—Lay over concrete bed 6 inches of dry coal cinders and ram solidly to make a firm bearing on which to place one layer of 4-inch hollow brick, laid in cement. Finish with one inch of cement, trowelling the surface well with neat cement to make it as nearly damp-proof as possible. The floor should slope one inch in every four feet to a gutter at one side, connected with the drain, to carry off the water from the melting ice. The connection with the drain must be trapped to prevent passage of air.

Walls.—The brick or cement walls will need no interior finish in the making-room, press-room, drying-room, wash-room and engine-room, except a smooth coat of plaster, preferably of cement. Such a finish is sanitary, durable and easily cleaned.

For the insulated rooms, i.e., the ice chamber and curing-room, it is very desirable that the inside surfaces of the brick or cement walls should be waterproofed, by coating with pitch (not tar), asphalt or paraffin wax. These substances are not easily applied, especially in cold weather, on account of their quality of hardening very quickly. A plastering of neat cement improves the



Detail of Construction for Frame Building.

APIARY.

Sources of Honey.

The Agricultural Experiment Station of Massachusetts has lately issued a bulletin on Beekeeping in that State, by Burton N. Gates, which, while of special interest to Massachusetts beekeepers, contains information valuable anywhere.

The older people among us who tell stories of the great stores of honey that used to be found in bee trees, and those of us who have heard such tales doubtless believe that bees were natives of this country when the Indian alone inhabited it, but, according to this bulletin, such was not the case. "When in 1620 the Pilgrims landed at Plymouth, this country knew no bees." The Indians in their languages had no equivalent for bee, honey, or wax. The first person who brought a hive of bees to New England was rewarded with a grant of land, and a real beginning in apiculture was made as early as 1644. More than two centuries passed, however, before modern beekeeping began. This started with the invention of the frame hive by Langstroth in 1853.

By investigation it was found that in Massachusetts about 50% of those who start into beekeeping quit the business inside of five years. This would probably apply to Canadian beekeepers, though to a more limited extent. It is claimed that this falling away is not due to lack of possibilities in the industry, but must be attributed in large measure to sensational presentation in the press and elsewhere, of the ease of managing and the huge profits to be derived from bees. This over-stimulation of the bee industry is a positive detriment to the beekeeping interests.

Too little attention is given the nectar-yielding flora, even among those who seek a livelihood in the production of honey. Although it is sometimes difficult to learn the sources from which bees get their stores, a beekeeper should have some knowledge of the honey plants of his locality and their honey value.

White Clover.—Among the several clovers, white clover ranks first. It is found in nearly all quarters, but flourishes best on limed or limestone soils. White clover honey ranks high in the market; its color and flavor make it one of the finest of American honeys.

Alsike Clover.—This is frequently sown for forage, and is becoming more and more renowned as a honey source. Under favorable conditions it yields not only a good quality of nectar, but large quantities of it. It rivals the red clover, on which bees work to a limited extent, but in which the vast stores of nectar are too deep in the flower tubes to be within reach of the bee's tongue. Alsike blooms with white clover and will bloom a second time when white clover has ceased, thus prolonging the honey flow from clover.

Red Clover.—This is also a more or less continuous bloomer, which, inasmuch as the second flowering brings smaller, shorter-tubed heads, is somewhat accessible to bees.

Sweet Clover.—There are two species, white and yellow, and where abundant are a bountiful source of honey.

Golden-rod and Asters.—These plants rank close to the clovers in nectar secretions. Both begin to flower in July and continue until frost. The early bloom, however, is not visited by bees to any extent, and it is not until September that the flow begins, when the hive takes on a characteristic strong and pleasant odor. The honey, though rather dark and thick, has a rich, aromatic flavor, which many people consider superior. In Massachusetts a marketable surplus is frequently taken in September.

Fruit Bloom.—Apple, pear, cherry, plum, peach, etc., which are found in abundance throughout the State, are next in importance. Fruit bloom is the source of early stores upon which the colonies build up for the clover harvest. Insufficient numbers of bees at this season, and unfavorable weather, make it difficult to secure a surplus from this source, but the fortunate beekeeper who does secure a crop should realize that he has a superior product. The body is heavy, the color is clear and light (usually an amber), and the flow comes with a rush which insures handsome sections; but best of all is the exquisite aroma of the apple blossom, which places fruit-bloom honey in a class by itself.

Linden or Basswood.—This is doubtless the most valuable tree honey-plant in Massachusetts, and, together with its value for timber, merits cultivation. It makes a fine shade tree. The honey has quite a characteristic flavor and aroma, but requires to be well ripened before its delicious qualities are appreciable. In Canada it is more of a factor in the honey crop than it is here.

Buckwheat.—Some beekeepers say they plant small fields for the sake of their bees, but there is great doubt if the bees benefit materially by it except in cases of extreme scarcity of nectar. The honey is dark, with a brownish or purplish cast, a heavy body, and a strong, rank flavor to those who are accustomed to more delicate honeys, such as clover or fruit bloom.

No mention is made of the Canada thistle as a honey plant, which alone would indicate that the bulletin quoted from was not issued from our side of the line.

Among other sources of honey referred to are the soft maple, locust, raspberry, wild cherry, milkweed and dandelion. Some of these are doubtless visited by bees more for the sake of the pollen than of the honey.

THE FARM BULLETIN.

Agricultural Epigrams.

At the convention of the National Educational Association, held at Denver, Colorado, the first week in July, among prominent educationists who delivered addresses was Dr. J. W. Robertson, President of Macdonald College, Quebec, who spoke upon "Education for the Improvement of Rural Conditions," and from whose address, as reported in the Denver News, we quote the following epigrammatic paragraphs:

"Farming is not breaking clods. It is the gathering up of the sunshine into cornstalks and grass and trees, and saving it for the race.

"People who live on land are partners of the Almighty in making homes while they are getting something to eat.

"Many of us should devote less attention to the Greek root and more to the corn root.

"Man began life in a garden, and for all time for every successive generation the best starting place will be in a garden, where the children can play in the grass and plant flowers and gather apples.

"It may be that Christ could have taught without manual training—I don't know as to that—but He didn't.

"To belittle teachers is national suicide, for belittling them means belittling the children of the nation, which is its hope.

"The people who dwell on farms are the ones who rear the children that rule the nations. Anything that makes for improvement of their education and conditions makes for the welfare of the race. For 30,000 years we have been making efforts to secure a better home for the child, of whom the Master said, 'of such is the kingdom of heaven.'

"Rural education is not concerned chiefly with the growing of a bigger stalk of corn or a bigger steer, but with training for life in the locality and for the present.

"Man is helping God to make the land a cleaner and a better place for homes, not great temples or great waterways or great coal mines, but homes.

"One of the greatest hindrances to rural education is the fact that the farmers and the schools are not in sympathy. Too much attention is paid to making the curriculum to fit that of the high schools, and teachers forget that their work is the helping of making a life rather than making a living. The idea that a rural-school curriculum is for the purpose of making every boy believe that he has the opportunity to become a college president is a humbug.

"Life, home and the school are the three great realities, and teaching is the greatest thing on the face of the earth."

Some 1909 Fair Dates.

- Alaska-Yukon-Pacific Exposition, Seattle, Wash.—June 1 to October 15.
- Canadian National Exhibition, Toronto—August 28 to September 13.
- Western Fair, London, Ont.—September 10 to 18.
- Sherbrooke, Quebec.—August 28 to September 4.
- Canada Central, Ottawa.—September 10 to 18.
- Ontario Winter Fair and Horse Show, Guelph.—December 6 to 10.
- Eastern Ontario Live-stock and Poultry Show, Ottawa, January 17th to 21st, 1910.

The educational features in connection with the dairy department of the Canadian National Exhibition promise to be of unusual interest this year, not only to farmers, but to consumers of milk in cities and towns as well. The demonstration work and lectures in the Dairy Amphitheatre will be under the immediate charge of Geo. A. Putnam, Director of Dairy Instruction for Ontario, and the Dominion Department of Agriculture will also furnish a man to give definite instruction on cow-testing. The proper care and handling of milk will be one of the subjects dealt with, and it will be accompanied by demonstrations of milk testing, as well as charts showing the value of cow-testing associations.

The Dominion Department of Agriculture is putting on a display of wholesome and diseased meats at the Canadian National Exhibition this year, and will send two lecturers from Ottawa to tell the people how to discern the good from the diseased meats. This should be of interest to cattlemen, as well as meat-producers.

damp-resisting quality of brick or concrete walls.

For the insulation of the curing-rooms, lay 1-inch furring strips on wall, and nail thereon one course of matched lumber. Set up a row of 2 x 4 inch studs and finish with two courses of matched lumber, with two ply of damp-proof paper between. The space between studs to be filled with shavings.

For insulation of ice-chamber walls, lay 1-inch furring strips and cover with one course of matched lumber. Set up one row of 2 x 4 inch studs against the sheathing, and another row to alternate with first row, with outer edges 12 inches from the sheathing, so as to form a space of 12 inches for filling with shavings. Nail on studs two courses of matched lumber, with two ply of damp-proof paper between. Over this lay another ply of damp-proof paper, 1-inch furring strips and one course of matched lumber, leaving a 1-inch air space, which is for the purpose of checking the dampness that comes from the ice and that must be kept out of the insulation.

If the inside surface of brick or cement is made thoroughly damp-proof, as described, the furring strips and single course of matched lumber may be dispensed with, and also the first row of studs next the wall of the ice chamber, if the construction will permit, as they are not necessary to the insulation.

Partitions.—Between making-room and drying-room to be of brick or cement. Partition between drying-room and curing-room to be the same as curing-room walls. Partition between curing-room and ice chamber to be same as walls of ice chamber.

Spaces to be Filled.—Fill all spaces between studs and joists, in walls, ceilings and partitions of ice chamber and curing-room, with dry planing-mill shavings.

SPECIFICATION FOR A CEMENT-CONCRETE FLOOR.

For the making of a cement floor, the entire surface to be floored should be excavated to a depth of 12 inches below the finished-floor level. If there is any danger of water collecting beneath the floor, the bed should be thoroughly under-drained with common tiles, laid in parallel lines six feet apart. The surface of the part excavated should be in good foundation order, properly graded and evenly firm. The excavation should be filled to a depth of 7 inches with clean-washed gravel, or two-inch broken stone, or clinkers, well rammed or rolled, and afterwards moistened to prevent the absorption of water from the cement-concrete when it is being laid. On this should be laid five inches of Portland cement concrete in two layers: the lower, 4 inches in thickness, to be of one part Portland cement to four parts clean, sharp sand and four parts of coarse gravel or stone, not more than two inches in diameter; the upper, one inch in thickness, to be of one part Portland cement to two parts of sand and one part of finely-crushed stone. Care must be taken to put on the upper layer before the lower has set; the surface of the upper layer is to be dusted with pure cement and trowelled level, or to the grade desired, and left smooth and even.

Cement and sand should be mixed dry, on a water-tight board floor, then moistened with the minimum quantity of water and incorporated with the gravel or broken stone. The mass should be turned over and worked up until the broken stone is completely covered with the cement mortar.

It is important not to prepare too great a quantity of concrete at once, and to lay it in place in as brief a period of time as possible.

After the floor has hardened sufficiently, its surface should be sprinkled with water frequently for twelve to fourteen days.

A floor of the above description should not cost more than 10c. to 15c. per square foot.

Keeping the Water Clean.

One of the commendable improvements in cheese-factory practice noticeable in most of the factories in Western Ontario is the hot-water barrel, which used to be, in almost every case, sitting on the floor, so that repeated dipping of pails into it would make the water actually filthy. The Dairy Instructors have been persuading the factorymen to place these barrels on a block high enough to insert a tap or faucet at the bottom of the barrel, and draw off water into pails. This is one of the numerous improvements in the direction of cleanliness and sanitation brought about by the persistent efforts of dairy instructors.

Dairy School Bulletin No. 172, a revised edition of No. 143, has been issued by the Ontario Department of Agriculture. Its 69 pages of matter, prepared by the staff of the Dairy School at Guelph, are very concisely put, and cover both home and co-operative dairying. Every one concerned in the production of butter or cheese should have a copy.

Farm Reserves of Wheat on March 1, 1909.

The Bureau of Statistics of the United States Department of Agriculture made an estimate on March 8th last, which indicated that the amount of wheat on farms in the United States on March 1st, 1909, was about 144 million bushels.

The estimate was challenged as being much too large; speculative interests desiring to create a public belief in a serious shortage in wheat supplies.

In considering this question, it is necessary to ascertain, first, the average monthly domestic consumption of wheat, exclusive of seed requirements; and, second, the approximate total quantity of wheat, in all positions, in the United States on March 1st, 1909.

First: The average annual domestic consumption of wheat per capita, exclusive of seed requirements, is estimated at about 5½ bushels. These figures indicate the total domestic consumption, exclusive of seed, to have been about 40 million bushels per month.

Second: The total amount of wheat in the United States in all positions on March 1st, 1909 (including the wheat equivalent of flour), was about 244 million bushels, as indicated by the following statement.

The apparent supply and distribution of wheat during the four months, from March 1st to July 1st, 1909, was as follows:

	Millions of Bushels.
Domestic consumption, 4 months, estimated...	160
Spring-wheat seed requirements, estimated...	25
Exports, including flour	16
Commercial stocks, July 1st, 1909, including flour	28
Farm stocks, July 1st, 1909, estimated.....	15
Total supply and distribution, 4 months (quantity in United States on March 1st, 1909)	244

Of these 244 million bushels, about 74 million bushels are accounted for by an accepted commercial statement of reported stocks in second hands (mills and elevators), including the wheat equivalent of flour, on March 1st, 1909. The remainder, 170 million bushels, must have been on farms and in unreported stocks in second hands on the date named. Twenty per cent. of the total stocks, a fair estimate, would have been about 18 million bushels unreported, which indicates that the quantity of wheat on farms on March 1st, 1909, was more likely to have been underestimated than over-estimated by the Bureau of Statistics.

It is clear that the widely-published attack on the estimate of farm reserves of wheat on March 1st was without basis; that it was unjustifiable, and that its sole object was to enable the speculators who made it to gain personal financial profits at the expense of the general public.

(Approved) JAMES WILSON,
U. S. Secretary for Agriculture.

The Clokey Binder.

Many readers of "The Farmer's Advocate" will remember the organization of the Farmers' Co-operative Harvesting Machine Company, Ltd., which was incorporated in 1903, and had its head office in Toronto, but its chief place of business and factory at Whitby, Ont. The President and Managing Director of the company was Wm. J. Clokey, who invented the Clokey binder, and whose death took place last month. The undertaking, and the Clokey binder, for various reasons, failed to realize the expectations of the promoters, and the latest revelation of its condition is that a petition has been filed at Osgoode Hall by Aaron Bruce Haines, of the Township of Whitby, for the winding up of the company. The nominal capital stock is \$1,000,000, in 100,000 shares, of which about 17,400 were said to have been subscribed, and about 14,000 are said to have been paid up. The petitioner is a shareholder, and the Vice-President of the company, and is also a creditor for \$266.50. The company is said to be indebted also to several other persons and to the Farmers' Bank of Canada in considerable amounts. On June 17th, 1909, the directors passed a resolution, declaring that the company, being insolvent and unable to pay its debts as they become due, should be wound up. On July 5th, 1909, the petitioner recovered judgment against the company in the County Court of the County of Ontario for \$266.50 for debt, and \$20.81 costs, and the sheriff seized certain goods and chattels, and fixed July 14th as the date for the sale thereof, and the company permitted the execution so issued against it to remain unsatisfied till within four days of the time fixed for the sale. Reference is asked to the local master at Whitby to appoint a permanent liquidator. The capital stock is said, in an affidavit by Richard G. Oke, Whitby, lumber merchant, to be impaired to the extent of more than fifty per cent., and the lost capital will not likely be restored within a year.

Writing the Lessons in the Soil.

In conversation with V. A. Hooper, a Canadian, formerly connected with the Dairy Department of the Ontario Agricultural College, now Professor of Dairying at the State Experiment Station in Arkansas, he referred approvingly to a line of work now being conducted in many parts of the Republic by both Federal and State authorities in working out illustration or demonstration farms. An expert having charge of a certain area will visit and arrange with a man here and there to adopt approved methods, say with his cotton or corn or some other staple crop of the district, following instructions as closely as possible according to expert direction. Having demonstrated to his own and his neighbors' satisfaction the possibility of improvement in the culture of this crop, the husbandman may then be persuaded to extend the system to other features of his rotation, thus developing a sort of illustration farm to demonstrate the practicability of applying science to agriculture. There has been, says Prof. Hooper, too much shooting over the heads. We must demonstrate how to apply the scientific principles we advocate. As one American has graphically put it, "We must write the lessons in the soil."

East Middlesex Crops.

Last week saw the bulk of the 1909 hay crop saved in the East Riding of Middlesex. The yield was lighter than expected a month ago, but the quality could not be surpassed. Hundreds of fields went in without a drop of rain. Probably less cocking was done than ever before; favorable weather and the use of the tedder, side-delivery rake and loader hastening the process and reducing labor. Nowadays men are not able and some unwilling to pitch on hay as in old times, so the loader is steadily coming in use, just as the horse-fork displaced the old way of pitching off. The oat crop will be short because of late sowing or ill-prepared, undrained land. "A lot of them will have to be cut with the lawn mower," observed one farmer. With new hay selling at about \$12 per ton on London market, and oats at \$1.75 per cwt., a year of high prices for these and other staple stock foods seems to be in sight. East Middlesex is largely given over to dairying and stock-fattening, and the crops are fed instead of being sold in the crude state. Feeding dairy cows the year 'round is now being done very systematically, so that even with a large crop the surplus for market is not so large as under the old system. With occasional showers the corn crop promises well, but will need a warm autumn to mature ears of best quality. A good many new cement silos are being built. The fall-wheat harvest began last week, and, acreage considered, is one of the best seen for many years in this district. The fields had turned golden before the haying was done, and the straw stood clean and strong.

Centralizing the Export Cattle and Hog Trade.

Editor "The Farmer's Advocate":

There were more export cattle sold at the Union Stock-yards, West Toronto, during the week ending July 17th, than at Chicago, so a leading commission man stated to the writer. The total sold was 3,165 head. The week previous the number was 5,149 head. It may be that at Chicago for the corresponding week there was a light run of exporters, or few were wanted; nevertheless the comparison is an interesting one. On Tuesday of this week there were on sale at West Toronto 3,500 cattle, nearly all export cattle, and the quality averaged up well; and there were on the market representatives of the leading cattle-exporting firms both in the United States and Canada, besides a number of local buyers. Swift & Co., Morris & Co., Armour & Co., Schwartz & Sulzberger, Gordon & Ironsides, Hathaway & Co., had buyers there, and bought most of the export cattle. It looked like a little Chicago transferred to Toronto.

But the chief point of interest is the centralizing process that is going on. For some time past all the big American firms have been buying more or less cattle in Ontario. This buying, however, was done by representatives in the country, who went about picking up suitable cattle wherever they could be found. With the change of ownership in the Union Stock-yards has come a new order of things. Instead of sending men into the country to look up cattle, these big firms have concentrated their buying at West Toronto. The cattle are shipped in by drovers and others, and sold on their merits in the open market. That there is keen competition in buying is shown by the number of big firms represented, and by the activity that has characterized the export cattle market since this concentration began. Whether this new movement will be in the best interests of the cattle trade in the long run remains to be seen. So far it has proven very satisfactory to all concerned, and has given an incentive to the

cattle business that may mean much for the future.

As a remedy for the present unsatisfactory condition of the bacon-hog industry, some have suggested a similar concentration of the buying end. It is claimed that if f.o.b. buying were done away with and the hogs shipped by the producer or drover to some central point and sold on their merits to the packers, this trade would not be in the unsatisfactory condition it is in to-day. The fixing of prices each week by the packers, it is claimed, antagonizes the producer, who finds the price jumping up one week and down another, without any satisfactory reason being given, and, consequently, blames the packer, especially when prices take a sudden drop. Were there competitive buying at central markets, the prices paid would be a more correct indication of market values; or, at least, they would seem so to the producer.

The plan would be well worth trying, though it would be much more difficult to carry out than in the case of cattle or other stock. The pork-packing houses in Canada are not centralized at one point. They are scattered, and packers would not relish the idea of going out of their own districts to buy hogs. However, with the hog supply centralized for market purposes, one or two men could do the buying that it takes a dozen or more men to do under present methods. There should, therefore, be enough saved in this way to repay packers for any extra expense they might be put to in buying only at one central point.

If all reports be true, packers have been punished so severely the past few years that they should be willing to take up any suggestion that would better things. They are now not getting one-half of the hogs they could handle, just because the producer has become dissatisfied with their methods of doing business, and is not increasing the hog supply. F.o.b. buying by the packers has certainly not gained the confidence of the producer. A change to the old plan, or buying in the same way that other stock are bought, might be well worth trying. Perhaps no change from present-buying methods will be needed, when we have learned all that the bacon commission can tell us about how they do things in Denmark.

"CHRONICLE"

Why Hay is Graded Low.

The rules of the American National Hay Association recognizes 23 grades of hay, which seem to fall into five classes: Timothy, clover, mixed timothy and clover, wild grasses, and alfalfa. Choice timothy hay must be sound, properly cured, of bright natural color, not mixed with more than one-twentieth of other grasses, and well baled. Lower grades of timothy are Nos. 1, 2 and 3, and "no grade." Clover hay has two grades, No. 1 and No. 2. No. 1 clover must be medium clover, sound, properly cured, not mixed with more than one-twentieth of other grasses, and well baled. Choice alfalfa hay must be reasonably fine leafy alfalfa, of bright green color, properly cured, sound, sweet, and well baled. Other grades of alfalfa are Nos. 1, 2, and 3, and "no grade." These rules are used by most cities that have official inspection.

A large percentage of the timothy on the market is graded below No. 1. The reasons are that many meadows are cut for years, until they become weedy and mixed with other grasses, and that the hay is often cut too late, so that it loses the bright natural color and palatability. If the farmer would send to market nothing but what the feeder considers good he would get a higher price. It might be necessary in some cases to educate the country buyer also.

Timothy has the lead, especially among city feeders, because it is not only nutritious, but palatable and non-laxative, and the horse is not likely to overfeed. Nevertheless, other kinds of hay would often prove better for the feeder. Alfalfa, for instance, has high muscle-building qualities, and is especially valuable for draft horses. It is highly relished, however, and the horse may overfeed. Doubtless the feeder will in time learn that hay from legumes has great value when properly used.

The farmer is obliged to include clover and other legumes in his rotation in order to maintain the fertility of his land.

In any case, the farmer who sells hay should seek to produce the highest grade, by keeping his meadows pure and by proper methods of cutting, curing and stacking. Further points may be found in Farmers' Bulletin 362, "Conditions Affecting the Value of Market Hay," published by the U. S. Department of Agriculture.

The original forests of the United States, which in the quantity and variety of their timber exceeded the forests of any other region of similar size on the globe, have been reduced by cutting, clearing and fire from an acreage of 850 million to one of not more than 550 million, with a total stand of some 2,500 billion board feet.

Winnipeg Industrial Exhibition.

The Winnipeg Exhibition, held this year July 11th to 17th, was favored with good weather. The attendance was large, and the gate receipts satisfactory. In the horse classes the Percherons were predominant in numbers and quality, probably stronger than at any previous Canadian exhibition. Prof. W. J. Rutherford, Regina, placed the awards in this class, and expressed himself unqualifiedly in commendation of the exhibits. The exhibitors were W. E. & R. C. Upper, North Portal, Sask.; Colquhoun & Beattie, Brandon, and Ellison & Son, La Moure, North Dakota. A Percheron this year was awarded the grand championship prize for the best draft stallion, any age or breed, the winner being Colquhoun & Beattie's Halifax, a phenomenal two-year-old. In aged stallions, Ellison & Son were first with Charlton, and Upper's Robose was second. In a very strong class of seven two-year-olds, Halifax was first and Colquhoun & Beattie were also second with another imported colt, Haton. In yearlings, Ellison was first and Upper second. The latter was also first and second in the aged-mare section, with Vinette and Palmette, and first in three-year-olds with Snowflake; Ellison being first and second for two-year-olds. Colquhoun & Beattie were first in the yeld-mare class, any age, with their imported two-year-old, Abella.

Clydesdales were shown in smaller number than usual at Winnipeg. One missed the exhibits of such persistent followers of the show-ring as Bryce, Mutch, Hogate, and Andrew Graham, though the last two named were represented in a small way. Prof. W. F. Carlyle, of Colorado Agricultural College, did the judging. In the aged stallion class, Sir Wm. Van Horne's Lord Ardwell, Andrew Graham's Vigorous, and Hogate's Lord Mac, were placed in the order named. In three-year-old stallions, R. E. Foster, Melita, had first place with British Cheer, by Revalenta; John Graham, Carberry, was second with Count Everest, by Sir Everest, and third with Ulysses. In two-year-olds, Jas. McKirdy, of Napinka, was first with Evergrand, and third with King's Own; second going to A. Hodgson for Prince Policy. In the yearling section, which was very strong, J. E. Martin, Condie, Sask., was first with the quality colt, Baron's Headlight, afterwards made champion in the Canadian-bred class. In the brood mare and foal class, M. Gibb, Morden, won with Miss Dee; R. H. Taber, Condie, and J. B. Jickling, coming second and third. In an attractive class of yeld mares, Taber's Bell Rose headed the line. She was later declared champion Canadian-bred mare. C. C. Porterfield, Brandon, was second with the five-year-old imported mare, Floskend Princess. In the three-year-old class, Taber's Queen of the Waves, was first and also female champion of the breed. In two-year-old fillies, J. G. Barron, Carberry, won first award with Cherry 5th, bred by Andrew Graham. The stallion championship went to Van Horne's Lord Ardwell; Martin's yearling, Baron's Headlight, being reserve.

Shires were scarcely up to the usual showing here in numbers or quality. The award list was as follows: Stallion, 3 years or over—1, P. B. Ross, Grenfell, on Hazelton Albert; 2, Ellison & Sons, La Moure, Dakota, on Admiral Schley III.; 3, John Stott, Oak Lake, on Handsome Prince. Stallion, 2 years—1, D. Smith, Gladstone, on Gladstone Bob. Yeld mare, any age—P. B. Ross, on Montford Rachel. Three-year-old filly—Ross, on same. Two-year-old filly—1 and 2, Ross, on Lowesby Countess and Sheldford Ring.

The grand championship special for best stallion, any age or breed, lay between Van Horne's Clydesdale, Lord Ardwell, and Colquhoun & Beattie's two-year-old Percheron, Halifax; Prof. Carlyle awarding the prize to the Percheron. The female grand championship went to R. H. Taber's Clydesdale three-year-old filly, Queen of the Waves.

Hackneys: Stallion, 3 years and over—1, J. B. Hogate, on Kellett Fireboy; 2, Ellison & Sons, on Ben Bolt. Stallion, two years—1, T. A. Cox, Brantford. Brood mare and foal—P. B. Ross, on Brampton Lily. Three-year-old gelding or filly—1, T. A. Cox, on Oak Park Daisy. Two-year-old filly—1, J. G. Barron; 2, John Wishart. Mare, any age—1, A. A. Gilroy, on Emerald; 2, N. T. McMillan.

THE CATTLE CLASSES.

While the cattle classes throughout were creditable, they have been stronger at some previous Winnipeg exhibitions. In the Shorthorn section the competition was practically limited to the notable herds of Sir Wm. Van Horne, of Selkirk,

and J. G. Barron, of Carberry, Manitoba, though the entry list included two others. The awards were made by Prof. W. J. Kennedy, of Ames, Iowa. In the class for bulls, three years old or over, Barron was placed first with Topsman's Duke VII., an even-fleshed bull that has had a brilliant prizewinning career since he was a calf; second place was given Van Horne's Huntlywood III., and third to Baron's Mistletoe Eclipse. For bulls, two years old, Baron was first and Van Horne second. There was but one entry in senior yearlings. In junior yearlings, Van Horne won with Golden Marquis over Baron's Scotch Thistle. Baron's Topsman's Duke VII. won the senior, and Van Horne's senior yearling the junior male championship, the former being awarded the grand championship. In the female sections the Van Horne herd had the best of it, though Baron had first in aged cows with his massive Fairview Jubilee Queen; Van Horne being second and third with Roan Beauty and Sunbeam's Queen. Van Horne's remarkable white heifer, Spicy's Lady, was first in two-year-olds, and was also grand championship female. The same exhibitor won first award for herd, bull and four females, and also first for young herd, bull and three females, under two years, Baron being second in each case.

Herefords from the herds of Wm. Shields, Brandon, and G. H. Gray, Austin, made a good showing, Shields winning in the aged bull class with Happy Christmas; Gray second with Royal Jap; and Shields third with Onward V. Happy Christmas was grand champion male, with Gray's first-prize senior yearling, Happy Wilton, as reserve. In cows, 3 years and over, Shields won first, second and third with Princess of Island Park, Julia III. and Falcon. Gray was first in two-year-olds with Happy Sunbeam II.; Shields first in senior yearlings, and Gray first in junior yearlings. Shields' cow, Princess of Island Park, was grand champion, and Gray's two-year-old, Happy Sunbeam II., was reserve. In the herd competition Gray won first.

Aberdeen-Angus cattle were an interesting exhibit, there being four exhibitors, namely, J. D. McGregor, Brandon; Jas. Bowman, Guelph, Ont.; R. Curran & Sons and A. E. Tolton, of Emerson; McGregor being most successful in the bull sections, and Bowman with females. In bulls, three years and over, McGregor's massive and smooth Golden Gleam won over Bowman's Lord Val II., and his two-year-old, Blackbird Brilliant, was placed over Bowman's Magnificent. Bowman won first for yearling bull, and first and second for senior-bull calf. McGregor's Golden Gleam was champion male. Bowman was first and third for aged cows, with Elm Park Rosebud IV. and Beauty III. Bowman was again first in two-year-old heifers; McGregor first for senior and junior yearling, and Bowman first for senior heifer calf. McGregor's fine senior yearling, Sunnyside Inez, secured the grand championship. The herd awards stood: McGregor first, Bowman second. Young herd, bull and three females under 2 years, Bowman first, McGregor second. Three animals, any age or sex, get of one bull, Bowman first, McGregor second.

Galloways.—The bulk of the entries in this class were from the herd of D. McCrae, Guelph, winning all in the bull classes. In females, J. W. Anderson, Winnipeg, secured some of the prizes.

DAIRY BREEDS.

Holsteins made a very strong showing, the exhibitors being J. Herriott & Sons, Souris; H. Hancox, Dominion City; A. H. Johannis, Claudioboye; W. M. Gibson, Winnipeg, and A. B. Potter, Kennedy, Sask. Potter won in aged bulls with Sarcastic Lad, and had the grand champion award for same. In the female classes competition was keen, the aged-cow class being very strong in numbers and individual excellence. Potter's Lady Akrum was the winner, and was later declared grand champion female. Johannis was second in the class with Winnipeg Belle, and Hancox third with Daisy Lass.

Ayrshires made a very creditable display, the exhibitors being W. Hardy, Roland; H. McColl, Glenboro, and J. A. Gibson, Rosebank. Hardy won every first in bulls except in calves, where McColl had first on Prince Gallant. In females, Hardy was first in all sections except heifer calves, in which class McColl had the winners. Hardy won the grand championship and first herd prizes.

Jerseys were represented only by Prairie Province herds, but made a very creditable showing, the exhibitors being W. O. Chadwick, St. James; W. V. Edwards, Souris, and D. Smith, Gladstone.

The awards in dairy breeds were placed by J. H. Grisdale, of the Central Experimental Farm, Ottawa.

SWINE.

Three breeds of hogs were shown, competition being strong in the Berkshire and Yorkshire classes, while Tamworths were shown by only one exhibitor, F. Orchard securing in this class all the prizes he entered for. Mr. J. H. Grisdale, Ottawa, placed the awards.

In the Berkshire class T. A. Cox, Brantford, Ont., had out a strong exhibit of smooth, even

animals, and secured most of the first prizes, including the male and female championships and the herd prize in the open section. W. V. Edwards, Souris, was the strongest Western competitor.

In Yorkshires, A. B. Potter and Wellington Hardy divided the prizes with Sir Wm. Van Horne, though the latter won a good proportion of the firsts, including the champion and herd prizes. Potter had a strong exhibit in all sections, and Hardy won first for aged boar, in the sow and litter class, and for Western-bred herd.

The detailed report of the sheep section has failed to reach us in time for this issue, but that section of the show is said to have been very creditable, the Leicesters exhibited by A. J. McKay, of Macdonald, being exceptionally commendable, and such as would stand a good show at any exhibition in Canada.

Oxford County Farm Notes.

We have just finished haying; had ideal weather and got ideal hay—green, but yet well cured. A greater part of it we cocked up. It was all clover hay. Fall wheat is just about ready to cut. Corn, mangels and potatoes are doing very well. I do not think potato bugs are as bad as some years ago. We have most of our garden stuff in the root field. It is away from the hens, and seems to be easier managed than in the garden. We think it pays to have muzzles for the horses when on the binder; at least on the two next the grain. They are much easier driven, and are more contented when they cannot get a bite. We made a very serviceable muzzle out of chicken-coop netting and a band of No. 7 wire. It does very well, and did not cost much. During the dry weather we had lately the cows went back in their milk a little. Cheese has been selling at about 11½ cents. I think the buyers make a great mistake in shipping the cheese so green. It should be two weeks old at least before leaving the factory. Hogs are a great price, \$7.85, but, considering the high price of feed, there is not so much in them after all. Eggs are keeping up well in price, 18c. to 20c. We are told that it is because there are so many more eggs used in Canada on account of the high price of meat. We had a cow come in on the grass, and she took milk fever. The V. S. gave her the oxygen-gas treatment and she recovered nicely, and is now doing well. I suppose that we should have milked her before she calved. The V. S. could not explain how the gas treatment effected a cure, but it does it all right, for the cow was very ill.

D. L.

Cow Testing, Rain or Shine.

June records furnish some interesting contrasts in milk yield, as reported by members of cow-testing associations to the Dominion Dairy Commissioner's office.

For instance, one herd at Hickson, Ont., contains 17 cows, each one of which gave over 35 pounds of butter-fat in the month. In another association, not fifty miles away, where the milk is paid for by fat content; one herd of 15 cows has only two cows that tested three per cent. of fat; all the remaining 13 cows in the herd tested only 2.9 or 2.3, while the average yield was only 22 pounds of butter-fat, or 18 pounds less per cow during the month than the other herd.

In another herd the weight of milk from one cow is given as 14 pounds one morning, only 8 pounds the next evening, but 15 pounds the next morning; many other cows show just as sharp variations. These are quickly noted, if the wise dairyman is keeping a daily record of milk; and the cause of such sudden drops will be sought for and measures taken, if possible, to prevent the shrinkage and keep each cow up to her maximum capacity.

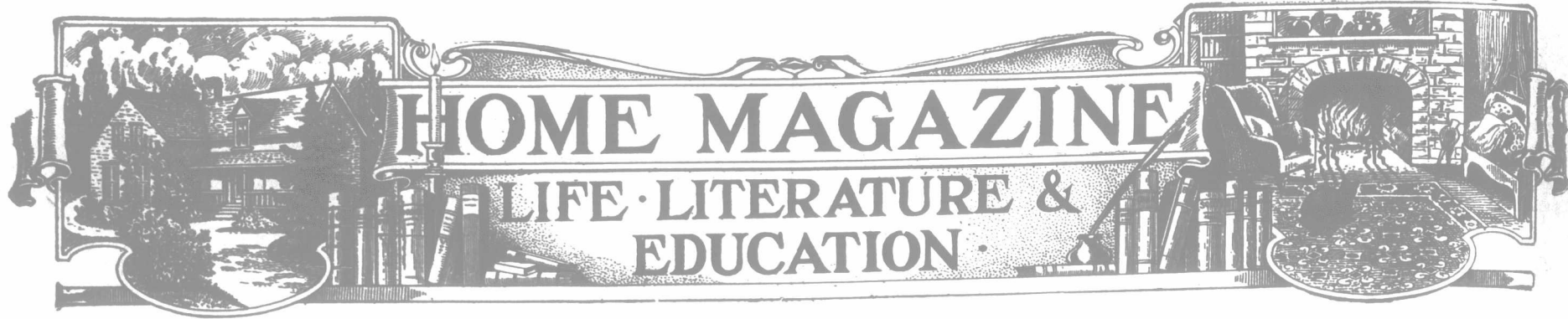
Twice a day, rain or shine, the cow has to be milked. Why not make each milking time bring in eight or nine cents profit? How many men milk eight times before they get one cent profit from some cows?

C. F. W.

Ottawa.

Pre-cooling Experiment.

A mixed car of cabbage and tomatoes was loaded at Leamington for Winnipeg Friday, July 23rd. Owing to the poor success of previous shipments the Fruit Branch of the Ontario Department of Agriculture offered to pre-cool shipment 24 hours before moving. Two cars were iced and placed in siding, and tomatoes placed in one car and cabbage in the other, in order not to overtax refrigerator space. At end of 24 hours cabbage and tomatoes were carefully loaded into one car, which was thoroughly re-iced. A thermograph was placed in car, to ascertain temperature throughout journey. Arrangements have been made to have produce examined upon its arrival. Geo. W. Ross, of Leamington, Ont., accompanied shipment. A. McMeans and A. McKinney made the necessary arrangements, and superintended loading of the car.



We've all heard confirmed city-dwellers, commiserate their country cousins because life in the country must be "so dull." Some seem to think of it solely as a place where one raises hogs and hayseed. They assume that, beyond blooded stock, and possible experiments in intensive cultivation, there's nothing, country-wise, to interest men and women of active brains.

Don't you believe it. Of some it is too true. But not of all, or even of most. I know people whose whole lives are dull rounds of dirt-grubbing, solaced only by occasional dribbles of local gossip about some neighbor's picayune affairs; but to say that this class is typical, would be as absurd as to call New York City's "White Wings" typical Manhattanites.

The country is a big place—a very big place. It harbors a great many folks of a great many kinds. Moreover, it is wonderfully hospitable to all who accept its invitations. It has occupation and fitting reward for the "man with the hoe," who sees only clods, and knows nothing else. Likewise, it welcomes the student, the philosopher, the savant, and throws wide open doors of opportunity and enjoyment to their every faculty. While country life is possible to men of the least education and the lowest mentality, it is nevertheless true that the broader a man's training, the stronger his mind, the riper his learning, so much the more will he get out of the country. It is a many-sided land, this of the open fields, the swelling hills, and the limitless outlooks. Many-sided must be the man who shall be able to absorb and assimilate all its gifts.

One day last summer, neighbor Morton and his spectacled son came plunging down the "dugway" from my woods. Almost too excited to talk intelligibly, they made out to ask for a shovel and a box. With these we all three hurried back up the mountain-side. Stumbling over stumps, pushing through thickets, we came to a little plant, beside which both men dropped on their knees, and began clearing away leaves and litter. It seems they had found a *Habenaria* which differed in some ways from any *Habenaria* known to them, and they were half wild with impatience to get it home to their microscope and their botanies, to make sure whether it was simply a chance "sport," or they had actually discovered a new species. A hundred men might have passed that plant without seeing anything of interest, but the Mortons know their botany, and the day was to them one of triumph.

Neighbor Fitch came to me another time, to ask guidance to the so-called "Wildcats' Den." This is a chaotic talus of huge rocks lying against the foot and up the steep side of the mountain, composed of fragments varying in size from an apple to a Flatiron Building, tumbled wildly down the slope against and upon each other. Some overhang toppling, some are stacked together so as to show caves and grottoes in any of which a dozen men might shelter. High above, the cliff rises almost sheer, its ridge sharply cutting the sky-line. Out came Fitch's geological hammer. For an hour he tapped and chipped and tested. Then, as if reading from a book—it was an open book to him, trained in geologic lore—he told me the story of

that rock-fall. Together we sat on a mossed stone, and, in our mind's eyes, reconstructed the old Silurian scene. We saw again the ancient mountain range, vastly higher than now; its soaring peaks of splintery rock; steam-jets issuing through fissures from the glowing interior; the stagnant marsh below; strange, monstrous birds heavily flapping membranous wings from crag to crag; and then the dull, growing rumble of the approaching earthquake, shaking the swaying summit as a wind shakes the tree-tops, and toppling half the mountain from its base, to heap the jagged ruins in the titanic confusion amid which we sat. To most men the whole thing would be just a pile of big rocks. But Fitch knows his geology, and it was to him a thrilling page in the tremendous history of the universe.

I have another friend who finds intensest pleasure in the study of butterflies and other insects. Even gnats and mosquitoes tell him fascinating tales. Another neighbor finds in "her birds" an occupation of daily charm. She knows the habits of the veery thrush as well as I know those of my Leghorn hens, and she can tell you the whole story of the chickadee. Still another finds each year too short to yield him the knowledge of plant-growth mysteries which he is seeking to unveil.

Are you a clodhopper? The country has clods for you to exercise upon. Are you a student? The country has problems which will fascinate as well as puzzle you. Are you an "all-round man," with a twentieth-century hunger for knowledge?



On the Montreal River.

Then can you feed full every faculty of your being in the country, if you have but the capacity to receive what the country has to offer.

Nor, while your mind feeds plentifully, shall your soul be starved. For over you shall open skies of endless change; under your feet the fields shall deepen from gray to green with every spring; through your trees the birds shall weave glancing shuttles of brilliant plumage; for you the trout shall leap gleamingly from the soft singing of the rushy brook-bed; beauty shall be above you and below you and all around you, so that you may live in it day and night. Nor shall even this be all; but, with the beauty and the tenderness and the growth shall also flow to you a new vigor of manhood

and womanhood in full tide from the everlasting hills whence cometh strength.—[From Country Life in America.]

People, Books and Doings.

THE FIRST WAR CORRESPONDENT.

A few days ago, in the part of St. Paul's Cathedral, London, known as the journalists' corner, there was unveiled a bust of the late Sir William Russell, the celebrated English war correspondent. A small but distinguished group of newspaper men attended the ceremony to do honor to the memory of the inventor of war correspondence for the press.

The speaker of the occasion, in reviewing Russell's career, contrasted the position now earned by accredited correspondents at headquarters with that which the first "special" had to make for himself before the profession had been invented. Russell was something between a camp-follower and a spy, a nuisance, and a dangerous, obnoxious pest. At first snubbed and disregarded, when his earlier letters, written to *The Times*, revealed to the public the criminal disorganization of the army in the Crimea, returning to the front, Russell found himself the object of positive hatred and contempt on the part of leading officers of the staff. But then became apparent the real power of his position, now, perhaps, too readily recognized by pushing officers. Detested as he was, neither he nor his letters could be suppressed. His work was successful, because he was

form of public disputations. The honor has flourished at Cambridge for 162 years. This year a great struggle was anticipated between England, America, and India; but England won, and the United States took third place in the person of Mr. L. J. Mordell. India's candidate came no higher than the ninth place, but she has previously furnished two seniors, and the honor is now abolished, without ever having been won by a son of Uncle Sam. There was intense rivalry between Trinity and St. John's Colleges, for, by a remarkable coincidence, each had supplied fifty-five Senior Wranglers. The winner of the year, Mr. P. J. Daniell, has put his college, Trinity, in the lead for all time.—[*The Literary Digest*.]

Vancouver and Victoria have for many years followed the English practice, and turned to the left. The talk now is to change this rule of the road, and turn to the right. It is not that Vancouver and Victoria are convinced that they are wrong, but because strangers find it convenient. They are the only two cities in America that do it that way, and one might as well be out of the world as out of the fashion. At this distance, it looks as if Vancouver might be leading in this reform, and Victoria holding back, for Victoria likes old and venerable habits. Vancouver, brisk and modern, is the tradition-smasher. It may be that the rule of the road is changed none too soon. Inherited instinct is a wonderful thing, and presently Vancouver and Victoria babies might be coming into the world left-handed, or with a tendency to put the left foot foremost. We can say to Vancouver and Victoria, as the bishop said to the scoffer who asked him the way to heaven: "Turn to your right and go straight ahead."—[*Colliers*.]

There is living now in the West an old lady who, as a child, saw Fulton's first steamboat go up the Hudson, and afterwards saw the first train make its first trip over the first rails laid on this continent. In the eighteen-nineties, at an electrical exhibition, this same old lady saw the original steam locomotive shown as a venerable relic, side by side with the latest electrical car; and last year she saw an airship. Thus, in less than a single century, it was given to one individual to see the beginnings of four tremendous epochs, and the full development of three.—[*Canada West*.]

A Trip to New Ontario.

(Continued.)

We left Latchford for the Upper Montreal on Thursday morning, the wind blowing great guns, and Bay Lake rippling her prettiest as a send-off. There were several passengers on the steamer *St. Antoine*, all men but ourselves and two women who chewed gum incessantly, bound for Elk Lake. About half way down the lake a boom of logs had broken, and it was necessary for the steamer to charge the obstruction at the narrowest point, an operation that caused some delay. We were told that there were about 90,000 logs in the boom, and that, as shown by the stamp on the end of each, they belonged to J. R. Booth, the lumber king of Ottawa, who, unless we were misinformed, has secured the right to all the pulpwood over 1,700

square miles on the Upper Montreal. Farther up, we saw his roll-ways every mile or so along the river, steep declivities, already considerably worn down by the logs tumbling over into the river.

After a pleasant run of about eight miles, the first portage was reached, at Pork Rapids. Here it was necessary to walk about three-quarters of a mile over a raised track, along which the baggage is conveyed on a sort of flat-car trailed along by a horse. At the end of the portage is Pork Rapids village, about as pretty a place as the name would indicate. Some of the passengers here went into the restaurant tents for luncheon, but we chose to go aboard the next steamer, "S. and Y.," at once, to watch the curious scene, the little log cabins—chiefly freight sheds, we supposed—and the long line of men, each tramping over the track with a bundle on his back; then, finally, the car loaded with freight. The men were, for the most part, prospectors, as might be told by their duck suits, usually of a khaki color; their "surveyor's" boots, and outfit for prospecting; but there was a great difference in their appearance, for all that. A few were rough and coarse—we saw them drinking on the steamer later, and one became so intoxicated that he had to be carried to the next steamer at Flat Rapids; others were respectable men, who showed in every movement the training of a good home-life. It is the same all over this country; all sorts and classes are to be found wherever you go, and you realize more than ever how little clothes go towards making either the man or the gentleman.

After Pork Rapids, there is a straight run of about 30 miles to Flat Rapids, where another short portage is made, and where we found the inhabitants weeping with smoke, and busily engaged in keeping a bush-fire off the buildings. Beyond that, a few miles more bring you to Mountain Chute, and then there is no further transfer until Elk Lake City is reached. The scenery passed so far varies but little; high banks, thickly wooded on either hand, with here and there a scorched portion showing where forest fires have done their work; a succession of river and lake, lake and river; yet nowhere is there the sensation of loneliness. Canoes are constantly passing; occasionally a "pointer," a species of river-boat pointed at each end; and once in a while a river-steamer of the other life, for there are two lines competing for the traffic of this busy route to Elk Lake and Gowganda.

It was rather remarkable to us—almost amusingly so—that, during the whole route, notwithstanding the "wild" name usually given to mining localities, we did not hear a single "swear-word." At Mountain Chute—a very pretty place, by the way—one of the boatmen, in lowering a box, gave his thumb an awful bruise, and not a word did he say but "Oh, dear!"—very good excuse he had to say more, too, for he went off with his hand bleeding. . . . So much for the presence of women in a place.

Courtesy, however, is by no means lacking, even where men only are in question, nor a disposition to help out wherever help is needed. Once, while ascending the river, a young man lost his hat, and the steamer actually put back for it. The captain said they sometimes did so "for a good customer and a good fellow."

It is not likely that much of the land between Latchford and Elk Lake, nor, indeed, farther up, will ever be farmed. Here and there is a pocket of land which, they say, is fairly arable, but for the most part the country is covered with rock, great bluffs of Laurentian formation, with here and there outcrops of Huronian and Diabase, the latter being the kind in which silver is looked for, particularly at its junction with the Huronian. Just in two spots did we see any indication of tillage

of the land—both tiny clearings. In one an old Scotchman had settled down, with a squaw for his better half. In the other, west of Elk Lake, a few Indians had scraped in some peas at the top of a stony hill. There were a few log cabins there, and behind one of them a large wooden cross had been erected. Whether it marked a church or a graveyard, there was no means of knowing. No one was in sight of whom we could ask, nor was there any sign of life save a large white cat half way down the bank, that mewed piteously.

Signs of human habitation were, however, plentiful enough all along

done themselves, and often the greatest winner, is the biggest rogue. Indeed, by this time I have come to the conclusion that this whole country is pretty much a big gambling-board—but mining districts have been that always.

We reached Elk Lake City, or, rather, Smythe, for the two are on opposite sides of the river, and are connected by a pontoon bridge, at about seven o'clock in the evening, expecting to meet C., with open arms and broad grin, on the dock awaiting us. As we steamed in, Mrs. C. and I, wrapped to the neck in blankets, for it was very cold, looked and looked again, but no

most tearfully discussed what we should do. "We simply can't sleep here," said Mrs. C. "I'll sit up all night, first!"

"He will surely come yet?" I ventured.

"But if he can't—if he has been delayed, what can we do?" It was a rather hopeless dilemma.

"I'll tell you," said I; "if there is a preacher in this place, we'll find him. He may have a wife who will do something for us."

Just then came a tap at the door, and there stood C. Senior—and C. himself, black as an Indian from his long weeks of survey work, but the loveliest-looking man who could possibly have "hove" upon our horizon about that time, and just a little bit nicer than ever.

"Come out of here," was almost his first word; "you must be a pair of cheap guys." So off we went, triumphantly, to the Matabanick Hotel, determinedly showing to all the world that we were by no means cheap guys. Afterwards we learned that there was another very good hotel, "The King Edward," so that Elk Lake City is not so badly supplied at all. We had good steak and potatoes for supper, peas and pickles, and fresh biscuits, ripe strawberries and cake, and a good hot cup of tea. In the meantime, there were explanations. C. had been delayed. On finding that our steamer had got in before him, he at once started making a tour of the hotels—no ten-minute work in this town—and finally ran into C. Senior, who was out on a hunt either for him or for a better hotel.

That night I slept a sweet sleep in a teeny room overlooking a log building roofed with tar paper. The door would not lock, and so I pulled a washstand across it; but the sheets were white and clean, and there was the alluring prospect of a decent breakfast.

Next morning, while the canoe was being packed, Mrs. C. and I started out for a little walk, but we did not go far—there were too many men to stare—they swarmed like bees everywhere. So we bought three picture post cards, for which we paid a quarter of a dollar, then came back to the canoe, to start what really proved to be the most interesting part of our journey.

DAME DURDEN.

(To be continued.)

Some Echoes from Our Great Opportunity.

Until such time as the promised handbook upon the transactions of the late conference of women workers of all nations is published, we, who were privileged to be present at some, if not at every one, of the sections, have to be content with here and there an echo to cherish in our memories, or to pass on to others. To begin with, let me quote, as

ECHO I.,

what a writer in the Toronto News had to say in words of kindly general commendation:

"The attitude of the Women's Congress commands only respect and sympathy. In all its phases the Congress is interesting. Its deliberations will give a fresh impulse to noble endeavor in many directions, whilst even from the lowest standpoint it is an advantage to have all these eminent women in Canada."

ECHO II.

The Toronto Globe, which has also been generous in its allotment of space, broad-minded in its judgment, and fair in its occasional criticism of the happenings during the Quinquennial sessions, accords to "these leading women of many nations a genius for organizing," noting, in their choice of president and officers for the coming five years, that, "the test of fitness for service ruled, all uniting in harmony, that common objects might be effectively promoted. This simplified the elections, and, while it would be impossible for so many active minds to unite, with-



A Prospector's Tent.

the way: here some timbermen's shanties, there a prospector's white tent gleaming through the trees; here, again, a cache, or a canoe drawn up against a bank, and there a fire-ranger's cabin. One hears very few words of commendation, by the way, for the fire-rangers up here. Talk to whom you will, and you hear nothing of them, except that they are a lot of useless fellows, drawing pay and doing little for it. Most of them are students, it appears, and very few are used to the strenuous life in the bush, which should be second nature to the really efficient fire-ranger. Of course, a little of what one hears must be allowed to prejudice. It is easy to give a dog a bad name, and, no doubt, some of the

"L. B. C." (Long Brother, C.), as we used to call him in the old camp days, was to be seen among the men swarming like ants down to the landing and over the pontoon bridge. There was disappointment in the air, and the appearance of this horribly new packing-box town did little to raise our sinking spirits. The buildings are all thrown-up-for-the-occasion affairs, as ugly as may be, with hotels predominating, and a new "opera house" in course of erection. On getting off, we carried our baggage to the nearest hotel. But, oh, what a place for two women to go into! The platform and steps were covered with men, who never said a word, but stared and stared, as did the men on the wharf when



Water Street, Elk Lake.

rangers are doing fairly good work. On the other hand, there is usually some fire where there is so much smoke.

But it is mining that is the great topic of conversation everywhere here. On the boat you hear it, at the portages, wherever men stop to talk at all; stories of claims sold for large amounts—we heard of one yesterday that changed hands for \$80,000 recently—and stories of men who have gone out disappointed. It is the old story—good luck for some, bad luck for others who work quite as hard. It is the old story, too, of men "doing" others, or being

we hurried through; and thankful we were that C. Senior was with us, or we should have hesitated about going on. It was high time for supper, and so we registered at once, not knowing what better to do, and were shown to our rooms at once. Dirty halls, and yet dirtier halls! Steps down, and steps up! Rough, bed-buggy-looking walls of boards guiltless of either paper or whitewash, and the room was reached! More and more disappointment! A dirty little room containing nothing but a bed—with sheets gray with dirt!

We sat down in despair, and al-

pan, let rise, and when light, bake in a quick oven 15 minutes. Serve with coffee.

Wax Beans.—Cut the green beans in two or three pieces and throw into boiling salted water. The water should only commence to boil when beans are put in. Do not cover. Cook one hour, and when the water is nearly all boiled away, season with pepper and salt, and add a little butter and $\frac{1}{2}$ cup rich milk.

Currant Pudding.—Put 1 cup tapioca, well washed, in a double boiler. Pour boiling water over and cook until clear. Stir often while cooking, and add a pinch salt. Put a quart of well-washed ripe red currants in a glass dish, sprinkle over them 2 cups white sugar. Turn the tapioca over, and set on ice to get very cold. Serve with cream. Any kind of fruit—sliced oranges, peaches, etc.—may be used in this way.

Vienna Coffee.—To $1\frac{1}{2}$ cups boiling milk add 1 cup whipped cream, and pour this into 1 quart or more of strained, rather strong coffee.

Swiss Sandwiches (nice for picnics).—Mix equal parts of grated cheese and chopped English walnut meats. Season slightly with salt and cayenne, and spread between thin slices of buttered bread.

OUR FIVE FEET OF SUMMER BOOKS.

- Nansen's "Farthest North."
- William Winter's "Old Friends."
- Whittier's "Snow Bound."
- Mahaffy's "The Frieze of the Parthenon."
- Saxe's "Nothing to Wear."
- A. B. Frost's "American Types."—New York Mail.

The Beaver Circle.

Some More Letters on Wild Flowers.

The Bellwort.

Dear Puck and Beavers All,—I thought Dolly's idea was a very good one, as I think we get more in touch with Nature's own work by studying the flowers. I don't think we study the flowers as we ought to.

I thought it would be nice to gather flowers, so I went out one afternoon to the woods, which are right behind our barn, and while I was strolling around, I noticed a yellow flower, which I had never seen before.

I took it home and found it to be a Bellwort flower. This is what the plant is like:

It has a yellow flower, shaped like a bell, has six petals, and is one and a half inches long, and hangs downward.

The leaves are about three inches long, and are lance-shaped, clasped around the stem. They are soft and thin, and grow alternately on the stem. It just seems as though the stem grows through the leaves. The stem is long and thin, and



Bellwort.

(Prize.)

Drawn by Flossie Stager, Hespeler, Ont.

grows from six to eighteen inches in height. The root is quite a large one, consisting of long, thin, white rootlets, and has many of them, with bulblike things at the end, and extends very deep in the ground. It grows in a very rich, black soil.

It belongs to the lily family. I found this one amongst the brush and raspberry bushes, on top of a hill.

You certainly are a very nice person, to give us such interesting competitions to write on.

FLOSSIE STAGER (age 14).
Hespeler, Ont.

The Hepatica.

There is a woods near our school where a lot of flowers grow. One day, after we school children had eaten our dinner, we went to the woods for flowers. The day was warm, and there were a lot of flowers out. The woods were very beautiful with green trees, and brown and green, floor, dotted with flowers. We got quite a few hepaticas, trilliums and adder-tongues, and then went to the school-house. We gave some of the flowers to the teacher and took the rest home. They did not look half as pretty in the house as they did in the woods. I think everything looks prettier in its own surroundings than in any place we can put them.

The hepatica is the most common, and, I think, the most beautiful wild flower of the woods around here.

The flowers are about an inch in diameter. They are pink, blue, clear white, and sometimes mixed colors. They have six, and sometimes more, colored petals, with three green ones below them. The green ones covered the buds before they came out. There are quite a lot of pistils [One pistil made up of several carpels.] and stamens in the center of the flower.



Stuart Hayes, West Shefford, Que.

A fourteen-months-old Canadian farmer.

The stem is about three or four inches long, and is covered with white fuzz.

The flowers are found in the woods, where the ground is rich and loamy and they can get plenty of plant food.

The roots are composed of a lot of fibres coming from one main one about half an inch long. There is no chief stem in the plant above ground. The flower stalks are all joined together at the root.

The leaves are three purplish-green parts, fastened together about half way up each part, leaving one side open. [Not a compound leaf. A lobed, simple leaf.—P.]

ANNIE L. CAMPBELL (age 13).
Corbyville, Ont.

I agree with you, that flowers look prettier amid their own surroundings. When we have the next flower competition I shall ask you to draw a tiny bit of the surroundings, too.

The Violet.

Dear Puck,—Being very fond of wild flowers, and reading about the competition in the Beaver Circle, I decided to try my luck at drawing some violets. They are my favorite flowers. I do not have to go to the woods to get them, but along the fence in our garden they grow every spring.

The spot is low and the soil a clay loam. I have noticed that violets always grow in a low place, and in the

woods near a stream they are larger than those on higher ground. Those most commonly found are a dark purple color, but others are yellow. They have five



Violet.

Drawn by Genevieve Edmiston.

petals and a yellow center, and the stems are from three to five inches long, sometimes less. Violets vary in size, but are quite small compared to some of the other wild flowers.

Having never studied botany, I do not know any more about the violet, but I hope some of the other Beavers do, and can tell us more about them. Wishing the Circle every success.

GENEVIEVE EDMISTON.
Princeton, Ont.

The Adder's-tongue

(Dogtooth Violet).

Dear Puck,—I left home about 9.30 o'clock and walked a short distance along the main road. I left the road and followed a narrow path into the woods. After walking along the path for a while, I soon found a bunch of the Adder's-tongues. The flowers grew in a moist, shady place, beside a small brook.

The flowers were of a yellow color, and there were six petals. The petals have tiny brown spots on the inside. The pistil is of a light-green color, while the stamens are of a bright yellow hue. The stem is of a brownish-green color.

The plant is usually about 11 inches long. The leaves are two in number, and are green, with brown blotches on them. The part of the stem that is under the ground is white.

The plant has a bulbous root, which is covered with a brown skin. From this bulb, many thread-like roots branch off. These roots gather food and nourishment for the flowers.

The name, "Adder's-tongue," suits it best. Many botanists claim that the name, "Dogtooth Violet," has no connection with the flower, except that the flower hangs its head like a violet.

CATHERINE A. MACDONALD (age 12).
Upper Welsford, Queen's Co., N. B.

[John Burroughs wished to call this flower "Fawn Lily."—P.]

The White Trillium.

Dear Puck,—I saw your letter in "The Farmer's Advocate" about the wild-flower competition, and determined to try and win a prize.

I went to the woods this morning early, and, as the woods are always nice in the spring, I enjoyed it greatly.

The fields have all got nice and green, and the lake looked very pretty in the morning sunlight. The trees are all getting their leaves, and the farmers are all busy finishing seeding.

I found a number of white trilliums, or, as sometimes called, lilies, and I pulled

one up and brought it home, and I will tell you all I found out about it.

It was growing in a cool, shady place, and in very rich soil. Its roots consist of a bulb and a number of fibrous rootlets. The roots are protected by a tough skin, which is very hot to the taste, and its use is to hold the plant firmly in the ground and to supply food to the plant.

The stem is straight, and its color is green. It is soft, but the skin that covers it is tough. It carries food from the root to the leaves and flowers. It has three leaves, arranged around the stem in a ring. This is called a "whorl." The leaves are situated near the top of the stem, and they are net-veined.

The flower has six leaves, three are white and three are green. The white leaves are called petals and the green leaves are called sepals.

The trillium has a pistil, and six stamens arranged in a ring around it, in the middle of the flower.

Well, I think this is all I found out about the trillium. As this is the first time I have written to the Circle, I hope I shall see this in print.

We have taken "The Farmer's Advocate" for about ten years, and like it very much. STELLA ORR (age 13).
Flesherton, Ont.

"A Trip to the Woods."

As the sun was shining brightly in the cloudless sky, and the birds were singing their merry tunes in the high tree tops, some of my schoolmates and I decided to spend a day in the woods gathering wild flowers.

We reached the woods about two o'clock, and were delighted at the sight of so many wild flowers blooming before our eyes. We soon had a large bunch, consisting of various kinds.

One of the flowers that impressed me most was the trillium, commonly named lily. The trillium is a very well-known flower, found in rich soil. The stem is from six to twelve inches high. The root is a bulb, having fibers coming from it. It is dark brown in color, and growing from one to six inches below the surface. The leaves are in a whorl at the end of the stem, being situated directly on the stem, medium green in color, and net-veined. The flower is white or red in color. One flower comes from the center of three leaves, on a separate stem. The flower consists of three petals. Outside of these petals there is a circle of green leaves. There are six yellow stamens situated in the flower.

As this is all I know about the trillium, I will now close my composition.

JENNIE E. KERR (age 11).
Milverton, Ont.

The Junior Beavers.

The Bloodroot.

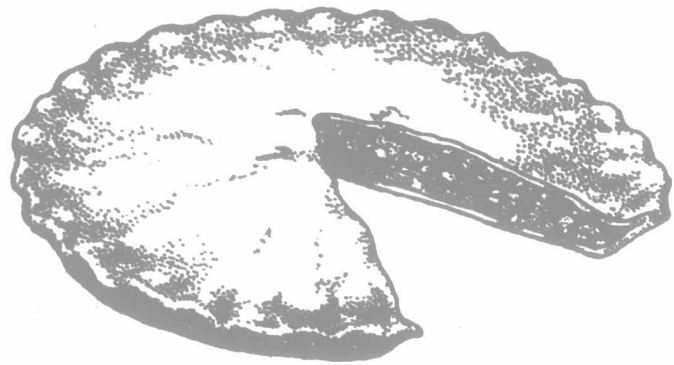
(Prize drawing and Composition.)

Dear Puck,—One Saturday afternoon I got a trowel and went to gather some bloodroot, as I wanted to try our draw-



Bloodroot.

Drawn by Ruth Erb, Sebringville, Ont.



Twenty-five years ago it was difficult to sell spring wheat flour for pastry at any price.

People didn't want it—they were using soft, winter wheat flour, and saw no reason for changing.

But hard wheat flour was persistently pushed. The women tried it and succeeded with it,—to-day hard wheat flour is the favorite for Pastry as well as for Bread.

Ogilvie's Royal Household

is hard wheat flour at its best—milled by modern methods, retaining all of the good of the wheat. It is without an equal for every kind of baking in which flour is used.



Ogilvie Flour Mills Co., Limited, Montreal.

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

CLIENT of ours holds several South African scrips. We shall be pleased to quote lowest price on application. Breat, Noxon & Co., Canada Life Bldg., Toronto.

CLYDESDALE GROOM, 9 years' experience. First-class in show-ring. Good fitter. Apply: J. Paterson, Woodstock, Ont.

FARM FOR SALE—173 acres, Westminster Tp., lot 7, concession 8, 2 miles from Belmont. Good buildings. Plenty of water. Good orchard, and in a good state of cultivation. Apply: James McLachlan, Glanworth, Ont.

MARRIED man wants situation as farm manager by first September. Good experience and reference. Temperate. Scotch. Apply: Robert Williamson, care George Laird, Guelph P. O., Ont., Can.

MODERN 110-acre farm. Best of buildings. Best corn and fruit land. 33 feet outside the Town of Amherstburg, Essex County. 30 acres choice fruit, balance grain, etc. Ideal location for a dairy. Apply: Dr. Bowman, Amherstburg, Ont.

PONY WANTED—Young, reliable and sound. Address: Pony, care of The Farmer's Advocate, London, Ont.

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Including Stock, Tools and Crops.
50 acres pleasantly located on good road, only 1 1/2 miles from depot; 200 good apple trees, pears, plums, cherries, strawberries, etc.; new house, convenient barn and outbuildings; cool, healthful location, near stores, school and churches. Other business forces quick sale, and will throw in growing crops, tools, cow, pair horses, wagons and machinery for \$1,200, part cash. For travelling instructions see page 99. "Strout's Farm Buyers Guide No. 27," copy free. R. R. fare paid. E. A. Strout Co., Dept. 2415, University Bldg., Syracuse, N. Y.

GRAND SHORTHORN STOCK BULL for sale (roan, 4 years), in prime condition. Sure stock-getter and quiet. Bred by A. J. Watt, Salem, Ontario. Jno. McArthur, Paisley, Ont., P. O. and Sta.

The Sunday-school Teacher—"And, now, children, can you tell me, when Balaam and his ass conversed, what language they spoke in?"
Little Harry Green—"Please, sir, Assyrian."—The Bellman.

It is never too late to be what you might have been.

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 30 cents.

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

"And so," said the reporter who was interviewing the great financier, "you got your first thousand dollars by saving it?"
"Yes."

"And after that?"
"After that I put in my time finding out how to get the thousands that other people had saved."

A pretty young English woman seated at dinner next to Father Healy, the witty Irish priest, said to him:

"They tell me, Father Healy, that you have mistletoe in your country?"
"Is that so, my dear young lady? Now I think of it, I believe it is true."

"Then what do the boys and girls do at Christmas time without it?"
"Is it kissing you mean, my dear? Sure, they do it under the nose!"

A wealthy society woman in Washington, D. C., had one of those domestic upheavals which ended in her cook leaving abruptly. Guests were expected, no one to cook the dinner—no results from telephoning, so she sallied forth in quest of emergency help. Meeting a very neat-looking colored woman, she stopped her and explained her dilemma, offering large money inducement. The woman listened in silence, then said:

"Where does yo' live, missus?"
Seeing a ray of hope, joyfully the lady gave her address, to be met with this reply:

"Well, yo' jess go home and look in yo' glass an' yo'll see yo' cook!"

"The Farmer's Advocate" Fashions.

The Golden Dog

(Le Chien D'Or.)

A Canadian Historical Romance.

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CHAPTER XXVIII.—Continued.

Deep as was the impression of that moment upon both of them, neither Philibert nor Amelie yielded to its influence more than to lapse into a momentary silence, which was relieved by Le Gardeur, who, suspecting not the cause—nay, thinking it was on his account that his companions were so unaccountably grave and still, kindly endeavored to force the conversation upon a number of interesting topics, and directed the attention of Philibert to various points of the landscape which suggested reminiscences of his former visits to Tilly.

The equilibrium of conversation was restored, and the three, sitting down on a long, flat stone, a boulder which had dropped millions of years before out of an iceberg as it sailed slowly over the glacial ocean which then covered the place of New France, commenced to talk over Amelie's programme of the previous night, the amusements she had planned for the week, the friends in all quarters they were to visit, and the friends from all quarters they were to receive at the Manor House. These topics formed a source of fruitful comment, as conversation on our friends always does. If the sun shone hot and fierce at noontide in the dog-days, they would enjoy the cool shade of the arbors with books and conversation; they would ride in the forest, or embark in their canoes for a row up the bright little river; there would be dinners and diversions for the day, music and dancing for the night.

The spirits of the inmates of the Manor House could not help but be kept up by these expedients, and Amelie flattered herself that she would quite succeed in dissipating the gloomy thoughts which occupied the mind of Le Gardeur.

They sat on the stone by the brook-side for an hour, conversing pleasantly, while they watched the speckled trout dart like silver arrows spotted with blood in the clear pool.

Le Gardeur strove to be gay, and teased Amelie in playfully criticising her programme, and, half in earnest, half in jest, arguing for the superior attractions of the Palace of the Intendant to those of the Manor House of Tilly. He saw the water standing in her eyes, when a consciousness of what must be her feelings seized him; he drew her to his side, asked her forgiveness, and wished fire were set to the Palace, and himself in the midst of it! He deserved it for wounding, even in jest, the heart of the best and noblest sister in the world.

"I am not wounded, dear Le Gardeur," replied she, softly; "I knew you were only in jest. My foolish heart is so sensitive to all mention of the Palace and its occupants, in connection with you, that I could not even take in jest what was so like truth."

"Forgive me, I will never mention the Palace to you again. Amelie, except to repeat the malediction I have bestowed upon it a thousand times an hour since I returned to Tilly."

"My own brave brother!" exclaimed she, embracing him. "now I am happy!"

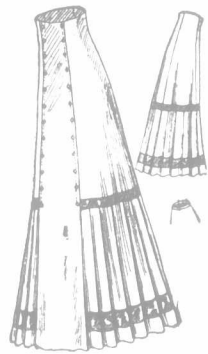
The shrill notes of a bugle were heard sounding a military call to breakfast. It was the special privi-



6375 Tucked Blouse,
32 to 42 bust,
Embroidery Pattern
397.



6374 Girl's Sailor
Jumper Suit,
8 to 14 years.



6381 Five Gored
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6380 Sleeveless Coat,
Small 32 or 34,
Medium 36 or 38,
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The above patterns will be sent to any subscriber at the very low price of ten cents per pattern. Be careful to give Correct Number and Size of Patterns Wanted. When the Pattern is Bust Measure, you need only mark 32, 34, 36, or whatever it may be. When Waist Measure, 22, 24, 26, or whatever it may be. When Misses' or Child's pattern, write only the figure representing the age. Allow from one to two weeks in which to fill order, and where two numbers appear, enclose ten cents for each number. If only one number appears, ten cents will be sufficient.

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



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—quick washing.
That's the kind of washing you do with the

"New Century" Washing Machine

Ball-bearing means easy running. Powerful Spiral Springs that reverse the motion, make quick work and little effort.

New Wringer Attachment allows water to drain right into the tub.

Only \$9.50—delivered at any railway station in Ontario or Quebec. Write for free booklet.

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Regular work from kindergarten to second-year collegiate.

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would enjoy if you had an organ with the superb tone quality of the Sherlock-Manning in your home. Your favorite selections would sound much more beautiful. You would take pride in owning such a splendid instrument. Book of designs free on request.

SHERLOCK-MANNING ORGAN CO.,
LONDON, ONTARIO.

Sherlock-Manning

Mrs. Rorer, of cook-book fame, tells of seeing a mud drop and break a beautiful platter at a dinner recently. The host did not permit a trifle like this to ruffle him in the least.

"These little accidents happen most every day," he said apologetically. "You see, she isn't a trained waitress. She was a dairymaid originally, but she had to abandon that occupation on account of her inability to handle the cows without breaking their horns."

lege of an old servitor of the family, who had been a trumpeter in the troop of the Seigneur of Tilly, to summon the family of the Manor House in that manner to breakfast only. The old trumpeter had solicited long to be allowed to sound the reveille at break of day, but the good Lady de Tilly had too much regard for the repose of the inmates of her house to consent to any such untimely waking of them from their morning slumbers.

The old, familiar call was recognized by Philibert, who reminded Amelie of a day when Æolus (the ancient trumpeter bore that windy sobriquet) had accompanied them on a long ramble in the forest—how, the day being warm, the old man fell asleep under a comfortable shade, while the three children straggled off into the depths of the woods, where they were speedily lost.

"I remember it like yesterday, Pierre," exclaimed Amelie, sparkling at the reminiscence: "I recollect how I wept and wrung my hands, tired out, hungry, and forlorn, with my dress in tatters, and one shoe left in a miry place! I recollect, moreover, that my protectors were in almost as bad a plight as myself, yet they chivalrously carried the little maiden by turns, or together made a queen's chair for me with their locked hands, until we all broke down together, and sat crying at the foot of a tree, reminding one another of the babes in the wood, and recounting stories of bears which had devoured lost naughty children in the forest. I remember how we all knelt down at last and recited our prayers, until suddenly we heard the bugle-call of Æolus sounding close by us. The poor old man, wild with rapture at having found us, kissed and shook us so violently that we almost wished ourselves lost in the forest again."

The recollection of this adventure was very pleasing to Pierre. He recalled every incident of it perfectly, and all three of them seemed for a while transported back into the fairyland of their happy childhood.

The bugle-call of old Æolus again sounded, and the three friends rose and proceeded towards the house.

The little brook—it had never looked so bright before to Amelie—sparkled with joy like her own eyes. The orioles and blackbirds warbled in the bushes, and the insects which love warmth and sunshine chirped and chirruped among the ferns and branches as Amelie, Pierre and Le Gardeur walked home along the green footpath under the avenue of elms that led to the chateau.

The Lady de Tilly received them with many pleasant words. Leading them into the breakfast-room, she congratulated Le Gardeur upon the satisfaction it afforded her to see her dear children, so she called them, once more seated round her board in health and happiness. Amelie colored slightly, and looked at her aunt as if questioning whether she included Philibert among her children.

The Lady de Tilly guessed her thought, but pretending not to, bade Felix proceed with the breakfast, and turned the conversation to topics more general. "The Iroquois," she said, "had left the Chaudiere and gone further eastward; the news had just been brought in by messengers to the Seignior, and it was probable, nay, certain, that they would not be heard of again. Therefore, Le Gardeur and Pierre Philibert were under no necessity of leaving the Manor to search for the savages, but could arrange with Amelie for as much enjoyment as they could crowd into these summer days."

"It is all arranged, aunt," replied Amelie. "We have held a court plenary this morning, and made a code of laws for our Kingdom of Cocagne during the next eight days. It needs only the consent of our suzeraine lady to be at once acted upon."

"And your suzeraine lady gives her

consent without further questioning, Amelie! although I confess you have an admirable way of carrying your point, Amelie," said her aunt, laughing: "you resolve first what you will do, and ask my approbation after."

"Yes, aunt, that is our way in the kingdom of pleasure! And we begin this morning: Le Gardeur and Pierre will ride to the village to meet our cousin Heloise, from Lotbiniere."

"But you will accompany us, Amelie!" exclaimed Le Gardeur. "I will not go else—it was a bargain!"

"Oh, I did not count myself for anything but an embarrassment! of course, I shall go with you, Le Gardeur, but our cousin Heloise de Lotbiniere is coming to see you, not me. She lost her heart," remarked she, turning to Pierre, "when she was last here, at the feast of St. John, and is coming to seek it again."

"Ah! how was that, Amelie?" asked Philibert. "I remember the lovely face, the chestnut curls, and bright black eyes of Heloise de Lotbiniere. And has hers really gone the way of all hearts?"

"Of all good hearts, Pierre—but you shall hear if you will be good and listen. She saw the portraits of you and Le Gardeur, one day, hung in the boudoir of my aunt. Heloise professed that she admired both until she could not tell which she liked best, and left me to decide."

"Ah! and which of us did you give to the fair Heloise?" demanded Philibert, with a sudden interest.

"Not the Abelard she wanted, you may be sure, Pierre," exclaimed Le Gardeur; "she gave me, and kept you! It was a case of clear misappropriation."

"No, brother, not so!" replied Amelie, hastily. "Heloise had tried the charm of the three caskets with the three names, without result, and at last watched in the church porch, on the eve of St. John, to see the shade of her destined lover pass by, and lo, Heloise vowed she saw me, and no one else, pass into the church!"

"Ah! I suppose it was you? It is no rare thing for you to visit the shrine of our Lady on the eve of St. John. Pierre Philibert, do you recollect? Oh, not as I do, dear friend," continued Le Gardeur with a sudden change of voice, which was now filled with emotion: "It was on the day of St. John you saved my poor, worthless life. We are not ungrateful! She has kept the eve of St. John in the church ever since, in commemoration of that event."

"Brother, we have much to thank Heaven for!" replied Amelie, blushing deeply at his words, "and I trust we shall never be ungrateful for its favor and protection."

Amelie shied from a compliment like a young colt at its own shadow. She avoided further reference to the subject broached by Le Gardeur, by saying: "It was I whom Heloise saw pass into the church. I never explained the mystery to her, and she is not sure yet whether it was my wraith or myself who gave her that fright on St. John's eve. But I claimed her heart as one authorized to take it, and if I could not marry her myself, I claimed the right to give her to whomsoever I pleased, and I gave her to you, Le Gardeur, but you would not accept the sweetest girl in New France!"

"Thanks, Amelie," replied he, laughing, yet wincing. "Heloise is indeed all you say, the sweetest girl in New France! But she was too angelic for Le Gardeur de Repentigny. Pshaw! you make me say foolish things, Amelie. But in penance for my slight, I will be doubly attentive to my fair cousin de Lotbiniere to-day. I will at once order the horses, and we will ride down to the village to meet her."

BOYS

Girls, young men and women, thousands of them have faces spotted, blotched and disfigured by

PIMPLES

and eruptions. Picking them makes the trouble worse, and often causes blood poisoning. We cure the worst cases when others fail. Seventeen years of success.

SUPERFLUOUS HAIR, Moles, etc., permanently removed. Satisfaction assured. Booklet "F" sent free.


HISCOTT DERMATOLOGICAL INSTITUTE,
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STAND ALONE AS KILLERS OF HOUSE FLIES. 3

AVOID USELESS IMITATIONS



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"Trafalgar Castle" IDEAL HOME LIFE in a beautiful Castle modelled after one of the palatial homes of English Aristocracy.

The latest and best equipment in every department of study backed up by the LARGEST AND STRONGEST STAFF OF SPECIALISTS to be found in any similar college in Canada. The college stands for exact scholarship, pleasant home life, and that type of social culture that grows in a Christian atmosphere. Send for calendar to:

REV. J. J. HARE, Ph.D., Principal

Among the patients in the private ward of a Philadelphia hospital there was recently a testy old millionaire of that city, whose case gave his physician considerable difficulty at first.

"Well," asked the crusty patient one morning, "how do you find me now, eh?"

"You're getting along fine," responded the doctor, rubbing his hands with an air of satisfaction. "Your legs are still swollen; but that doesn't trouble me."

"Of course it doesn't!" howled the old man. "And let me tell you this: If your legs were swollen, it wouldn't trouble me, either!"

Could Not Sleep in the Dark

HEART AND NERVES WERE RESPONSIBLE, SO THE DOCTOR SAID.

There is many a man and woman tossing night after night upon a sleepless bed.

Some constitutional disturbance, worry or disease has so debilitated and irritated the nervous system that it cannot be quieted.

Mrs. Calvin Stark, Rossmore, Ont., writes:—"About two years ago I began to be troubled with a smothering sensation at night, when I would lie down. I got so bad I could not sleep in the dark, and would have to sit up and rub my limbs, they would become so numb. My doctor said my heart and nerves were responsible. I saw Milburn's Heart and Nerve Pills advertised and got a box to try them. I took three boxes and can now lie down and sleep without the light burning and can rest well. I can recommend them highly to all nervous and run down women.

Milburn's Heart and Nerve Pills are 50c. per box, or 3 boxes for \$1.25, at all dealers, or mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

WINDMILLS

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LONDON, CANADA.

Manufacturers of the Hayward

Less Friction Windmill

A new improved design of windmill. Mechanically correct. A marvel of simplicity and strength. If interested at all in windmills, send name and address for free catalogue.

Factory: 663 Bathurst St. London, Ont.

Show-ring Shorthorns FOR SALE:

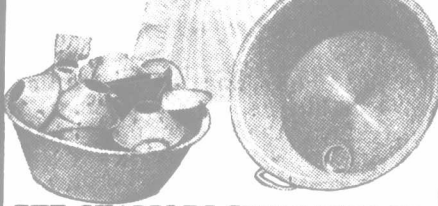
An exceptional roan 2-year-old heifer; thick, blocky type; in show fix; by Springhurst (44864); considered by expert judges a good proposition for Toronto Exhibition. Also a senior bull calf in show form, by Jilt Victor imp., (45187), dam Victoria Stamford, by Royal Victor, by Royal Sailor, imp. Also others in good condition. F. W. EWING, SALEM, ONTARIO.

A gentleman in an address to a graduating class, told the following story of the president of an ocean steamship company, who was taking a journey across the water. When the ship was in a dangerous channel, he became engaged in conversation with the pilot, an elderly man, who had spent most of his life on the water. The president of the company remarked: "I suppose you know all about the dangerous places in this channel?" "Nope," replied the pilot. "You don't?" "No," exclaimed the president. "Then why are you in charge of that wheel?" "Because I know where the bad places ain't."

Beats All

This picture shows just one of the many ways in which Sharples Dairy Tubular Cream Separators beat all others. The little piece in the almost empty dish pan is all there is inside Sharples Dairy Tubular bowls. The many disks in the other pan are all from one common "bucket bowl" separator—just an example of the work of cleaning common separators compared to cleaning the simple Dairy Tubular.

The manufacture of Tubulars is one of Canada's leading industries. Sales exceed most, if not all, others combined. Write for catalog No. 193.



THE SHARPLES SEPARATOR CO.
Toronto, Ont. Winnipeg, Man.

29 yrs

Arrayed in a simple riding-dress of dark blue, which became her, as did everything else which she wore—Amelie's very attire seemed instinct with the living graces and charms of its wearer—she mounted her horse, accepting the aid of Philibert to do so, although when alone she usually sprang to the saddle herself, saluting the Lady de Tilly, who waved her hand to them from the lawn. The three friends slowly cantered down the broad avenue of the park towards the village of Tilly.

Amelie rode well. The exercise and the pure air brought the fresh color to her face, and her eyes sparkled with animation as she conversed gaily with her brother and Philibert.

They speedily reached the village, where they met Heloise de Lotbiniere, who, rushing to Amelie, kissed her with effusion, and as she greeted Le Gardeur looked up as if she would not have refused a warmer salutation than the kind shake of the hand with which he received her. She welcomed Philibert with glad surprise, recognizing him at once, and giving a glance at Amelie which expressed an ocean of unspoken meaning and sympathy.

Heloise was beautiful, gay, spirited, full of good humor and sensibility. Her heart had long been devoted to Le Gardeur, but never meeting with any response to her shy advances, which were like the wheeling of a dove round and round its wished-for mate, she had long concluded, with a sigh, that for her the soul of Le Gardeur was insensible to any touch of a warmer regard than sprang from the most sincere friendship.

Amelie saw and understood all this; she loved Heloise, and in her quiet way had tried to awaken a kinder feeling for her in the heart of her brother. As one fights fire with fire in the great conflagrations of the prairies, Amelie hoped, also, to combat the influence of Angelique des Meloises by raising up a potent rival in the fair Heloise de Lotbiniere, but she soon found how futile were her endeavors. The heart of Le Gardeur was wedded to the idol of his fancy, and no woman on earth could win him away from Angelique.

Amelie comforted Heloise by the gift of her whole confidence and sympathy. The poor, disappointed girl accepted the decree of fate, known to no other but Amelie, while in revenge upon herself—a thing not rare in proud, sensitive natures—she appeared in society more gay, more radiant and full of mirth than ever before. Heloise hid the asp in her bosom, but so long as its bite was unseen she laughed cruelly at the pain of it, and deceived, as she thought, the eyes of the world as to her suffering.

The arrival of Heloise de Lotbiniere was followed by that of a crowd of other visitors, who came to the Manor House to pay their respects to the family on their return home, and especially to greet Le Gardeur and Colonel Philibert, who was well remembered, and whom the busy tongues of gossip already set down as a suitor for the hand of the young chatelaine.

The report of what was said by so many whispering friends was quickly carried to the ear of Amelie by some of her light-hearted companions. She blushed at the accusation, and gently denied all knowledge of it, laughing as a woman will laugh who carries a hidden joy or a hidden sorrow in her heart, neither of which she cares to reveal to the world's eye. Amelie listened to the pleasant tale with secret complaisance, for, despite her tremor and confusion, it was pleasant to hear that Pierre Philibert loved her, and was considered a suitor for her hand. It was sweet to know that the world believed she was his choice.

She threaded every one of these precious words, like a chaplet of pearls upon the strings of her heart—contemplating them, counting them

over and over in secret, with a joy known only to herself and to God, whom she prayed to guide her right, whatever might happen.

That something would happen ere long, she felt a premonition, which at times made her grave in the midst of her hopes and anticipations.

The days passed gaily at Tilly. Amelie carried out the elaborate programme which she had arranged for the amusement of Le Gardeur, as well as for the pleasure of her guests.

Every day brought a change and a fresh enjoyment. The mornings were devoted by the gentlemen to hunting, fishing, and other sport; by the ladies to reading, music, drawing, needlework, or the arrangements of dress and ornaments. In the afternoons all met together, and the social evening was spent either at the Manor House or some neighboring mansion. The hospitality of all was alike; a profusion of social feeling formed, at that day, a marked characteristic of the people of New France.

The Lady de Tilly spent an hour or two each day with her trusty land steward, or bailli, Master Cote, in attending to the multifarious business of her Seigniorie. The feudal law of New France imposed great duties and much labor upon the lords of the manor, by giving them an interest in every man's estate, and making them participators in every transfer of land throughout a wide district of country. A person who acquired, by purchase or otherwise, the lands of a censitaire, or vassal, was held to perform foi et hommage for the lands so acquired, and to acquit all other feudal dues owing by the original holder to his seigneur.

It was during one of these fair summer days at Tilly that Sieur Tranchelot, having acquired the farm of the Bocage, a strip of land a furlong wide and a league in depth, with a pleasant frontage on the broad St. Lawrence, the new censitaire came, as in duty bound, to render foi et hommage for the same to the lady of the Manor of Tilly, according to the law and custom of the Seigniorie.

At the hour of noon, Lady de Tilly, with Le Gardeur, Amelie, and Pierre Philibert, in full dress, stood on a dais in the great hall; Master Cote sat at a table on the floor in front, with his great clasped book of record open before him. A drawn sword lay upon the table, and a cup of wine stood by the side of it.

When all was arranged, three loud knocks were heard on the great door, and the Sieur Tranchelot, dressed in his holiday costume, but bareheaded, and without sword or spurs—not being gentillhomme, he was not entitled to wear them—entered the door, which was ceremoniously opened for him by the majordomo. He was gravely led up to the dais, where stood the lady of the Manor, by the steward bearing his wand of office.

The worthy censitaire knelt down before the lady, and repeating her name three times, pronounced the formula of foi et hommage prescribed by the law, as owing to the lords of the Manor of Tilly.

"My Lady de Tilly! My Lady de Tilly! My Lady de Tilly! I render you fealty and homage due to you on account of my lands of the Bocage, which belong to me by virtue of the deed executed by the Sieur Marcel before the worthy notary, Jean Pothier dit Robin, on the day of Palmes, 1748, and I avow my willingness to acquit the seigniorial and feudal dues et rentes, and all other lawful dues, whensoever payable by me; beseeching you to be my good liege lady, and to admit me to the said fealty and homage."

The lady accepted the homage of Sieur Tranchelot, graciously remitted the dues et rentes—the fines payable to the seigneur—gave him the cup of wine to drink when he rose to his feet, and ordered him to be generously entertained by her majordomo, and sent back to the Bocage rejoicing.

T. H. Hassard, Markham, Ont., LATE OF MILLBROOK.—As I have just completed one of the finest stallion barns in Canada, in addition to the large barns purchased last year, I am now in a position to compete with any opposition in the stallion trade. I have made the largest importations of any firm in Canada the last three years, and the quick sales prove that I always have the right kind of horses, and sell at a right price. I intend sailing for Europe in August, to return with a larger and better importation than ever in September, and, consequently, will not be an exhibitor at the Toronto Exhibition, and would strongly advise intending purchasers to wait and see my stock, and judge for yourselves before buying, and not be governed by some of those frequently done at show fairs. Markham is only 20 miles from Toronto, on the G. T. R., and 3 miles from Locust Hill, on the main line of the C. P. R., where I am always pleased to meet visitors upon short notice, by letter or phone. Long-distance phone in connection.

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

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

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NEW IMPORTATION OF CLYDESDALES. STALLIONS AND MARES. We shall be pleased to supply any person desiring a first-class Clydesdale stallion or mare when our new consignment arrives, which will be about August 20, 1909.
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Clydesdales Wait for our new importation of Clydesdale stallions and mares, which will arrive about the middle of August. We have still a few flashy Canadian-bred stallions and mares.
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Please Mention this Paper.



MY LUCKY DAY

Mr. Thomas Wylie (Box 384), Galt, says:—"It was the luckiest day of my life when I struck PSYCHINE, for I truly believe I shouldn't be alive now but for that.

"A neglected cold was the beginning of my trouble, and what seemed to be a simple ailment, soon developed into a serious and dangerous condition. I got so low that it was scarcely possible for me to walk around, and I lost so much flesh that I looked like a skeleton. I was just about ready to 'hand in my checks,' although only 20 years of age. The medicine the doctor gave me made me worse and I got disgusted. Then I struck PSYCHINE."

"PSYCHINE did miracles for me. The first bottle gave me new life and courage, and in less than no time I began to put on flesh rapidly, and I felt I was on the high road to recovery. My appetite returned, and I ate like a hunter," as the saying goes. My friends were surprised, and hardly knew me. In three months I was as strong and well as ever, and returned to work in the mill. I have not had a day's illness since. Nobody could wish for better health than I enjoy, and it is all owing to PSYCHINE. It should be in everybody's hands."

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Doctor—Did your husband follow my directions? Did he take the medicine I left for him religiously? Patient's Wife—'I'm afraid not, doctor. He swore every time I gave him a dose.—Boston Transcript.

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So the days passed by in alternation of business and pastime, but all made a pleasure for the agreeable inmates of the Manor House. Philibert gave himself up to the delirium of enchantment which the presence of Amelie threw over him. He never tired of watching the fresh developments of her gloriously-endowed nature. Her beauty, rare as it was, grew day by day upon his wonder and admiration, as he saw how fully it corresponded to the innate grace and nobility of her mind.

She was so fresh of thought, so free from all affectation, so gentle and winning in all her ways, and, sooth to say, so happy in the admiration of Philibert, which she was very conscious of now. It darted from his eyes at every look, although no word of it had yet passed his lips. The radiance of her spirits flashed like sunbeams through every part of the old Manor House.

Amelie was carried away in a flood of new emotion; she tried once or twice to be discreetly angry with herself for admitting so unreservedly the pleasure she felt in Pierre's admiration; she placed her soul on a rack of self-questioning torture, and every inquisition she made of her heart returned the self-same answer: she loved Pierre Philibert!

It was in vain she accused herself of possible impropriety; that it was bold, unmaidenly, censurable, nay, perhaps sinful, to give her heart before it had been asked for; but if she had to die for it, she could not conceal the truth, that she loved Pierre Philibert! "I ought to be angry with myself," said she. "I try to be so, but I cannot! Why?"

"Why?" Amelie solved the query as every true woman does, who asks herself why she loves one man rather than another. "Because he has chosen me out in preference to all others, to be the treasure-keeper of his affections! I am proud," continued Amelie, "that he gives his love to me, to me! unworthy as I am of such preference. I am no better than others." Amelie was a true woman: proud as an empress before other men, she was humble and lowly as the Madonna in the presence of him whom she felt was, by right of love, lord and master of her affections.

Amelie could not overcome a feeling of tremor in the presence of Pierre since she made this discovery. Her cheek warmed with an incipient flush when his ardent eyes glanced at her too eloquently. She knew what was in his heart, and once or twice, when casually alone with Philibert, she saw his lips quivering under a hard restraint to keep in the words, the dear words, she thought, which would one day burst forth in a flood of passionate eloquence, overwhelming all denial, and make her his own forever.

Time and tide, which come to all once in our lives, as the poet says, and which must be taken at their flood to lead to fortune, came at length to Amelie de Repentigny.

It came suddenly, and in an unlooked-for hour, the great question of questions to her as to every woman.

The hour of birth and the hour of death are in God's hand, but the hour when a woman, yielding to the strong enfolding arm of a man who loves her, falters forth an avowal of her love, and plights her troth, and vows to be one with him till death—God leaves that question to be decided by her own heart. His blessing rests upon her choice, if pure love guides and reason enlightens affection. His curse infallibly follows every faithless pledge where no heart is, every union that is not the marriage of love and truth. These alone can be married, and where these are absent there is no marriage at all in the face of Heaven, and but the simulation of one on earth, an unequal yoking, which, if man will not sunder, God will at last, where there is neither marriage nor giving in marriage, but all are as his angels. The day appointed for the long

planned excursion to the beautiful Lake of Tilly came round. A numerous and cheerful water-party left the Manor House in the bright, cool morning to spend the day gipsying in the shady woods and quiet recesses of the little lake. They were all there: Amelie's invitation to her young friends far and near had been eagerly accepted. Half a dozen boats and canoes, filled with light-hearted companions, and with ample provisions for the day, shot up the narrow river, and after a rapid and merry voyage, disembarked their passengers, and were drawn up on the shores and islands of the lake.

That bright morning was followed by a sunny day of blue skies, warm, yet breezy. The old oaks wove a carpet of shadows, changing the pattern of its tissue every hour upon the leaf-strewn floor of the forest. The fresh pines shed their resinous perfume on every side in the still shade, but out in the sunshine the birds sang merrily all day.

The groups of merrymakers spent a glorious day of pleasure by the side of the clear, smooth lake, fishing and junketing on shore, or paddling their birch canoes over its waters among the little islands which dotted its surface.

Day was fast fading away into a soft twilight; the shadows which had been drawing out longer and longer as the sun declined, lay now in all their length, like bands stretched over the greensward. The breeze went down with the sun, and the smooth surface of the lake lay like a sheet of molten gold, reflecting the parting glories of the day that still lit up the western sky.

A few stars began to twinkle here and there—they were not destined to shine brilliantly to-night, for they would ere long be eclipsed by the splendor of the full moon, which was just at hand, rising in a hemisphere of light, which stood like a royal pavilion on the eastern horizon. From it in a few minutes would emerge the queen of heaven, and mildly replace the vanishing glory of the day.

The company, after a repast under the trees, rose full of life and merriment, and rearranged themselves into little groups and couples, as chance or inclination led them. They trooped down to the beach to embark in their canoes for a last joyous cruise round the lake and its fairy islands, by moonlight, before returning home.

Amid a shower of lively conversation and laughter, the ladies seated themselves in the light canoes, which danced like corks upon the water. The gentlemen took the paddles, and, expert as Indians in the use of them, swept out over the surface of the lake, which was now all aglow with the bright crimson of sunset.

In the bow of one of the canoes sat the Arion of Tilly, Jean de La Marche; a flute or two accompanied his violin, and a guitar tinkled sweetly under the fingers of Heloise de Lotbiniere. They played an old air, while Jean led the chorus in splendid voice:

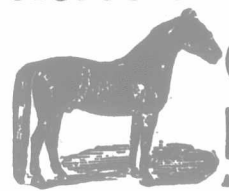
" Nous irons sur l'eau,
Nous y prom-promener,
Nous irons jouer dans l'isle."

The voices of all united in the song as the canoes swept away around a little promontory, crowned with three pine trees, which stood up in the blaze of the setting sun like the three children in the fiery furnace, or the sacred bush that burned and was not consumed.

Faint and fainter, the echoes repeated the receding harmony, until at last they died away. A solemn silence succeeded. A languor like that of the lotus-eaters crept over the face of nature and softened the heart to unwonted tenderness. It was the hour of gentle thoughts, of low-spoken confidences, and love between young and sympathizing souls, who alone with themselves and God confess their mutual love, and invoke His blessing upon it.

(To be continued.)

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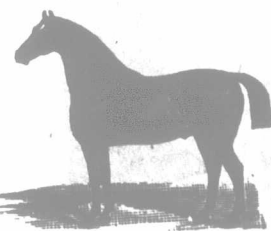


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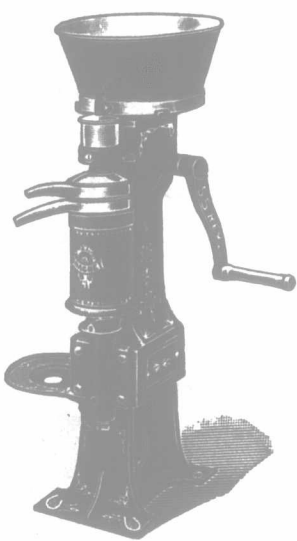
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F. W. Hodson, Esq., formerly Live-stock Commissioner, says: "I have tested your machines of different sizes, and consider your Separator of 1,000-lbs.-an-hour capacity excels even the others, for obvious reasons."

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We have still on hand a few choice Clydesdale stallions—all young—that for size, style and quality will stand inspection. We have also a few Clyde fillies—imported and Canadian-bred, and two French Coach stallions. Correspondence and inspection invited. Our prices are easy and terms to suit. Phone connection.

R. NESS & SON, HOWICK, QUEBEC.



Clydesdale Studbook of Canada.

We will buy a few copies each of volumes 1, 8 and 12, or will give in exchange any of the following volumes: 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, 15, 16.

To complete sets we can supply to members volumes 2, 3, 4, 5, 6, 7, 9, 10 and 11 at \$1 each. Volumes 13, 14, 15 or 16 may be had for \$2 each. Address:

Accountant, National Live-stock Records, Ottawa, Canada.

Choice Scotch Shorthorns

We are offering several very choice heifers: Duchess of Glosters, High-class show heifers among them. Also a few extra good young bulls. S. F. Johnston & Son, Ashburn P. O., Myrtle Station.

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QUESTIONS AND ANSWERS. Miscellaneous.

BUCKWHEAT HONEY—WARTS ON CATTLE.

1. Kindly inform me where I would find a market for buckwheat honey, as we have no local market for it.

2. What will remove warts off cattle?
SUBSCRIBER.

Ans.—1. A small advertisement in our Wants and For Sale column would probably find a purchaser. The cost per word is low.

2. If the warts have a slim base, they may be clipped off with scissors or shears, and the wound touched with a potash pencil or stick, which may be had from your druggist. They may be taken off by tying a silk thread or a horse hair tightly around them. If the warts have a strong, broad base, touch them daily with potash caustic until burnt out.

GALL-MITE ON ASH.

I am sending you a leaf of mountain-ash tree that has some sort of a blight on it.

1. Will this blight kill the tree?

2. Would spraying do any good?

3. If so, could you tell me a good mixture?

4. Do you know any other remedy for this blight?
G. W. F.

Ans.—The leaf sent is not from the Rowan tree or Sorbus, which is popularly called mountain ash, but from one of the true ashes. The diseased condition of the leaf is due to the work of a minute mite, which might be called the white-ash gall-mite (*Eriophyes fraxini*). The leaf is thickly beset with circular, rough, yellowish-green swellings, conspicuous on both sides, a twelfth to an eighth of an inch in diameter. Each swelling has an opening on the lower side through which the mite, too small to be seen with the naked eye, may pass out and in the gall. Working as the mite does, mostly inside the gall, it is difficult to reach. Repeated spraying with emulsion or soap solution, about the time of the appearance of the first galls, should check the progress of the insect.

LAME COWS.

I have two grade Holstein cows that are very lame in front; took lame after they were turned on grass; did not leave them out cold nights; was feeding gluten feed, two quarts twice a day; milking fairly well, but suffer a good deal. Some suggest that wading in water in spring would cause the lameness. The rest of the herd is all right, with same care. The trouble seems to be all in front. Could you give us any cause, or is there any cure?

AN OLD SUBSCRIBER.

Ans.—We should judge the trouble is in the feet. It may be caused by a break, or crack, in an overgrown hoof, from a bruise from stepping on a pebble when the hoofs were softened by standing in water or walking in long, wet grass, or it may be "foul in the foot," caused by inflammation, and the formation of pus between the trotters and toes.

It is well, in case the hoofs are grown long, to shorten them a little by means of a fine-toothed saw and a rasp. If a break or crack is found, relieve the pressure by cutting away some of the edges of the shell with a sharp chisel, and apply melted tar.

If soreness is found between the claws, clean well, and bathe in a bluestone solution, one ounce to ten ounces of water, then apply tar to the parts freely.

CURING ALFALFA.

How can I cure alfalfa so that the leaves will not drop off? I cut some on a Monday, and raked it up on Tuesday, put it into coils, and drew it into the barn on Thursday, and a lot of leaves dropped off. I am sure it was not too ripe when it was cut, as it did not blossom.

Ans.—We wish our inquirer had mentioned the date of cutting, nature of the crop, whether heavy or light, and dryness of the soil and weather. The probability is that the alfalfa was exposed too long to the sun, which soon makes the leaves brittle, causing some of them to drop off, while also interfering with the curing of the stems, for leaves are the most effective means of transpiring and

ture and curing out the haulms. Alfalfa should cure mostly in light windrows and coils. If tedded, the tedding should be done two or three hours after cutting. The length of time it is advisable to leave alfalfa in the swath depends, of course, upon conditions, but in this case it probably should have been coiled in the evening of the day it was cut, or else have been cut in the evening, tedded in the morning, and coiled in the afternoon. It has been estimated, says Coburn, that a ton of properly-cured alfalfa leaves is equal in protein to 2,800 pounds of wheat bran, and as it has been estimated that the loss of leaves in harvesting ranges from fifteen to thirty per cent. or more, the importance of great care in curing is manifest.

BOOK REVIEW.

GOOD CROPS WITH LITTLE RAIN.—"Campbell's Soil-culture Manual (1907) is the title of a 320-page cloth-bound volume which preaches the gospel of the proper fitting of the soil in order to secure the retention of moisture as the secret of more successful crop production in the semi-arid regions of the West and North-west. The author is Hardy W. Campbell, a Vermont man, who formerly lived in the prairie counties of South Dakota, and latterly in Lincoln, Nebraska. A tremendous wheat-crop failure in 1883 in Dakota started him thinking and investigating. As he learned, he demonstrated in grain, root and fruit-growing. Some call it "Dry Farming," he calls it "Scientific Soil Culture," whereby he undertakes to double or treble the crops obtainable under old methods. For the summer-fallow designed to kill weeds, he substitutes "summer culture," which begins with disk-harrow in early spring, plowing seven or eight inches deep in late June or early July; then the sub-surface packer, an implement with wedge-shaped wheels, which firms the under soil of the newly-turned furrows; lastly a common harrow to smooth or level the top soil. After every rain a cultivator or harrow is used so as to keep a surface mulch and hold the moisture that has percolated below, for next season's crop. The gist of his theory and practice is, of course, that soil fertility is developed by proper tillage, so as to have available the right proportions of water, air and other elements. He has a lucid, graphic way of putting things that is refreshing, and reiterates his text in every chapter—conserve moisture. On the Pomeroy farm in Kansas, where only one good crop was grown in 14 years, the Campbell methods were applied in 1900, and in 1901 42½ bushels per acre of wheat was the result; summer tillage, 1902, and then 40 bushels per acre for four years in succession, the last (1906) yield being the largest. He is an enthusiast everywhere and always, and the late J. Sterling Morton, U. S. Secretary of Agriculture, bore testimony to the great good he accomplished in Kansas, where intelligent tillage insured crops against failure by drought. He is supervising a model or demonstration farm in Alberta, under contract with the Provincial Government. The book under review, which, by the way, would be improved in future editions by more careful proofreading, is published at \$2.50 per copy.

GOSSIP.

"I'm troubled a great deal with headaches in the morning," said Luschman. "Perhaps it's my eyes; do you think I need stronger glasses?" "No," replied Dr. Wise, meaningly, "what you need is not stronger glasses, but fewer."

CATTLE EMBARGO.

At the biennial meeting of the National Federation of Meat Traders, held recently in Blackpool, England, it was decided, after a short discussion, that representations be made to the Government to remove the embargo against the importation of Canadian cattle. It was pointed out that not a single case of disease had been proved against Canadian cattle since the prohibition was made, in 1896. The Meat Traders have all along opposed the embargo.

Bone Spavin

No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use

Fleming's

Spavin and Ringbone Paste
Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single application—occasionally two required. Cures Bone Spavin, Ringbone and Quind. Cures new and old cases alike. Write for detailed information and a free copy of Fleming's Vest-Pocket

Fleming's Vest-Pocket Veterinary Adviser
Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses.

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

RUSH'S U-BAR STEEL STANCHIONS



are swinging Stanchions. See the comfort and freedom they give to cattle. Are strongly made to stand the roughest usage, and save lumber and labor in fitting up cow stables. Saves time in tying cattle because the latch is easily operated and absolutely secure.

Made in five sizes. Write for Catalogues and prices.

A. M. RUSH
PRESTON, ONT.

THE "MAPLES" HEREFORDS

Canada's Greatest Show Herd.

For Sale: 25 bulls from 6 to 18 months of age, bred from imported and show stock; also about the same number of heifers, none better. Prices right.

W. H. HUNTER,
Orangeville P.O. and Sta.

HOMESTEAD ABERDEEN-ANGUS

Young cows at \$60 and up. Calves at \$25 and up. Come and see them, or write:

WM. ISCHE,
Sebringville, Ont.
Long-distance phone.

At Dominion Exhibitions, Halifax, Nova Scotia, in 1906; Sherbrooke, Que., 1907; Calgary, Alta., 1908, our Aberdeen-Angus herd won all the champion and grand champion prizes. Out of a possible of 42 first-prizes our herd won 40. We have a good graded show herd for sale. Also single animals, bulls and females.
JAMES BOWMAN, Elm Park, Guelph

Aberdeen-Angus Cattle

For Sale: Cows, Heifers, Bulls.

Good strains at reasonable prices. Apply to:
Andrew Dinsmore, Manager,
"Grape Grange" Farm, Clarksburg, Ont.

BLENGORE Present offering: Two choice bulls ready for service, and anything in the female line. A choice lot and sold right.
GEO. DAVIS & SONS,
ALTON, ONT., Station, C. P. R.

My friend, have you heard of the land of "Yawn?"

On the banks of the river "Slow," Where blooms the "Wait-a-while" flower fair,

Where the "Some-time-or-other" scents the air

And the soft "Go Easy's" grow?

It lies in the valley of "Wait-a-while"

In the land of "Let 'er Slides."

The "Tired Feeling" is native there,

It's the home of the listless "I don't care."

Where the "Put-it-off" abides.

DODD'S KIDNEY PILLS
CURES ALL KIDNEY DISEASES
RHEUMATISM
BRIGHT'S DISEASE
DIABETES
BACKACHE
THE PRODUCED BY DR. J. W. DODD

QUESTIONS AND ANSWERS. Miscellaneous.

CHEAP PAINT.

I would like to know, through the columns of your paper, how to use sour beer and oxide as paint. I understand it makes good paint for a brick house by putting acid in it. Any information from you or your readers would be gladly received.

R. H.

Ans.—If any of our readers have had experience with the above mixture for paint, we shall be glad to receive from them and to publish a reply.

ALFALFA ON SOD WITHOUT PLOWING.

1. Can I seed with alfalfa a piece of high land which has been in hay for several years, now run out, and which is too rough to plow? The soil is good enough; could harrow it.

2. How long will alfalfa remain in ground? What amount is sown to the acre, and what does it cost per pound?

SUBSCRIBER.

Ans.—1. An important condition for success with alfalfa is a clean field, well rid of weeds and grass, hence we do not think you would meet with any success, under the conditions proposed.

2. A good stand of alfalfa should remain in the ground, producing satisfactorily, for from five to thirty years, depending upon soil and other conditions. It remains longest on hard clay hillsides. Twenty pounds of seed is the quantity usually sown per acre. The price is usually in the neighborhood of \$12 a bushel.

CHICKS DYING.

Had over sixty chickens hatch out, and they did well for a few weeks, and then some of them began to droop, and a few died. We examined them and found some lice, and put grease on their heads and under wings, and mother hen as well, with addition of sulphur through feathers. The life seemed to go right out of them, and in about a week's time had only one left. At first, fed on bread-crumbs, and later fine seed screenings. The largest would weigh about ¼ lb. What was cause of trouble?

C. S. H.

Ans.—Probably the trouble in this case was the common one of lack of constitutional vitality, the result of the parent stock being out of condition at time eggs were laid. Robust chicks, from strong and vigorous parent stock, do not usually die without, at any rate, putting up a fight for it. It is as well these weakling chicks died, for weakling stock is not desirable from any standpoint.

A. G. G.

HATCHING TROUBLE.

As I always get good results from questions asked in "The Farmer's Advocate," I venture to ask a few more. They are as follows:

1. I set some hens this summer, and at the end of the three weeks some of the eggs would crack, and others would be peeping in the eggs. I would help them out, and in a short time they would all die, and their intestines would not be taken in, and perhaps two out of thirteen would live. Could you give any information in regard to this trouble, or what could be the cause?

MRS. S. McN.

Ans.—If these chickens had been hatched out in an incubator, some one might have exclaimed, "Drat the incubator! why were the eggs not put under hens? Why, the hens never makes any mistakes." Another might have said, "A lack of moisture, sure! The incubator should have had moisture." Unfortunately, in this case the hen cannot enlighten us. If she could, I wonder whether she would say, "Sirs, the chicks were just strong enough to come to the 'pipping stage,' but had not strength enough to break out into the world. It is well they died after being assisted out." The old hen knows more about hatching out chicks than any other living source, and she could not make a comparatively weak germ strong. And neither can the incubator. There was something wrong with the parent stock, non-absorption of the yolk was due to inherent weakness.

A. G. G.

GOSSIP.

Do not leave your farming implements out in the weather when you get through with them. If you are not going to use them for a few days, put them under cover, as it might possibly rain. The amount lost in the depreciation of the machinery left in the open, would soon build a big shed, which, in the long run, costs less than a smaller one.

ALFALFA AND HOG - CHOLERA.

Swine-raisers in the alfalfa-growing sections frequently make the claim that cholera is unknown where alfalfa flourishes most, and that hogs given all the alfalfa they will eat in a properly-balanced ration, develop greater vitality and ability to resist disease than would otherwise be the case.—Coburn's "Swine in America."

At the recent public sale of Holsteins in Syracuse, N. Y., the highest average price in recent years was obtained, viz.: \$315 for 215 head. Nine bull calves averaged \$189 each. Those from A. R. O. cows averaged \$236 each. Those from untested dams \$95 each. Mature cows, 52 of them, averaged \$384. The A. R. O. cows alone averaged \$470, and the untested cows averaged \$172.

"Keep the farm crops on the farm, and ship the meat and the butter and the milk and the cheese," is the common-sense advice of U. S. Secretary of Agriculture Wilson. This insures soil fertility. Every ton of corn shipped to market loses the farm 33 lbs. of nitrogen, 12 lbs. of phosphoric acid, and 7 lbs. of potash. Figure this out on the basis of the printed analyses on the fertilizer bags, and see how much the farm loses with each corn sale. If fed, 80 to 90 per cent. of these constituents go into the manure.

Entries of live stock of all breeds for exhibition at the Alaska-Yukon-Pacific Exposition, now in full blast at Seattle, Wash., must be in the hands of the Department of Live Stock by August 1st, according to the final premium list, issued by Frank A. Welch, Secretary. The livestock show opens September 27th, and closes October 9th—two full weeks—and all breeds are to be on exhibition during this entire period. Stock must be on the grounds two days previous to the opening of the live-stock show. The premium list states that judging will begin September 29th, at 9.30 a. m.

A HEN NEEDED.

The papers make mention of a gentleman in New Jersey who undertook the task of manufacturing eggs. He is something of a chemist and, having discovered by analysis the various elements which compose an egg, he went to the drug-store, bought those ingredients, and went home to perform the experiment which he expected would astonish the civilized world. He made a hot fire, put his chemicals in a vessel, and soon they began to boil. He took a blowpipe, and concluded to fluff off a few dozen fresh eggs as samples for the scientists. He had scarcely placed the end of his blowpipe in the kettle when there was an awful explosion, and when the inventor had picked himself out of the debris, he looked at his wife, who was attracted from the garden by the noise, and said: "I guess I used the wrong sort of vessel." "Yes," she said, "you did." "What do you think it should have been?" he inquired. "It's out there in the yard," she replied; "it's a hen."

TRADE TOPIC.

ZENOLEUM FOR LICE ON HENS.

Editor "The Farmer's Advocate":
I see in your paper a subscriber inquiring what will rid his henhouse of mites. We have a henhouse 90 x 20, and for two or three years were so troubled with mites that the hens would not stay in the building. I tried sulphur and coal oil and whitewash, but it did not seem to answer the purpose. Somebody recommended Zenoleum, advertised in "The Farmer's Advocate," and since using it we have no trouble keeping it free of mites. We just spray it once a month.

A SUBSCRIBER.

The Dangers of Summer.

Many dangerous and distressing diseases prevail in summer and fall, and as they occur suddenly, often terminate fatally before aid can be had.

Complaints, such as Diarrhoea, Dysentery, Colic, Cramps, Cholera, Morbus, Cholera Infantum, Summer Complaints, etc., are quickly cured.

This wonderful bowel complaint remedy has been on the market for 64 years and it has been used in thousands of homes throughout the country during this time.

You do not experiment when you buy an old and tried remedy like this. Ask your druggist for Dr. Fowler's, and insist on getting what you ask for. Do not take some substitute which the unprincipled druggist says is "just as good." These cheap imitations are dangerous to your health.

Mrs. Jeff Flaherty, Belfountain, Ont., writes:—"In the month of September, last, my youngest child took Summer Complaint and the doctor had very little hopes for her. My neighbor told me to get Dr. Fowler's Extract of Wild Strawberry, so that night I sent my daughter to get it, and when she came home I gave the baby one dose, and in half an hour there was a change for the better, and after the third dose she was completely cured. We feel it is far and beyond any other remedy for Summer Complaint and besides it saves paying a doctor. I advise everyone to use it. Don't accept a substitute for Dr. Fowler's. The original and only Fowler's Extract of Wild Strawberry is manufactured only by The T. Milburn Co., Limited, Toronto, Ont., Price 35 cents.



ROCK SALT for Stock. \$10 PER TON.
Toronto Salt Works, 128 Adelaide St. E., Toronto, Ont.
G. J. Cliff, Manager.

HAWTHORN HERD OF DEEP-MILKING Shorthorns

For Sale: 2 young bulls and 10 heifers, sired by Aberdeen Hero (Imp.) = 28540. Some bred to the Lavender bull, Lavender Lorne = 62706.

WM. GRAINGER & SON, 1 Lakeshore, Ontario, GLENBURN STOCK FARM!

One yearling SHORTHORN BULL, and a lot of cows, heifers and calves. Prices reasonable.

John Racey, Lennoxville, Que.

Scotch Shorthorns Five choice red bulls and one roan, 10 to 15 months, by imp. Protector; some out of imp. dams. Also cows and three-year-old heifers in calf. **McFARLANE & FORD, BOX 41, DUTTON, ONT.**

SHORTHORNS AND BERKSHIRES One choice young Lady Fanny bull for sale—good herd header; also several young heifers. A few prize-winning Berkshires, both sexes. Write or come and see them. Prices moderate.

ISRAEL GROFF, ELMIRA, ONTARIO.

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

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

Cattle Labels \$2 and fifty tags. Sheep Labels \$1 for fifty tags. With name and numbers. By return mail, prepaid. Write today. Sample free. **F. G. JAMES, Bowmanville, Ont.**

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

CALVES Raise Them Without Milk. Booklet free. The Steele, Briggs Seed Co., Toronto, Ont.

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

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

Willow Bank Stock Farm
SHORTHORNS AND LEICESTERS.
Herd established 1855; flock, 1848. An offering of a special good lot of young females, bred to the great Duthie bull. Imp. Joy of Morning = 32070. Also young bulls and Leicester sheep fitted for showing. Write for prices.
JAMES DOUGLAS, CALEDONIA, ONTARIO.

Imported Bull!
To save inbreeding I will sell the Cruickshank (Duthie bred) imp. bull, Sittyton Victor = 50073 = (87397), a proven sire of merit, gentle and active. Also some young bulls by him, out of imp. dams. Address:
John Brydone, Milverton, Ont.

Show Cattle The best bunch ever on the farm. All ages. Not exhibiting this year.
H. Smith, Exeter, Ont.

A FEW YOUNG BULLS and 20 YOUNG COWS and HEIFERS COMPOSE OUR LIST FOR PRIVATE SALE.
J. A. WATT, SALEM, ONTARIO. ELORA STATION, G. T. R. AND C. P. R. FARM ADJOINS TOWN. BELL TELEPHONE.

1854-Maple Lodge Stock Farm-1909
Shorthorn bulls and heifers of extra quality and breeding, and from best milking strains.
Leicesters of first quality for sale. Can furnish show flocks.
A. W. SMITH, Maple Lodge P.O., Ontario Lucan Crossing Sta., G. T. R., one mile.

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

SHORTHORNS
Belmar Parc.
Calves for sale by our grand quartette of breeding and show bulls—Nonpareil Archer, Imp., Proud Gift, Imp., Marigold Sailor, Nonpareil Eclipse. Females, imported and from imported stock, in calf to these bulls. An unsurpassed lot of yearling heifers.
John Douglas, Manager. PETER WHITE, Pembroke, Ont.

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

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

A. Edward Meyer,
P. O. Box 378, Guelph, Ontario.
Breeds SCOTCH SHORTHORNS Exclusively
Twelve of the most noted Scotch tribes have representatives in my herd. Herd bulls: Scottish Hee (Imp.) = 68842 = (90065) 295765 A. H. B.; Gloster King = 68798 = 283804 A. H. B. Young stock for sale. Long-distance phone in house.

SOME SHOW PROPOSITIONS IN BOTH MALE AND FEMALE

SHORTHORNS

as well as a number of the useful sort of both sexes. Prices right. Large lot to select from. Up-to-date in breeding, etc. Catalogue.
JOHN CLANCY, Manager. H. Cargill & Son, Cargill, Ont.

Shorthorns and Shropshires
Herd headed by Imp. Queen's Counsellor = 64218 = (96594). For sale: Three young bulls; also cows and heifers bred to Queen's Counsellor.
The Shropshires are yearling rams and ewes, bred from imported Buttar ram.
H. L. STEAD, Wilton Grove, Ont. London, G. T. R., 6 miles; Westminster, P. M. R., 1 mile. Long-distance phone.

SHORTHORN BULLS PRICED
Red, two years old, from a good imported cow, price \$100.
Roan, thirteen months old, extra good, short-legged calf from one of my best cows, \$100.
Red and White, thirteen months, out of Lady Madge, by Langford Eclipse, price \$75.
JOHN MILLER, BROUGHAM, ONTARIO. CLAREMONT STATION, C. P. R.

7 Imported Scotch Shorthorn Bulls 7
Six imported bull calves from 9 to 14 months old, 3 reds and 3 roans. They are of such noted families as Clara, Jilt, Roan Lady, Butterfly, Claret and Broadhooks. One imp. bull 2 years old, red; a most valuable sire. One bull 11 months old, roan, from imp. sire and dam; promising for a show bull. Two bulls 12 months old, from imp. sire and dam; suitable for pure-bred or grade herd. Also females all ages. Write for catalogue. Prices reasonable. Farm ¼ mile from Burlington Junction station, G. T. R.
FRED. BARNETT, MANAGER. J. F. MITCHELL, BURLINGTON, ONT.

Geo. Amos & Son,
MOFFAT, ONTARIO.
For sale: Several good young heifers, some of them show heifers, and all of the very best Scotch breeding. Correspondence solicited and inspection invited.
Moffat Station, 11 Miles East of City of Guelph, on C. P. R.

SHORTHORNS
Nine bulls from 8 to 20 months old, reds and roans; 10 yearling heifers and a few cows. Will sell very cheap to make room in stables.
CLYDESDALES
One pair of bay mares and one dark brown, heavy draft and two spring colts.
JAMES McARTHUR, Gobles, Ontario.

WHY NOT BUY A HIGH-CLASS SCOTCH SHORTHORN COW, Or a Heifer, Or a Bull, Or a Few Shropshire Ewes, Or a Few Cotswold Ewes, NOW, While You Can Buy Them Low?
I can offer you something in any of them that will make a start second to none.
Write for what you want. **ROBERT MILLER, STOUFFVILLE, ONT**

QUESTIONS AND ANSWERS.
Miscellaneous.

WARTS.

1. What will remove big, horn-like warts off teats of dairy cow?
2. Will a gelding or stallion stand more damage and hard work than a mare?
S. M.

Ans.—1. If the warts have a strong or thick base, no surgical treatment should be attempted while she is in milk, as the resulting soreness would render milking impracticable. Some people claim to have removed such warts by a daily application of castor oil. Warts with a very slim neck may be safely clipped off with a pair of shears, and if the wound is touched with a solution of carbolic acid. Warts with a strong base may be removed by a repeated application of a caustic, such as potash or butter of antimony, care being taken that the caustic is confined to the surface of the wart, and not allowed to spread to the healthy parts. This should only be undertaken when the cow is dry.
2. The only time that a mare is at a disadvantage in this respect is during her period of oestrus, or in advanced pregnancy.

DODDER.

I send small piece of weed, asking for name and description. A. B.
Ans.—The weed sent was dodder, the seeds of which come as impurities in clover and alfalfa seed. The seed germinates in the usual way, and after the inconspicuous yellow shoot which is produced has made a little growth it throws out suckers at points where it comes in contact with clover or alfalfa stems, and then feeds entirely upon its host, the connection with the ground withering away. Its stems are thread-like and leafless, producing densely-clustered pink or white flowers, which, after a time, are succeeded by rounded seed-pods. It attacks only the clovers, but with these it is a very serious pest. Patches should be mowed closely with a scythe when first seen, and burnt when dry. It is well to change to other crops for a few years. Great care should be taken to avoid sowing infested clover seed. The seeds of dodder resemble clover seed in shape, but are dull in color, and rough when seen under the microscope.
BUDED VS. GRAFTED NURSERY STOCK.
There is an agent travelling for a nursery firm who claims that budding young trees is preferable to grafting, and has samples of grafted stock with him which shows decay where the graft was made. Kindly give your opinion on the different methods. H. C.
Ans.—It depends upon the kind of tree whether grafting or budding is preferable. Budding is largely employed upon nearly all young fruit trees, and almost universally so upon the stone fruits, such as plums and peaches. It is also used in roses and many ornamental trees. Both grafting and budding are employed in nursery stock, but grafting is especially suited for working over the tops of large apple or pear trees. There is no reason why there should be decay at the point of union of stock and scion, if waxing has been carefully done. Limbs scarcely ever break at that point. For stone fruits, budding is best; for nursery stock of other large fruits, there is not much choice, while for top working of apple orchards, grafting is preferable.

LAUREL SPHINX MOTH.

The enclosed moth was caught on the inside of a window of a summer kitchen. C. A.
Ans.—This moth is called the Laurel Sphinx, or Hawk Moth (Sphinx kalmiae). The wings of the moth extend to about four inches. The front pair is long and tapering, of a pale chestnut-brown color, with light and dark streaks running towards the outer edge; the hind wings are much smaller, brownish-white in color, with two conspicuous black bands. The body is stout at the base and tapers gradually to the tip; on the back it is brown, with a fine black line running down the middle; the sides are black, with a row of large white spots. The caterpillar is pale-green in color, marked with seven black stripes along the sides; these are white in the middle; black dots are

front, and yellow behind; it is also adorned with a light-blue tail. When fully grown, it is about three inches in length. The pupal stage is passed in the ground, and the moth comes out in July. The caterpillars feed on laurel, lilac, privet, ash, etc., and as they are never very numerous, they cannot be considered in any way destructive. These insects are sometimes called Humming-bird Hawk Moths, from their resemblance to these small birds when hovering with vibrating wings in front of a flower, into which they thrust their long proboscis in search of the nectar. C. J. S. BETHUNE, Ont. Agric. College, Guelph.

PRICE OF STUDBOOK.

I would like to know the price of volume 16 of the Clydesdale Studbook lately issued. SUBSCRIBER.
Ans.—The price is \$2. See advertisement, page 1198, "The Farmer's Advocate," July 22nd.

Veterinary.

CLOVER POISONING.

Mare raising foal has been on clover and timothy pasture. Her hind legs swelled and then broke out in many places and discharged matter. Her legs are very itchy, and her nose is also involved. M.
Ans.—This is a trouble not uncommon, especially in horses on alsike-clover pasture. Change the pasture, or keep her in the stable. Give her a laxative of 1 ½ pints raw linseed oil, and give her three times daily, 40 drops of carbolic acid in a pint of cold water, sprinkled on her food. Dress the sores three or four times daily with a lotion composed of 1 oz. each sulphate of zinc and acetate of lead to a pint of water. V.

GENITAL TROUBLES, ETC.

1. During sexual intercourse, my boar discharges a bloody issue. Sometimes blood escapes when he is walking around.
2. How can I disinfect a stable where cattle had ringworm?
G. F.
Ans.—1. There is a diseased condition of the mucous membrane of the urethra. Treatment for such cases in boars is practically out of the question. If you can inject the urethra twice daily with a warm solution of sulphate of zinc, 5 grains to an ounce of distilled water, you may effect a cure, but I do not think it can be done satisfactorily. It may be, if he is not bred for a few months, that nature will effect a cure.
2. Give the stable a thorough coat of hot lime-wash, with five-per-cent. carbolic acid. V.

UNTHRIFTY MARE.

Mare, 18 years old, foaled in June last. I bred her again in nine days, and she conceived. I worked her during the summer and fall. I fed her buckwheat, oats and wheat. After increasing the grain ration, she suffered from colic, but got better. About three months ago I drove her nine miles, and the next morning she aborted. Since then she has not done well. I got a man who professes to understand such things, although he is not a veterinarian, to dress her teeth. She throws partially-masticated food out of her mouth, and sometimes she has slight diarrhea. I have given her different kinds of stock food without results. There are some little stones in the wheat I am feeding. I. Z.
Ans.—The man who dressed her teeth did not do it properly, and it is possible he has rasped the bearing surfaces, and, if so, little can be done. Get a veterinarian to dress them. Then take equal parts sulphate of iron, gentian, ginger, and nux vomica; mix, and give a tablespoonful three times daily. Screen the wheat to remove all stones, and get your mixture of grain ground. Give regular exercise, and feed liberally. V.

TRADE TOPIC.

A CLAIM EXAGGERATED.—Readers will please notice a change in the advertisement of McKinley & Aitken, of Alliston, Ont. Misinterpretation of former copy by the printer resulted in publication of a statement that their manure filler was guaranteed to load more manure in one day than ten men. What they really do guarantee is that the machine will load 10 to 12 loads an hour. At that it is an expeditious means of performing a laborious piece of work.

GOSSIP.

CALGARY EXHIBITION.

The Alberta Provincial Exhibition, held at Calgary July 5th to 10th, was unfortunate in respect of weather conditions, rain falling, more or less, almost every day. The showing of live stock was well up to the standard.

The judges were: For horses—Alex. Innis, Clinton, Ont., and P. Farrell, Woodstock. Beef breeds of cattle, and sheep—W. A. Dryden, Brooklyn. Dairy breeds, and swine—J. G. Clark, Gilliston, Alta.

In the competition for aged Clydesdale stallions, Baron Kerr, owned by Hallman & Sons, Airdrie, was the winner. In the three-year-old class, Main Spring, shown by D. Clark, was first. J. A. Turner's Economist was a popular winner in the two-year-old section, and the same exhibitor was first in the yearling section, with Proud Descent. Turner's Lady Bountiful won in the brood-mare class, and his Proud Beauty was first in the dry-mare class, and champion female, while his two-year-old Economist was champion stallion.

J. A. Turner and T. A. Cox, Brantford, were the principal exhibitors of Hackneys, the former being first in three-year-old stallions, with Seaham Mason, and Cox second, with Langton's Colonel.

In Shorthorn cattle, Jas. Caswell's aged bull, Spicy's Wonder, was first and male champion. C. T. Lyall's Baron's Voucher, won in the two-year-old section. Jas. Wilson's Bonnie Favorite led in the senior-yearling class, and C. F. Lyall's Baron Strome, in the junior class. In the aged-cow class, the roan cow, Miss Trout, shown by Lyall, was first; Caswell's Fairy Princess, second, and Lyall's Juanita, third. Miss Trout was champion female.

In the Aberdeen-Angus class, Geo. C. Melson, of Olds, won first in aged bulls with Gaylawn, captured the male championship with the same animal, and had the champion female in Jetty 2nd, which was first in cow class. Lew Hutchinson, Duhamel, showed a fine representation of his grand herd, and won a good share of the prizes, including first for yearling heifer and heifer calf. Galloways were well shown by E. D. Adams, Calgary, his herd being in fine condition.

Alberta is fast making a reputation as a dairy country, and the leading dairy breeds were well represented. In Holsteins, W. J. Tregillus, Calgary, and Thos. Laycock & Son, were the principal competitors, the latter winning in aged bulls and male championship, with Douglas, and also first in the yearling class, with Sarcastic Bob, bought at the Munroe dispersion sale at Winnipeg, O. Rosenberger, of Airdrie, Alta., being second in the latter section with Aaggie Rosa Prince. Tregillus was second in the bull calves, and third in yearlings; also first in aged cows with Lady Fay Lulu, who was also female champion. Laycock was first for aged and junior herd, and Tregillus second.

Ayrshires made a good showing, and created considerable interest, the principal exhibition being A. H. Trimble and J. J. Richards, both of Red Deer, the former having the champion bull and female, and winning first in the herd competition, Richards winning for young herd, the get of one sire.

In Jerseys, the famous herd of B. H. Bull & Son, Brantford, Ont., was strong represented, winning all the prizes except one second, which was for two-year-old heifer, and which went to T. Laycock & Son.

Sheep and swine were seldom more largely represented at Calgary. In Shropshires, J. A. Turner, D. Brown, H. W. Watkin, and T. A. Cox, Brantford, Ont., were exhibitors, the first named having sweepstakes pen and champion ewe. Cox secured a first and a second prize, Watkins a number of seconds, and Brown several firsts.

T. A. Cox had the winners in Hampshires, while in Oxfords, the winners were Bryce Wright, De Winton, and Jas. Jones, Calgary.

In swine, T. A. Cox and Lew Hutchinson divided the prize list in Berkshires, Cox winning the championship. Glen Bros., Hildsury, and W. J. Tregillus,

Calgary, had the Yorkshire exhibit, and J. Caswell, Saskatoon, showed Tamworths.

Official records of 122 cows were accepted by the American Holstein Association during the period from May 16th to June 22nd, 1909. This herd of 122 animals, of which the usual one-half were heifers with first or second calves, produced in seven consecutive days 49,436.6 lbs. of milk, containing 1,712,366.2 lbs. of butter-fat; thus showing an average of 3.46 per cent. fat. The average production for each animal was 405.2 lbs. of milk, containing 14,036 lbs. of butter-fat; equivalent to 57.9 lbs. or 28 quarts of milk per day, and 16 1/2 lbs. of the best commercial butter per week.

I take pleasure in informing you that I have just received from Archibald Mac-Neilage, Secretary of the Clydesdale Horse Society of Great Britain and Ireland, a letter in which he compliments the Clydesdale Horse Association of Canada upon the character of Vol. 16. "It is a record of big work," he says. "I am very glad to have the volume." I also take pleasure in the statement that Canada is again piling up a record year in Clydesdale registration. There is little further doubt but that the present will be the biggest year yet.—J. W. Sangster, Secretary.

Profitable Sewage Disposal.

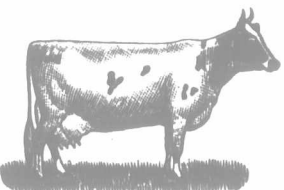
The meetings of the Seventh International Congress of Applied Chemistry, recently held in South Kensington, have been full of interest, but perhaps no subject with which they have dealt concerns the general public more closely than sewage disposal. A paper read before the Hygienic Section, describes a system which unites the elimination of undesirable products from sewage intended for use as fertilizer with utilization of these very products for the purpose of making commercial profit.

At present, the contents of sewers are, in some towns, discharged into large tanks, where solids are settled out, forming a "sludge" containing about 90 per cent. of water. This is filtered, reducing it to a cake which contains only about 50 per cent. of water, which is usually dumped on land especially secured for the purpose. As the writer of the paper points out, however, a city of 100,000 will produce something like 30 tons of sludge per diem; the cost both for land and cartage becomes tremendous, and the land used for dumping is unfitted for building purposes.

When the sludge is used as manure, it necessarily creates a nuisance to the neighborhood, in the course of decomposition; to this objection is added another, namely, that while the chemical composition of the sludge would indicate considerable fertilizer value, this is greatly diminished and in some cases quite extinguished by the presence of large quantities of fatty matter, grease and soap. These come chiefly from domestic sources, the washing of dinner dishes providing much grease, while practically all the soap used in the country (the estimate for England is 4,000,000 tons annually) ultimately finds its way into the sewers.

It is from the recovery of the valuable fatty acids contained in the soap that the process now recommended derives a large part of its revenue, the remainder coming from the residue of the sludge cake, the fertilizing value of which can now be realized, while the resulting manure is also sterilized and odorless, so that it can be stored or used without creating any nuisance. It takes the form of a dry powder, fine as flour, containing nitrogen equal to 8 per cent. of sulphate of ammonia, and other chemicals, together with about 40 per cent of partly-decomposed organic matter.

The system is as follows: The sludge cake, having been dried by heat, is mixed with a little acid and passed through a specially designed retort in which it is subjected to a current of superheated steam, which carries away with it the fatty acids to be condensed in a water-cooled tower. The fat can be easily and cheaply purified, yielding a grease rich in steric acid—a valuable commercial chemical. The average profit for a city of 100,000 is estimated at, roughly, \$12,500.



Stoneycroft Ayrshires

Choice young bulls and heifers of the very best breeding, combining show and dairy quality. Large Improved Yorkshire Pigs from imported sires and dams, now ready to ship. Stoneycroft Stock Farm, Ste. Anne de Bellevue, Que.

Stonehouse Ayrshires.



A BETTER LOT OF AYRSHIRE Cows and Heifers

Were never to be seen before at Stockwood. Deep milkers, good teats; lots of size, just the kind for foundation stock. Young bulls from prizewinning dams; also heifers. Prices low. Terms to suit purchaser. All stock guaranteed before shipping. D. M. WATT, St. Louis Sta., Que.

AYRSHIRES AND YORKSHIRES!

Kindly send in your orders at once for imported stock. We can cable orders and have them shipped in May. Calves from imp. dams or from home-bred Record of Merit dams. Females any age. A few young pigs. ALEX. HUME & CO., MENIE, ONTARIO. HOARD'S STATION, G. T. R.

UTILITY GLENORA OF KELSO - 15798 - AYRSHIRES at head of herd.

For sale: Females of all ages, and several young bulls, some out of 11,000-lb. cows. Come and see, or address: R. C. CLARK, Hammond, Ont. Railway station, Hammond (G. T. R. and C. P. R.).

CHERRY BANK AYRSHIRES.

I am now offering young bulls and heifers—true to type and high in quality. Some with imp. sire and dam; also will spare a few older females. P. D. McArthur, North Georgetown P. O., Que. Howick station, Que.

Springhill Ayrshires

Present offering: A number of high-class bull calves, out of imp. sire and dams. Females all ages, imported and home-bred. Write your wants. Visitors always welcome. Phone connection.

Ayrshire Cattle—Imported or Canadian-bred.

Imported or Canadian-bred, for sale at all times; satisfaction guaranteed. For particulars, write: W. THORN, Lynedoch, Ont. Trout Run Stock Farm.

Ayrshires

Two young bulls, 12 months and 15 months old, of true dairy type. Very fashionable. N. DYMENT, CLAPPISON'S CORNERS, ONTARIO.

Brampton Jerseys

Canada's premier herd. Dairy quality. Bulls all ages for sale, from best dairy and show cows in Canada, and by best sires. Our herd is 175 strong. B. H. BULL & SON, BRAMPTON, ONT.

Pine Ridge Jerseys—For Sale (Earl Denton head of the herd).

Females, all ages. Yearling bull and a bull calf, 5 months, from a 10,000-lb. cow. Can spare also a few young cows and heifers due to farm soon. W.M. WILLIS, Pine Ridge Farm, Newmarket, Ont.

Centre and Holsteins Hillview

For sale: 5 choice bulls fit for service now, from dams of extra good backing. Their sires are Brookbank, Butter Baron and Bonheur Statesman. Their dams and sires' dams and grandams average over 24 lbs. butter testing over 4 per cent. in 7 days. P. D. EDE, Oxford Centre P. O., Woodstock Sta. Ont. Long-distance 'phone, Burgessville.

BUSINESS HOLSTEINS

Over 60 head to select from. Milk yield from 60 to 85 lbs. a day, and from 25 to 47 lbs. a day for 2-yr.-olds. There are 10 2-yr.-old heifers, 8 1-yr.-olds, and a number of heifer calves. Bulls from 1-yr.-old down. Priced right. Truthfully described. W. Higginson, Inkerman, Ont.

Sunny Hill Farm

No more Holsteins for sale at present. Eggs from choice White Rocks and Buff Orpingtons, one dollar per setting. DAVID WIFE & SONS, Hespeler, Ontario, Waterloo County, C. P. R. and G. T. R.

Holsteins FOR SALE: COWS AND HEIFERS

All ages. Also bull and heifer calves, including daughter and granddaughters of Pietertje Hengerveld Count De Kol, whose TWO famous daughters made over 32 lbs. butter each in 7 days, and sire of cow, "De Kol Creamelle, which gave 119 lbs. in one day, over 10,000 lbs. in 100 days. Also for sale daughters of De Kol's 2nd Mutual Paul, sire of Maid Mutual De Kol, which gave over 31 lbs. butter in 7 days, also grand-daughters of Hengerveld De Kol. Other leading breeds represented. Putnam station, near Ingersoll.

H. E. GEORGE,

CRAMPTON, ONTARIO.

HOMWOOD HOLSTEINS

For Sale: Only thrifty bull calves from 4% R. O. M. cows; some will make great herd headers and show animals. Write for prices and description. Station on the place.

MAPLE HILL HOLSTEIN - FRIESIANS

Special offering: Am now offering for first time my stock bull, Sir Mercedes Teake (2489), champion bull at Toronto and London, 1908. Can no longer use him to advantage, as I have twelve of his daughters in my herd.

M. L. & M. H. HALEY,

Springford, Ont.

MAPLE GLEN For sale: Only 1 bull, 11 months old, left; dam is sister to a 26-lb. tested cow. Any female in herd for sale, 7 with records 20 1/4 to 26 1/4 lb. official tests. An 8-yr.-old G. D. of Paul Beets De Kol, in calf to Oakland Sir Maids—her record 21.88 as a 5-yr.-old. Price \$400, or will dispose of herd en bloc, a great foundation privilege. G. A. Gilroy, Glen Buehl, Ont. Long-distance 'phone connects with Brockville.

The Maples Holstein Herd!

RECORD-OF-MERIT COWS. Headed by Lord Wayne Mechthilde Calamity. Nothing for sale at present but choice bull calves from Record of Merit dams; also a few good cows at reasonable prices. WALBURN RIVERS, Feldon's Corners, Ont.

Lakeview Holsteins

Herd headed by the ONLY BULL in the world whose sire has 5 daughters averaging over 30 lbs. of butter in 7 days, and whose dam (26.30 lbs. in 7 days) has a daughter with a record of over 35 1/2 lbs. of butter in 7 days (world's record). Bull calves and cows bred to him for sale. LAKEVIEW FARM, BRONTE, ONT. W. D. Brecken, Mgr.

Count Hengerveld Fayne De Kol,

FOR SALE R. Honey, Brickley, Ontario, NORTHUMBERLAND COUNTY. Bulls fit for service, from cows with large records. Sows fit to mate, also young pigs, both sexes, of the very best bacon type. Prices reasonable.

FAIRVIEW HERD HOLSTEINS

The greatest A. R. O. herd of in northern New York. Headed by Pontiac Korndyke, the greatest sire of the breed, having five daughters whose seven-day records average 29 1/4 pounds each, and over 4.5% fat. Assisted by Rag Apple Korndyke, a son of Pontiac Korndyke, out of Pontiac Rag Apple, 31.62 pounds butter in 7 days, and 126.56 pounds in 30 days, at 4 years old. Cows and heifers in calf to the above two bulls for sale, also young bulls sired by them out of large-record cows. Write or come and inspect our herd. E. H. DOLLAR, Neuvelton, St. Law. Co., N. Y., near Prescott, Ont.

HOLSTEINS and YORKSHIRES FOR SALE

Buy a HOLSTEIN BULL which you get - my prices on choice goods from five months to one month old, from best producing strains. "Fairview Stock Farm." FRED ABBOTT, Harrietsville Ont.

**THIS IS THE
SHEET
METAL AGE**

Galt "Classik" Steel Ceilings and Walls are the most sanitary interior finish, because of the accurately made, close-fitting, invisible joints. No dirt, germs or vermin can find a lodging place in Galt "Classik" Ceiling. So easily and quickly washed that very little time or expense is required to keep them clean, fresh and new-looking always.

• Fire-proof, too. Never crack, warp or fall off. As permanent as your building.

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**American Shropshire Registry
Association.**

HENRY L. WARDWELL, PRESIDENT.

Largest membership of any live-stock organization in the world. Vol. 21 of the Record published. Write for rules.

Mortimer Levering, Sec., LaFayette, Indiana.

SOUTHDOWNS AND COLLIES.

Long-distance Telephone.

Orders now solicited for especially-fitted sheep. Your choice of early lambs from imported and prize-winning Canadian-bred ewes, and by the sire of the Grand Champion wether at Chicago, 1907. Twenty shearings, the choice of last year's lamb crop, also for sale.

ROBT. McEWEN, Byron, Ont. Ry. Sta., London, Ont.

Large White Yorkshires



Am offering during this month a good lot of young boars ready for service, young sows of breeding age, and a choice lot of spring pigs. Pairs supplied not akin. All bred from large imported stock. Write

H. J. DAVIS, Woodstock, Ont.

Morrison Tamworths,
Shorthorns and Clydesdales.
Tamworths from Toronto winners.
Either sex. Any age. Sows bred
and ready to breed. Pairs not akin.
CHAS. CURRIE, Morrison, Ont.
Schaw Sta., C. P. R.



Monkland Yorkshires

We are offering 30 sows from 1½ years to 3 years old that have had litters. All large and excellent sows—proved themselves good mothers. Bred again to farrow in July and August. Jas. Wilson & Sons, Fergus, Ont.

Willowdale Berkshires!

Won the leading honors at Toronto last fall. For sale are both sexes and all ages, from imp. stock on both sides. Show things a specialty. Everything guaranteed as represented. J. J. WILSON, MILTON, ONT., P. O. AND STATION. C. P. R. AND G. T. R.



OHIO IMPROVED CHESTER WHITES.—Largest strains. Oldest-established registered herd in Canada. Young sows in farrow. Choice pigs 6 weeks to 6 months old. Pairs furnished not akin. Express charges prepaid. Pedigrees and safe delivery guaranteed. E. D. GEORGE Putnam, Ont.

NEWCASTLE TAMWORTHS, SHORTHORNS AND CLYDESDALES. Present offering: 3 Shorthorn cows with heifer calf at foot, 3, 4 and 5 months old respectively, and bred again; a choice lot of Tamworth boars and sows from 6 weeks to 2 months old, also a few really good sows bred during April and May. A. A. COLWILL, NEWCASTLE, ONT.

Farnham Oxford Downs The Champion Flock for Years.

Our present offering is 110 yearling rams; 20 of these fit for the show-ring, and are grand flock-headers. Also 50 yearling ewes, and a number of good ram and ewe lambs. They are all registered and by imported sires or g. sires imported, and a number from imported dams. Our prices are reasonable. HENRY ARKELL & SON, ARKELL, ONTARIO. Arkell, C. P. R.; Guelph, G. T. R., and Telegraph.

Fairview Shropshires

We now offer Excellent ewes, choice rams. And the best lots of lambs ever offered. All sired by our famous Chicago and St. Louis Grand champion rams, His Best and B. Sirdar. J. & D. J. Campbell, Fairview Farm, Woodville, Ont.

CLAYFIELD Buy now of the Champion Cots- S T O C K wold Flock of America, 1906. Flock headers, ranch rams, ewes of different F A R M! ages. All of first-class quality, and prices reasonable. Write, or call on J. C. ROSS, Box 61, Jarvis, Ont.

Maplehurst Herd of Tamworth Swine, Bronze Turkeys, Toulouse Geese, Pekin Ducks, S. C. W. Leghorns.

Tamworths of excellent breeding and ideal bacon type. Herd won sweepstakes at Toronto and London, 1905-6-7-8; winnings at World's Fair, St. Louis, 1904.—sweepstakes aged and junior herd, and two grand championships. Apply to:

D. DOUGLAS & SONS, MITCHELL, ONTARIO.
Bell phone in residence.

Shannonbank Clydesdales, Ayrshires, Yorkshires. One stallion rising three years, by imp. Hopewell. Two young bulls ten months, and some heifers from six months to two years. Yorkshires of both sexes. W. H. TRAN, Cedar Grove, Ont. Locust Hill Sta., C. P. R.

For Sale: CHESTER WHITES

of the right type. Apply to:
DANIEL DE COURCY, BORNHOLM, ONTARIO.

SUNNYMOUNT BERKSHIRES

Highest standard of type and quality. For sale: Sows of all ages, and 4 yearling boars. A grand, good lot. Also younger ones. Pairs not akin. JOHN McLEOD, C.P.R. & G.T.R. Milton P.O., Ont.

DUROC-JERSEY SWINE

Imported and home-bred. Sows ready to breed. Boars fit for service, and younger ones either sex. Also Embden geese. MAC CAMPBELL & SONS, HARWICH, ONT.

MAPLE LEAF BERKSHIRES

For sale: Young sows bred and ready to breed; boars fit for service; also young pigs farrowed in March and April. Imp. sires and dams. Pairs not akin. C.P.R. and G.T.R. Joshua Lawrence, Oxford Centre P. O., Ontario.

Barn Raising.

One of the most sympathetic, racy, and altogether enjoyable descriptions of a barn-raising, was contributed to the Toronto Globe recently by Peter McArthur, who, judging from this and previous correspondence in the same vein, is a metropolitan journalist rusticiating near Ekfrid, Ont., in the neighborhood of his nativity:

"Are you going to the raising?"
If not, you will miss the best entertainment the county affords. A properly-conducted barn-raising contains the excitement of a fire, the sociability of a garden party, and the sentimental delights of a summer-resort "hop." The young men are given a chance to show their agility and prowess, and the girls are enabled to shine as hostesses. Although it is especially a function for young people, there are always enough old folks on hand to give the occasion historical color and perspective with their reminiscences of past raisings—some of them going back to the days of log barns and houses. In "the heroic period" the best man was the one who was competent to build a corner, and anyone who examines one of the primitive buildings cannot but marvel at the skillful dovetailing done by the old-time cornerer. The modern farmer, with all his tools, would find it hard to equal their work. In the traditions of those days there are stories of men who could run along a log and jump the opening left for the barn door—about fourteen feet—with a bottle of whiskey in each hand. Nowadays, we have other men and other manners.

The preliminary work of a barn-raising is done in the winter months, when the timber for the frame is felled and squared. As the old-time broadaxe men who could hew to the line and turn out a stick of square timber that looked as if it had been planed have practically vanished from the earth, the posts, plates, beams, sills, girders, and girders, are now squared in the sawmills. After the timber has been assembled where the barn is to be built, the framers cut it to the required lengths and make the necessary joints, mortises, tenons, braces, and rafters. The invitations for the raisings are then issued, and the housewife, usually helped by her friends, begins to cook for a multitude. The best that the county affords is prepared lavishly, for a raising is always followed by a great feast.

On the day of the raising a gang of men working under the directions of the farmers, put together the bents and sills. The latter are usually laid on cement foundations, as most modern barns have a basement stable for horses and cows. The tents, usually four in number, consist of the posts, beams, girders, and braces. They are put together, with all joints strongly pinned and laid overlapping one another on the foundation, with the tenons in the foot of each post ready to be entered into the mortises in the sills. Early in the afternoon the crowd begins to gather. When all who are expected have put in an appearance, captains are selected, who proceed to choose sides. Then is the anxious moment for the county beau, who can feel holes burning in the back of his duck shirt because of

"A pair
Of blue eyes set upon it."

To be chosen first, or to be among the first half-dozen, is an honor you could appreciate more fully if in your hot youth, when Victoria was Queen, you had been chosen second man. I admit it was only second, but, like the Emperor William in the patriotic but blasphemous German story, I was young then, and I left the country before I reached my growth. As each man is chosen, he leaves the crowd and joins the growing group about his captain. Not even "Casey" of baseball fame, could make that short walk with more "ease and pride" than some of the county boys, and not a few of them prepared their hands for the coming fray, as he did when

"Ten thousand eyes admired him
As he rubbed his hands with dirt,
Five thousand throats applauded
As he wiped them on his shirt."

When everyone has been chosen down to such trifling as visiting journalists and politicians, who can only be expected to help with the granting when the lifting is being done, the real work of the rais-

ing begins. Although the rivals take opposite sides of the barn, they work together in putting up the main framework. "Ye-ho! Hee-eeve! All together, now! Ye-ho! Hee-eeve!"

Slowly the first bent is lifted and shored up until the pikepoles can be brought into play.

"Ye-ho! Hee-eeve!"

Men with handspikes hold back the foot of each post, so that the tenons cannot slip past the mortises as the huge beams are being pushed up into the air.

"Ye-ho! Hee-eeve!"

At last the tenons slip home and the first bent is stay-lathed in place. The girders that connect with the next bent are put in place, braced and stayed. Then another bent is heaved up and the extending girders fitted, braced and pinned. So to the last bent. As it swings up the excitement becomes furious. While the bent is still at a dangerous angle, men clamor up to the collar beams and begin tugging at ropes attached to the heavy plates that are being hoisted against the frame. By the time the last posts have snapped into place, the ends of the plates are already on the collar beams.

"Ye-ho! Hee-eeve! Ye-ho! Hee-eeve! Ye-ho! Hee-eeve!" The race is on!

The slanting plates are rapidly pushed high above the building. Sometimes they are liberally soaped to make them slip over the beams more easily. Now comes the spectacular act of the exciting performance. While the end of the plate is high in the air, venturesome young men, anxious to make a reputation for reckless daring, shin up to the top so that they may "break" it more quickly. No sooner has it been brought down to the collar beams than it is pushed along the full length of the building. Now it must be lifted into place on the tenons at the tops of the posts.

"Ye-ho! Hee-eeve!"

The cheering suddenly changes to sharp calls and commands.

"Where's that brace?"

"Throw me a commander!"

"Throw me a pin!"

"Bang! Bang! Bang! The pins are driven home.

The main plates are pinned into place, and the lighter purlines are already lying on the beams, with posts fitted in and braced. Now they must be hoisted.

"Ye-ho! Hee-eeve!"

"Where's that strut?"

Now for the rafters! They are already leaning against the main plates, with one end on the ground. Hand-over-hand they are pulled up, fitted into their places in the plate, and laid across the rising purlines. This is the breathless end of the race. The purline is up! The rafters in place!

All down!"

The winners spill down from the building as if they would break their necks.

"Hurrah! Hurrah! Hurrah!"

The race is over; the winners rush for the tables that are spread on the lawn, and the laughter of girls and women takes the place of the hoarse yelling and cheering of the men. Under a shower of compliments, the winners wash up and range around the tables, where they are waited on by the girls. The losers, who may have been only a few rafters behind, are forced to wait for "the second tables." Under the influence of the feasting, the excitement soon dies down, and both winners and losers share in the general good-humor.

Sometimes the contending sides indulge in a game of baseball, if there is still time, and they feel like exerting themselves after their full meal. Not infrequently the day ends with a dance—not old-fashioned square dances, but up-to-date waltzes, with music provided by a graduate of some ladies' college, presiding at one of these grand pianos that appear like mushrooms after a season of good crops. The old fiddler, rasping out "The Irish Washerwoman," has gone "slumbering down the dust of days that were," with so many other country institutions.

Then comes the drive home through the moonlight, along the country roads, and past the sweet-smelling clover fields. As the young men are always heroic and the girls bewitching on these occasions, there is no telling how many romances take delicate form at barn raisings. What have the cities to offer in comparison with this too excitement, fun and sentiment? Nothing, absolutely nothing!

THE SPICE OF LIFE.

—Did she urge you to stay to
?—
—Oh, yes, indeed! She urged
as hard as if she'd been told I had
engagement.

I have seen teaches me to trust the
for all I have not seen. What-
it be which the great Providenc
ares for us, it must be something
and generous, and in the great style
his works.—Emerson.

ow occasions teach new duties;
time makes ancient good uncouth;
ay must upward still, and onward,
who would keep abreast of Truth;
before us gleam her camp-fires!
We ourselves must Pilgrims be,
unch our Mayflower and steer boldly
through the desperate winter sea,
or attempt the Future's portal
With the Past's blood-rusted key.
—James Russell Lowell.

nce the genial Peter Dailey consulted
oculist about his eyes. His nose was
all, and he couldn't keep on the glasses
h which the oculist was trying to fit
"You are not used to glasses, Mr.
ley," said the oculist. "Oh, yes, I
" replied Mr. Dailey, "but not so
h up."

There never was a time when straight
and-up living meant more, and when
nt and humil's were better understood.
man is sized up more accurat than
y of us think. This world has a good
rd club for the social, religious or busi-
ness hypocrite. "Burning lips and a
cked heart are like the potsherd cov-
ed with silver dross." People are
arning to see the clay under the glitter
of the silver dross.—[Dominion Ridge-
own.

Let us learn to be content with what
e have. Let us get rid of our false
timates, set up all the higher ideals—
quiet home; vines of our own plant-
g; a few books full of the inspiration
of a genius; a few friends worthy of be-
ng loved and able to love us in turn;
hundred innocent pleasures that bring
o pain or sorrow; a devotion to the
ght that will never swerve; a simple
religion empty of all bigotry, full of
rust and hope and love—and to such a
philosophy this world will give up all
the empty joy it has.—Daniel Ewing.

A certain clergyman was summoned to
aste by a woman who had been taken
uddenly ill. The reverend gentleman
ent in some wonder, for he knew that
he was not of his parish, and was,
moreover, said to be devoted to her own
minister, the Rev. Mr. W—.

While he was waiting in the parlor, be-
fore being shown to the sick room, he
ell to talking with the little girl of the
house.

"It is very gratifying to know that
your mother thought of me in her ill-
ness," said he. "Is Dr. W— out of
town?"

"Oh, no," answered the child, in a mat-
ter-of-fact tone, "Dr. W— isn't away.
Only we thought it might be something
ketchin', and we didn't want to take any
risks."

"Well, George," said a Georgia man
not long ago to an old dorky in his em-
ploy, "I understand that you intend to
give your son an education."

"Dat's my intention, sah," responded
George. "I knows myself what 'tis to
struggle along widout larnin', an' I has
determined my son ain't goin' to have
no sich trouble as I's had."

"Is your son learning rapidly?"

"He shore is, sah. Las' week he done
wrote a letter to his aunt what lives
more'n twenty mile from yere; an' after
while he gon' to write to his aunt dat
lives fiftty mile from yere."

"Wha' 'snt he write to that aunt
now?" asked the employer.

"He 'snt write so fur yit, sah. He
kin write twenty mile fust-rate, but I
tole him not to try fiftty mile till he gits
stronger in his pen."

The Man Who Farms Clay Lands Is
Very Likely To Buy The Wrong Plow—

And blame it on the dealer. It might pay that man well to ask us ques-
tions before he invests a cent in any farm-implement,—especially a plow.
Getting the right plow—there's only one—saves a lot in money, time and
horseflesh; and our experts are paid to tell you just which plow that one is.

Easy to plow
with in
sticky, tough
ground.



Built to stand
more strains
than you'll
ever give it.

No. 11 Plow

The long handles of this popular model give
easy control and aid greatly in keeping
straight furrows, however tough and hard
to plow the soil conditions.

The beam of the No. 11 is tough, heavy, high-
carbon CHANNEL steel that will stand great
strains. Mouldboard of special formula soft-
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Share is best gray iron, chilled hard as flint.

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Shares are so designed (from thirty
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that they wear sharp, instead of dulling.
You'll not lose patience with this plow.
Send for descriptive details and complete
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Another "Sunshine" Feature

This is an entirely new idea, and will especially interest people who reside in natural gas districts. The gas ring takes the place of the lower Sunshine fire-pot, thus making it possible to burn gas in your furnace without inconvenience. Such is not possible in a furnace where the ordinary gas log is inserted; for, should the gas give out, a coal or wood fire could not be started until the gas pipes were disconnected.

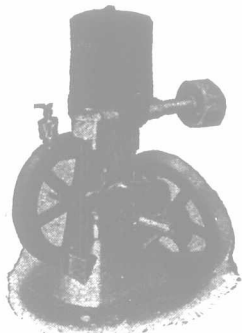
The Gas Ring



To provide against sweating in the summer time, Sunshine Furnace is equipped with a nickelled steel radiator and dome. All bolts and rivets are nickelled, all rods copper-plated. This special treatment, besides meaning quicker and greater radiation from the radiator and dome than cold chill iron could possibly give, acts as protection for the bolts, rivets and rods from inroads of gas. When cast iron comes in contact with our nickelled steel it is coated with our special Anti-Rust treatment, which prevents the slightest possibility of rust commencing anywhere in Sunshine Furnace.

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We sought the markets of the world for one that was just right; and we didn't find it. If we had, we'd have bought the patent rights for Canada. Finally, last spring we struck the idea. Then we put in some expensive months in making that idea better,—and NOW we've got a culvert that is so far ahead of any other there's no comparison."

"You'll read something about it here; but to KNOW how 'way-ahead it really is, you'll want to see the sample (sent free) and read the booklet (free, ditto). With that before you, you will soon see why every Reeve, or Warden, or Town Councillor, or anybody who has any use for culverts at all,—will find it pays to get in touch with me right NOW. I am asking you to lay aside your notions of what makes a good culvert, and a cheap culvert, and find out about this NEW culvert. I don't expect you to buy a foot of it until it PROVES to you that Pedlar Culverts are in a class by themselves, and that you can't afford to overlook them. Let us start that proof toward you soon—address nearest Pedlar place."

G. A. Pedlar

Frost-Proof, Rust-Proof, and Wear-Proof

This triple-rib flange-lock principle, found only in Pedlar Culverts, not only adds greatly to the strength of the piping and makes a perfect joint—practically as good as if welded—but it also allows for expansion and contraction under cold or heat. Though a Pedlar Culvert, of any length, be frozen solid full of ice, it will not split nor spring a leak.

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State your probable needs and we will quote prices and discounts —



A structure like this, with Pedlar Culvert, won't wash out nor need repairs.



PEDLAR Perfect Corrugated Galvanized CULVERT

A few hours' work and a few dollars will put a modern and permanent culvert in place of a ramshackle bridge. Easily laid by anybody.

Made of Special Billet Iron, Extra Heavy

In every size of Pedlar Culvert, which comes in all standard diameters from 8 inches to 6 feet, we use nothing but the best grade of Billet Iron, specially made for us, of extra-heavy gauge (14 to 20 gauge, according to the diameter). This Billet Iron is curved into semi-cylinders—curved COLD, so there will never be any variation from exact dimensions; and it is then deeply and smoothly corrugated on a special press that puts a pressure of SIXTY TONS on every square inch of the metal. The corrugations, therefore, are uniform and very deep.

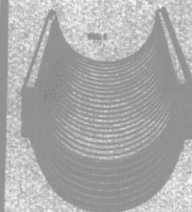
Galvanized After Being Pressed Up

When the corrugating process is done, the sections are galvanized by our exclusive process that covers the entire surface with a thick coating of zinc spelter. Every edge, every crevice, is heavily coated with this rust-proof, corrosion-proof galvanizing, not a spot is left unprotected. This is the only culvert galvanized after being shaped. Is absolutely Rust-proof.

Will Stand Incredible Strains

The heavy-gauge Pedlar Billet Iron sections, deeply corrugated and locked together without bolts or rivets by our compression triple-rib (this rib is flat—not corrugated), make a culvert that will stand enormous crushing strains and neither give nor spring. A thin cushion of soil on top is all the protection such a culvert needs against traffic; and no special precautions need be observed in laying it,—it will stand what no other culvert can.

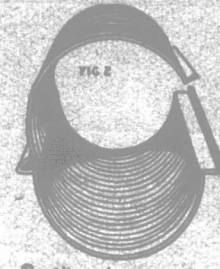
Compact—Portable Easily Laid



Half-sections nested for shipment

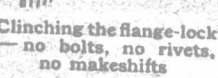
Pedlar Culverts are shipped in half-sections, nested—see Fig. 1. Saving freight charges and making carriage easy in roughest country. Quickly and easily transported anywhere.

Note that the ribs are flat, and the curved part of the cylinder deeply corrugated. These ribs add vastly to the culverts' strength.



Sections in course of assembling

Unskilled labor, with a single tool, quickly clamps the flanges together, making a triple-fold joint that is tighter and better than any riveted or bolted joint can be.

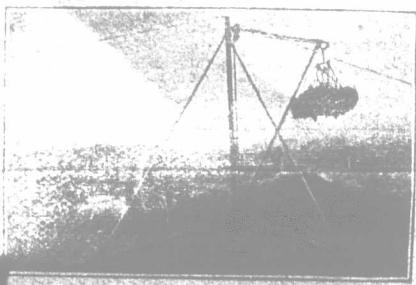


Clinching the flange-lock—no bolts, no rivets, no makeshifts



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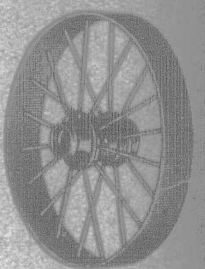
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550 " "	7-3-4c. " "
500 " "	7-1-4c. " "

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