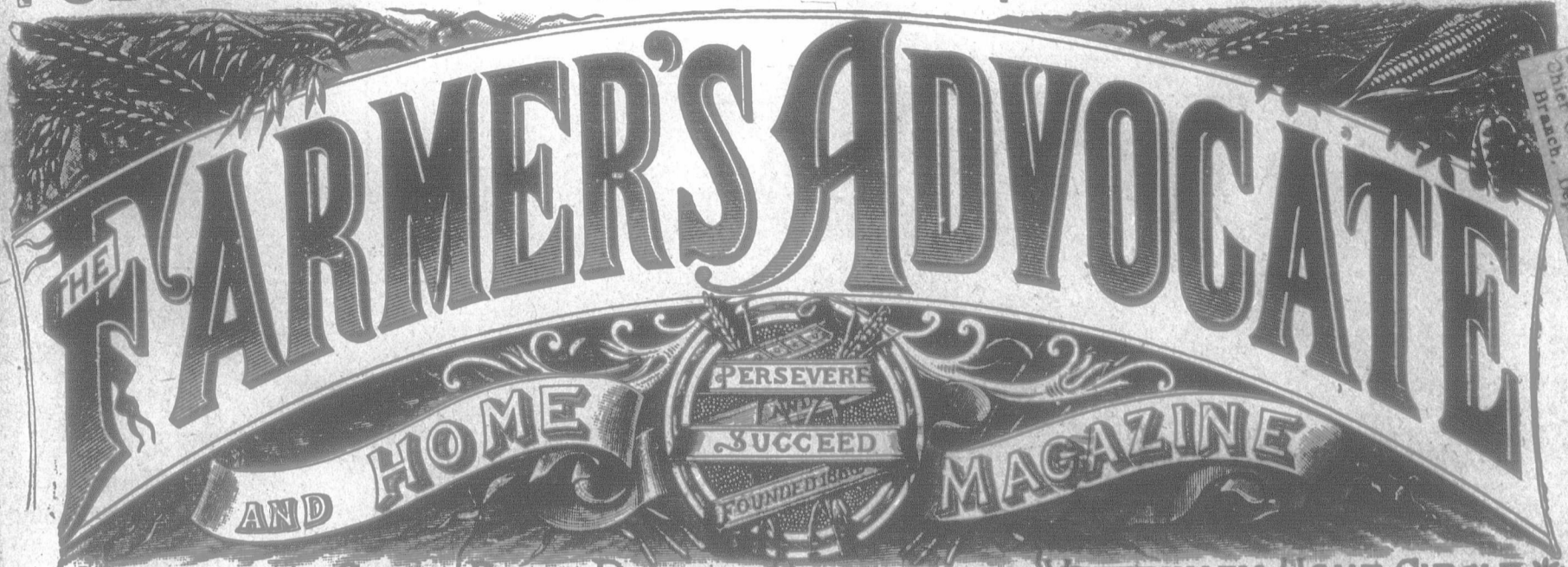


PUBLISHED EVERY WEEK. \$1.50 PER YEAR.



Chief Officer, Publications
Branch, Dept. of Agr.
Mar 15, 1913

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

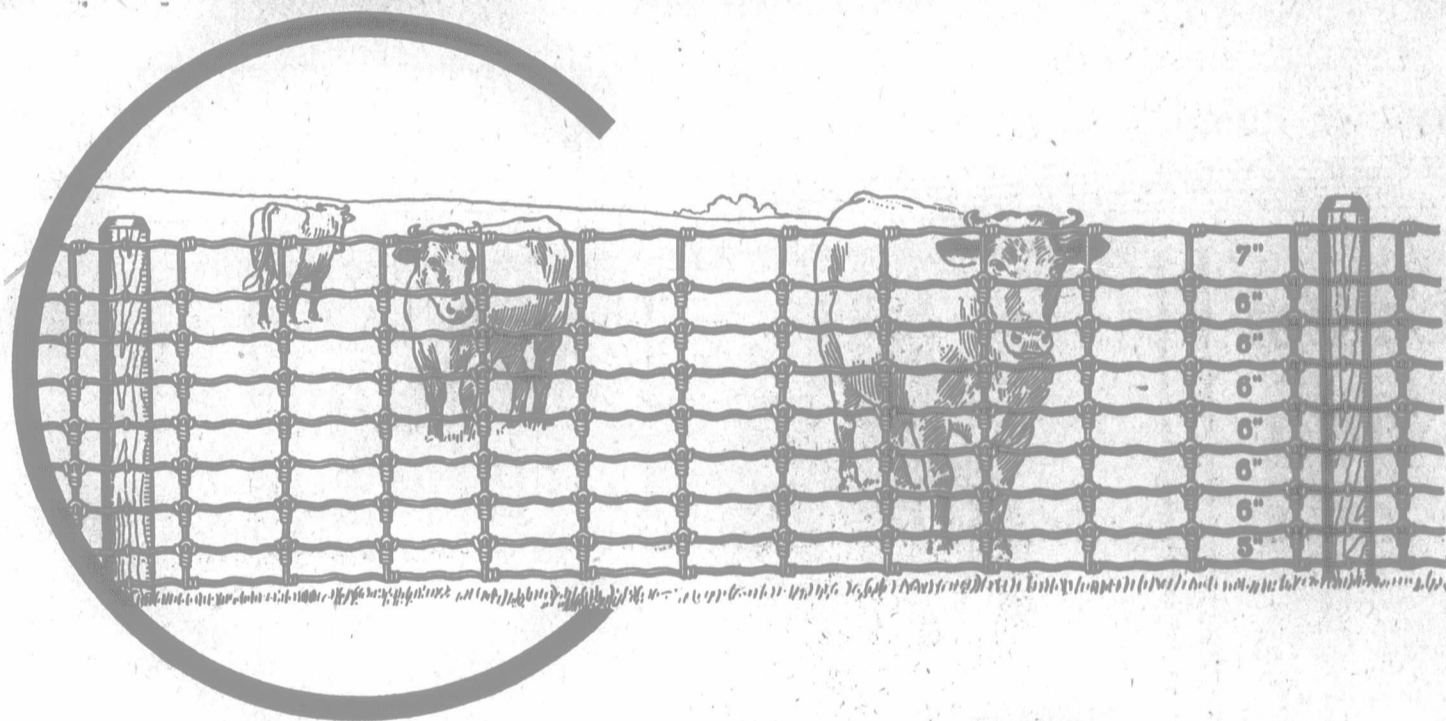
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Vol. XLVIII.

LONDON, ONTARIO, NOVEMBER 20, 1913

No. 1077

"Frost" Fence First



The Wear is There

That's because Frost Fence is made from Frost Wire, which is drawn and galvanized in our own factory expressly for making into Frost Woven Fence. Most makers import for fence use what is termed "Commercial" wire, the kind that can be used for any purpose, but not scientifically made for any one purpose.

The Frost specializing process means more than simply passing wire through the different mills, it means careful handling by men who have the practical knowledge of knowing how to make wire which will give better service.

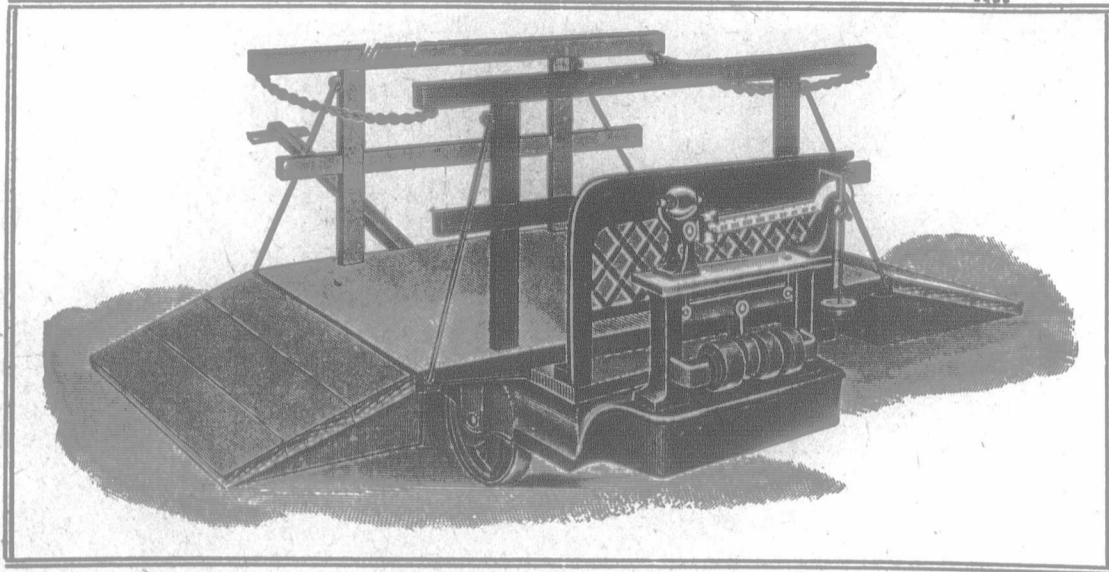
Frost Fence is not only made from material which will stand the wear and tear, but it is put together in a most practical way. Stays are evenly spaced and straight. The lock is wrapped several times around stay and lateral, and holds absolutely tight without giving the lateral wire a weakening kink. The laterals are accurately measured, dividing any strain evenly, and the permanent wave gives the fence plenty of reserve spring to keep it in shape under all conditions.

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We appreciate your direct inquiry, if you're not acquainted with our nearest dealer.

FROST WIRE FENCE COMPANY, LIMITED
Hamilton, Ontario

When buying your fence through our selling organization, you buy as direct as you would in purchasing direct from a manufacturer who imports the wire. You have an advantage in being able to see the fence you want and of inspecting it before you pay your money. You get the benefit of the advantage we have in owning our wire mills, as it is not necessary for us to rob the fence we manufacture of its service-giving qualities, that we might compete in the open market. The prices one pays for different styles of Frost Fence are real values every time. When you buy at a very low price you can rest assured that the fence you are getting is a fence greatly lessened in value, either by careless workmanship and over-production, or skimmed (undersized) material.



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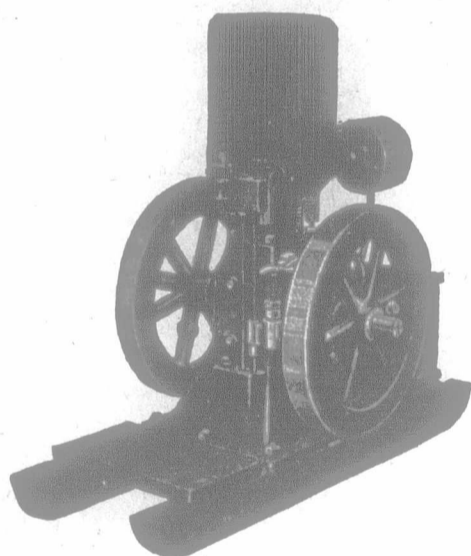
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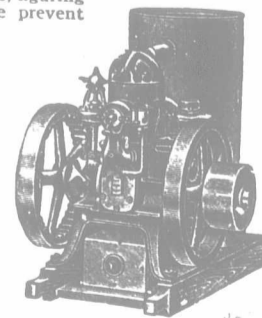
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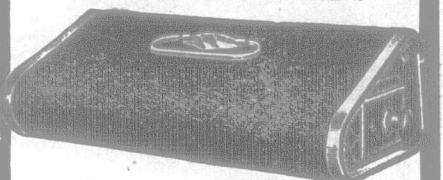
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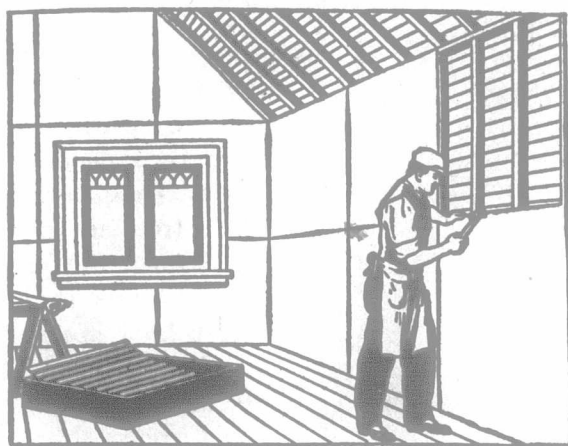
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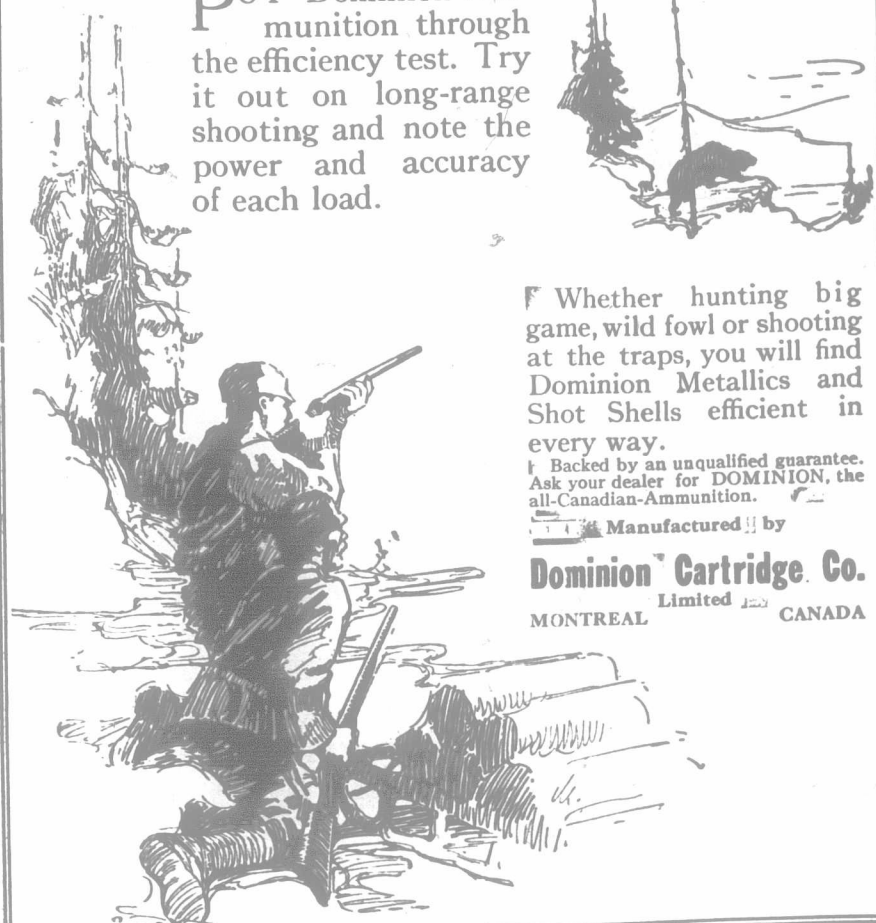
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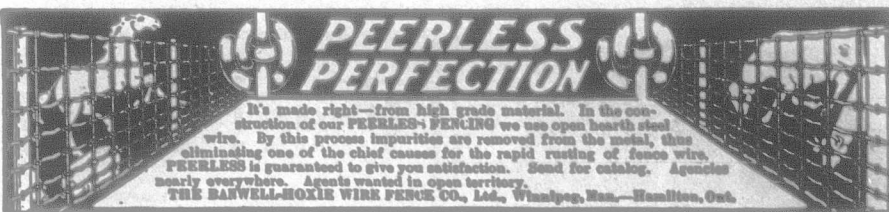


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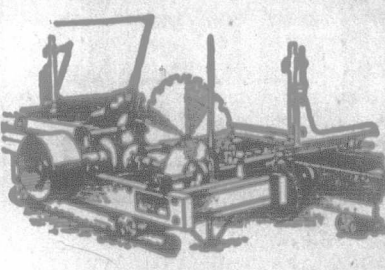


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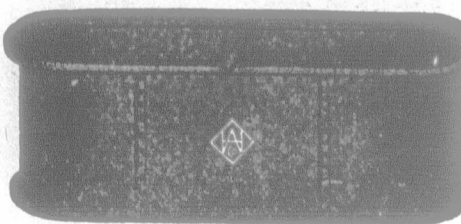
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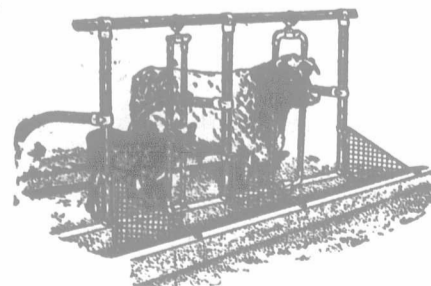
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VOL. XLVIII.

LONDON, ONTARIO, NOVEMBER 20, 1913.

No. 1077

EDITORIAL

The days grow shorter and the frosts harder.

Why not organize a local marketing club in your neighborhood?

Accumulations of the season's weeds about the premises are dangerous. Destroy them.

Bad roads and costly methods in marketing swallow up the profits on many products of the farm.

Ashes are a more desirable application on the soil than a litter of weeds that may contain matured seeds.

Not how many but how good would be a better future watchword for the live-stock husbandmen of Canada.

We have had what many have called "an old-fashioned summer." We wonder if they predict "an old-fashioned winter."

Systems of indirect taxation are something like the Northwest weather, which may be cold enough to kill, but "you don't feel it."

To destroy the weed pests of the land is not sufficient. We must plan to substitute for them the purest and best of plants that can be grown.

The man who follows a system of farming which makes the winter a productive season as well as the summer is on the straightest road to success.

Comparative idleness for five months in the year may be enjoyed by some, but this should not be the aim of the man who has chosen agriculture as his field of endeavor.

Many of the plowed fields bear the marks of carelessness upon the part of the plowman. A campaign for better plowing and more interest in this important branch of farm cultivation should receive widespread support.

There should be no complaint that the swamps have not been filled up this fall, for although the early fall was dry, late October and early November brought heavy and frequent rains.

During the coming winter let us furbish up our weapons for another year's warfare with weeds. This is a form of militancy to which "The Farmer's Advocate" can unreservedly subscribe.

This is the season when farmers' clubs, rural literary societies and debating clubs should renew their efforts. Open discussion of all problems is elevating and tends to promote reading and thinking. Every reader should be a thinker.

A good topic for discussion at farmers' meetings this coming winter would be: "Ways and means of reducing the cost of marketing." Those who read the article on marketing in our last week's issue could not but be impressed with the high cost of selling.

Begin Now.

The live-stock industry has its ups and downs and will continue to have them, but seldom is it that any business or branch of a business offers better opportunities than does live-stock husbandry at the present time. It is the backbone of mixed farming and must continue to be. The fertility of our fields depends upon it and our housewives look to it to supply a staple portion of our daily menu. The destiny of all cattle, sheep and swine is the butcher's block, and more than is sometimes believed does the pure-bred stock business depend upon the supply and demand from the butcher's viewpoint. Pork sells high to-day and will continue to do so. The demand for beef cattle, feeders and stockers, is almost unprecedented. Lamb is a delicacy for which high prices obtain. There is not likely to be a change to lower prices. In fact everything points upward. At this time everyone looks to the breeders of pure-bred stock to supply the good animals to keep up and improve the quality of the cattle, sheep and swine. Recent market quotations have more than ever indicated that the buyer wants the good stock. He must get what he demands and the breeder of good stock must supply it. Dairy products show an upward tendency in price and good dairy cows are scarce. With all this the price of first-class, pure-bred breeding stock remains reasonable. Many are the farms which could do with a few pure-breeds to raise the standard of the live stock kept on them. The difference between the price of good grades and good pure-breeds is not so great at the present time that it would not pay many purchasers to put their money in the pure-bred stock and by careful breeding build up herds and flocks of the best types of pure-bred stock in the country. It has paid others to do this in times not nearly so opportune as the present. It would pay you now. Think it over and begin this fall.

Save Farmyard Fertilizer.

Right at the beginning of the winter is the time to put in operation the system to be followed in disposing of the manure as it comes from the stables. By this time the greater portion of the live stock are in the stalls, at least a part of the time, and considerable manure is being made to be carted out on the land. Farm fertility must be replenished from farmyard manure, or from commercial fertilizers, or both. Manure is exceedingly valuable. Far more so than many people seem to realize, (judging from the careless way in which it is handled. For a while when the stock first comes in the litter and manure are often forked out the stable door just under the eaves of the barn until this pile gets so large as to back up and partially block the door. Then the wheelbarrow is brought into use and the manure is spread here and there over a rather poor yard. Little care is taken to keep it in a tidy pile away from the eaves and where too much of it will not be washed away. Many draw the green manure as it is made out to the fields, where it is spread. This is economy of labor, and where land is not too rolling and liable to wash, carrying away the fertility applied, this is good practice. Others use a covered shed in which the manure is spread around and the stock are let in to keep it well tramped. If kept solid it will not "firefang," unless too great a proportion of horse manure is mixed in.

It pays to mix the manure from horses, cattle, sheep and pigs. Sometimes we have seen cases where it was necessary to add water to manure thus kept under cover, especially where tramping had not made it solid. There is no doubt but that manure kept in a shed of this kind is better than that spread out in a barnyard to catch all the waters from rain and snow precipitated during late fall, winter, and spring. But many have no such shed. The best course open to these, if they do not see fit to draw the manure out as it is made, is to keep the manure piled in a solid, neat, cone-shaped pile away from the eaves of the barns and not spread all over the yard for the cattle to tramp through and for the rains to soak and wash away. Manure is too valuable to be handled carelessly. Start to save it now.

Wanted, A Maple Industry Policy.

The approaching session of the Canadian Parliament makes timely a discussion of maple-sugar and syrup standards and the application of such legal regulations as will stop the deceptive use of the word "maple" on imitation products and compel their sale exactly for what they are. Other commercial syrups and sugars may be wholesome and palatable as foods, and providing they sail under their own colors objection cannot properly be raised, but when greedy big interests for their own enrichment undertake to palm off on the public substitutes under the guise of "maple" or "maple flavor" it is time for intervention. As the Secretary of the Pure Maple Sugar and Syrup Co-operative Agricultural Association, Joseph H. Lefebvre, has very vigorously and clearly pointed out, they wish to sneak in and sell their foods under the good old name, maple, which they know is popular and stands for something superior and entirely distinctive. The term "maple" is wanted by them conspicuously on the labels in order to sell the goods with the natural result of displacing the genuine article from the market or making its production by the farmer unprofitable.

In order to the up-building on a sound and honest basis of the Canadian dairy industry stringent legislation rigidly administered by officers vigilant for what is right was wisely provided against the sale or manufacture of "filled cheese," or bogus butter products. Farmers and fruit growers are subject now to a clear and strictly administered "Fruit Marks Act," which under severe penalties, does not permit one variety of apples to be sold for another of superior quality; and definitely named grades of fruit have been established to which packers and dealers must conform. This has been done not alone for the protection of consumers but for the better development of the orchard industry and the promotion of a good trade in other Provinces and abroad for honest and superior Canadian fruit. Federal and Provincial authorities have, at large expense, engaged in educational work on the cultural side of the fruit industry, and to teach packing, branding, and marketing in accordance with the law. The wisdom of this policy is now recognized and it would seem to be the plain duty of legislators and the officers to proceed in accordance with similar principles in relation to maple syrup and sugar making. Instead of pursuing a policy tending to strangle maple syrup and sugar making, the time is op-

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

Agents for "The Farmer's Advocate and Home Journal,"
Winnipeg, Man.

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries 12s.; in advance.
3. ADVERTISING RATES.—Single insertion, 25 cents per line, agents. Contract rates furnished on application.
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11. CHANGE OF ADDRESS.—Subscribers when ordering a change of address should give the old as well as the new P. O. address.
12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve "The Farmer's Advocate and Home Magazine," Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are such 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.

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portune for more clearcut regulations with severe penalties and a constructive campaign of education designed to build up this industry instead of making the way easier for factory-made, imitation products.

The present is really a critical period for the industry in which thousands of farmers all over Eastern Canada are engaged. Maple wood lots are now being better preserved and with the attention being paid to forestry the number of sap-producing trees may be almost indefinitely extended if proper encouragement is given. It is to be remembered that in order to success expensive fuel, labor and up-to-date appliances are requisite. Official reports show that again and again numerous samples have been collected and tested from all the Provinces, and the Chief Analyst, from the Department of Inland Revenue as a result is of opinion that little adulteration is done by the farmer. They have not the means or skill to do so without easy detection. On the other hand, a few big manufacturers mostly located in one of the large cities practice extensive adulteration. Dr. McGill says they work under the guidance of a skilled chemist and know just how far to go without being brought to justice. This is the sort of competition to which farmers are subjected. Bulletin No. 259 of the Inland Revenue Department, Ottawa, issued not long ago, shows that out of 128 samples of "maple syrup" collected for analysis, 37 were reported adulterated according to the departmental standard or "Lead Number," 1.60. In one district four samples are reported as low as .06 to .46, so that probably not five per cent. of genuine maple entered into the compound, and yet writes a correspondent, "No convictions." The labels are said to be designed in a way calculated to deceive the very elect. Is a promising natural farm industry to be crippled in this way under sanction of those at the head of public affairs? It is recommended that farmers concerned everywhere should by letters to their local Member of

Parliament, to the Hon. W. B. Nantel, Minister of Inland Revenue, and Hon. Martin Burrill, Minister of Agriculture, Ottawa, make emphatic their wishes in this important matter so that further time will not be lost in the adoption and enforcement of effective regulations.

(Note.—Since the foregoing article was completed for publication we were pleased to receive from the Department of Agriculture, Ottawa, an admirable bulletin on "The Maple Sugar Industry in Canada," written by J. B. Spencer, B. S. A., editor of the Publication Branch, in which the entire process is described and beautifully illustrated. This is most commendable, being in line with the educational work suggested and the volume should be widely distributed.)

Nature's Diary.

By A. B. Klugh, M. A.

In any locality one of the most fundamental things which anyone fond of outdoor life can investigate is the character of the rocks to be found there. The rock formation determines the topography of the country, whether mountainous,

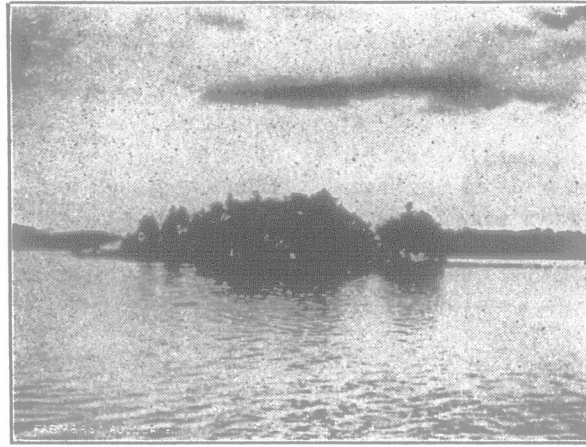


Fig. 1.—Island in Lake Opinaca.

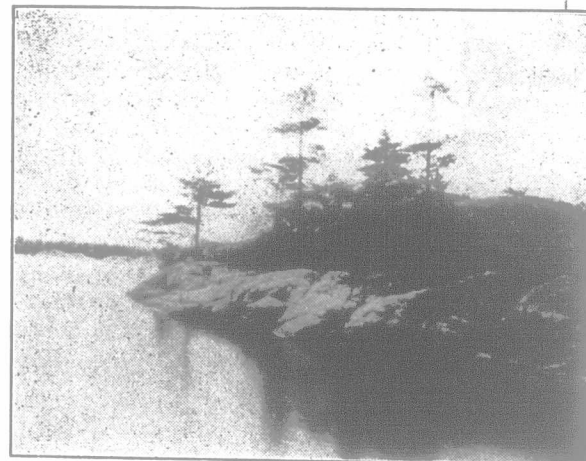


Fig. 2.—Shore of Muskoka Island.

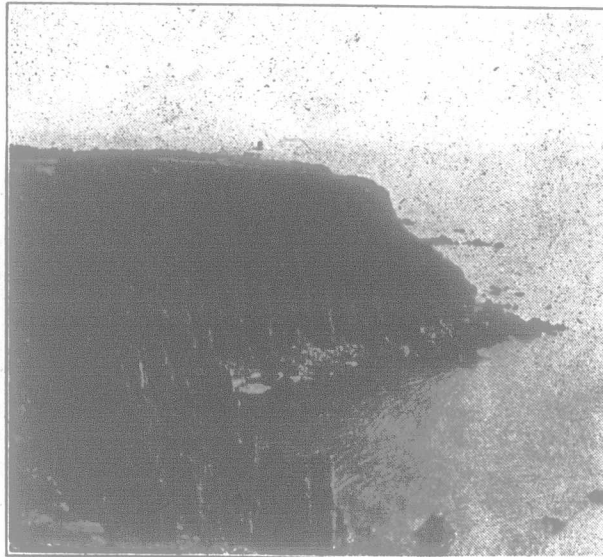


Fig. 3.—Southern Head Grand Manan, N. B.

rolling, or level, and it also determines to a large extent the kinds of plants and animals occurring in the region.

Before making any study of the rocks we have to adjust our viewpoint. The usual way of regarding the geological features of a country is as something unchangeable, because except in the event of earthquakes and landslides they have not apparently changed in our time or in our

father's time. This popular belief finds expression in such terms as "The everlasting hills" and is expressed in Bryant's line:
"The hills rock-ribbed and ancient as the sun."

To the geologist it is, however, very apparent that great changes have taken place. When attention was directed to these changes, it was found that they were unceasing, and were especially noticeable in lands which, like the countries round the Mediterranean, had been occupied for many centuries by civilized man. When once the fact was established that the solid globe was subject to change, men looked first to the more obvious and violent forces as the agents of this change. To the occasional destructive fury of the earthquake and volcano was attributed far greater importance than to the ceaseless but inconspicuous work of the rain and the river. Another reason why catastrophes were regarded as the only important factors of change, was the very general belief that the earth was only a few thousand years old. If all the modifications which the earth's surface had undergone were accomplished in this comparatively short time they must have been accomplished suddenly and violently, and in a great part, by agencies of which we have had no experience. Then all sorts of fantastic causes, such as collisions with comet's tails, were conjured up to account for the facts.

Suddenly, however, the conviction grew that the agencies which are still at work are the same which brought about the manifold changes of the past. These agencies are rain, both by the mechanical action such as can be seen in any sloping, plowed field, and its chemical action by reason of the compounds dissolved in it, ice and its expansion during its formation, flowing water, both surface and underground, with the stones which it carries along, changes in temperature which cause expansion and contraction and consequent strains in the rock, waves in their action on the coast, winds and its abrasion by means of material carried along, and glaciers. All these factors are still at work all over the Dominion, except the last, and in comparatively recent times, geologically speaking, glaciers have done an immense amount of work in this country. The rock domes so conspicuous in our Laurentian country (see Fig. 1) have been rounded off by the huge ice-sheet which at one time covered all Eastern Canada, and the same glacier carried down the boulders, often termed "hard-heads," which are now found in limestone areas and in localities where no rock at all is visible at the surface to-day.

Rocks are divided into three main classes, according to their origin. Those which were formed from the molten mass when the world solidified are termed Igneous, meaning formed by fire; those laid down under water are termed Sedimentary, meaning formed from sediment, and those which have been formed by heat and pressure from other rocks are called metamorphic, meaning changed.

Granite is an example of the first class, limestone of the second, and the Gneiss, which is seen so conspicuously in many parts of Eastern Canada, is a metamorphic rock, being granite which has been, as it were, pressed and smeared, so that the minerals composing it are arranged in bands. Fig. 1 shows an island of Gneiss in Lake Opinaca on the Rideau, and Fig. 2 is a photograph of the shore of an island composed of Gneiss at Go-Rome Bay, Muskoka. In both cases the Gneiss has been rounded and polished by glacial action.

Fig. 3 shows one of the grandest cliffs in Canada. It is at the southern end of Grand Manan in the Bay of Fundy, and is about three hundred feet in height. It is composed of an igneous rock known as Basalt and the characteristic columnar appearance can be plainly seen.

Insects Reduce Production.

Editor "The Farmer's Advocate":

Just a line to say how I appreciate your article on "Fight the Insect Foes" in your issue of November 6th. I find in going through the country and in talking to farmers that there is still a great lack of appreciation of the importance of combating those factors such as insect pests, etc., which reduce production. This is quite as important as taking all the necessary measures to increase production.

C. GORDON HEWITT,
Dominion Entomologist.

The people of Ontario now have an opportunity of presenting to a Provincial highways commission their ideas regarding road construction. This will, no doubt, influence the policy of the Government regarding roads and their maintenance. This is of more vital importance to farmers than is often credited to the movement, and they should present claims that will ensure a comprehensive move in the direction of permanently good roads.

THE HORSE.

Accustom the colt to regularity—feeding, watering and exercising at the same time each day.

More colts are injured by not getting enough exercise than from over-exercising and yet we would not favor allowing the colt to run in the barnyard all winter with only the straw stack as shelter and feed.

Did you ever work until quite warmed up and then have someone come along and talk until you are chilled through? Imagine then how the horse worked or driven until quite warm feels when left unblanketed, exposed to biting blasts or even in the meagre shelter of an open shed.

Early winter is the time to begin exercising precautions with the in-foal mare. Very often there is more ice bare than later on. The mare must have exercise, so it is necessary to keep her sharp shod, at least in front, if turned out. A hard fall almost invariably means an abortion.

Give the colts just in from grass a turnip or two each once a day. Carrots, if available, are much relished by horses, and mangels are readily eaten. A few roots aid digestion, help to relax the bowels and keep the system in tone, while the change from grass to dry feed is working on the animals' constitutions.

On most farms during the winter months there is not work for all the horses to do. Very often one team is used to do all that is required. This has its advantages, but very often it is advisable, especially where young horses compose one or more of the teams, to give them light work from time to time to keep them accustomed to what work means. Of course with such horses not regularly worked care must be taken not to overload or overexert them.

Our attention was recently drawn to a big Clydesdale stallion then working in a three-horse team beside two Clydesdale mares on a riding plow. He was working quietly and steadily, was in good flesh and his limbs were sound and clean. This horse has stood in the same district for seven years and still gets over 100 mares per season. This is a first-class indication of his breeding value, much of which is no doubt due to the fact that he gets regular and sufficient exercise when the breeding season is over, doing all kinds of work on the farm. His owner says that work has solved the exercising problem for him and that his horse is healthy, sound and sure. More stallions could be made earn their keep by regular work during the off season. This horse, according to his owner, pays for care and feed in work done. The stallion would be better in harness every day with a good working ration than standing idle in a stall restless and very often under-exercised and lacking in stamina sometimes to the point of impotency.

The Value of the Brood Mare.

Many good business men operate on the basis of selling anything they have when assured of making a reasonable profit. This is often a good policy to follow, and yet in horse breeding it is not always the wisest thing to do. The writer remembers a grey mare of grade, Clydesdale breeding which was purchased some years ago at a price a little below one hundred dollars. After this price of horses advanced and time and again the old mare might have been sold for more money than she cost. It might have appeared at some time as though it would have paid to have sold her. Yet she returned big profits for her owner. She did not breed every year and while horses remained low in price she was bred to and got with foal by a light horse. These colts were sold at \$167 for the two. After this the price of horses stiffened and the demand became stronger. The first heavy colt sold at two years old for \$120 and the second when mature at \$200. These were geldings. Her fifth colt was a filly and sold for \$290 when mature. Her sixth colt was also a filly and \$300 could have been taken for her, but she, due to a little mismanagement, contracted acute indigestion, which developed into inflammation, from which she died. These colts, as soon as old enough to work, were made to earn their keep. Total the figures up and it shows the profit of keeping the old mare, which was made to earn her feed and more besides, as well as raising the six colts. It paid to keep this mare. There are thousands of good-breeding mares in the country which it would pay their owners to keep. If any horses must be sold let the geldings go.

There is another point in this. The mare was a drafty individual. Bred to a roadster stallion she produced good colts of their type, but neither was anything but a general-purpose animal. They sold at good prices for the kind at that time, but they did not reach anywhere near the price obtained for the colts from the Clydesdale stallions sold afterwards. Of course horses advanced in price, but not nearly enough to account for the difference. It cost no more to raise the drafters than it did the general-purpose colts. At the present time the buyer of horses is even more partial to the big, draft colts.

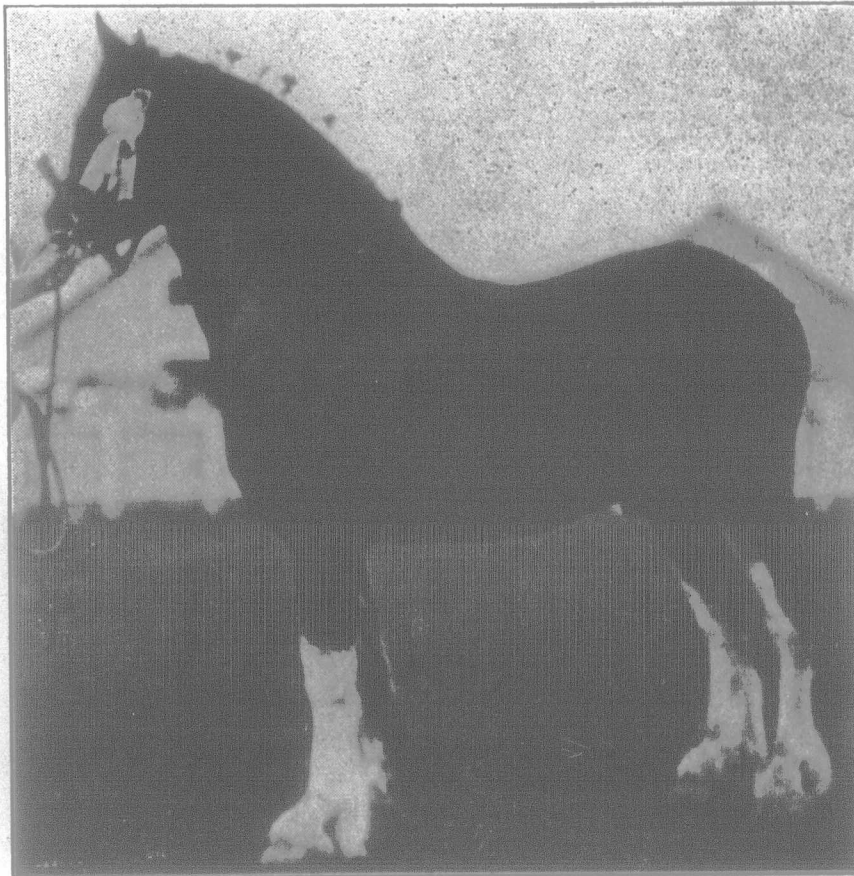
"The Farmer's Advocate" has always stood for retaining all the best breeding females of all classes of live stock on the farm. Let the other fellow have the culls if you have any and if horses must be sold because of there being too many for the work to be done, price only the geldings and nondescript fillies. Bank on it that the good mare is just as valuable in your own stable as in that of anyone else. She might just as well be used to establish a reputation for her present owner as a horse breeder as to make fame for new owners. Horses are being fed up for sale during the winter. Some must go. Decide before commencing heavy feeding to keep the brood mare. She can do your work, reproduce her kind and earn you money from two sources.

Better Finish.

There has always been a vast difference in the finish of our Canadian cattle and that of the corn-fed offerings on the United States markets. Now that the barrier is removed, conditions suggest that we feed more liberally and finish more completely in order that the prices on both sides of the line be nearer the same level. Not only that, but the feeder has a larger choice of markets when his stock is well finished. If Toronto or Buffalo, not essentially finished markets, were low in bids Chicago still remains, but in order to do business there the shipper over long distances must offer well-finished stuff, and finish on the Chicago market has a different meaning than it has in Toronto or Buffalo.

The liberal corn feeding through Iowa, Indiana, Wisconsin and neighboring States of the corn belt sets a standard hard to beat, but many places in Canada will produce 100 bushels of corn per acre, which is equal and above that of the exhausted corn-belt land. With this and clover and alfalfa Canadian feeders should put out an article good enough to offer at any yards. The fault or defect in finish cannot always be laid at the door of the steer feeder, but too often the raiser of the animal is blameable. Finished yearlings appear at the Chicago yards and sell for prices equal to that of choice, heavy stock, and oftentimes they top the market. Does this not suggest to Canadian stockmen the practice of growing beef, not making it?

Too often the young stock goes from the farm. The fall wheat is sold off at 80 to 82 cents and oats from 82 to 84 cents per bushel. There is emphatically no profit in growing oats to sell at that price, and wheat at 82 cents per bushel is no money maker, but it is a crop that economizes labor and will be grown for some time. Fifteen years ago hogs sold for \$3.50 per cwt., and wheat for \$1.15 per bushel. Now wheat is worth only two-thirds as much, but hogs, if sold in September, will bring from nine to ten dollars, or more than two and one-half times as much as in former years, and still many a farmer sells grain and no hogs. Wheat to feed is worth more per bushel than it ever sold for on the market in modern times, and wise is he who sells his wheat in the form of cattle, sheep and hogs. There are practices that must establish themselves throughout the country



Kirkcudbright.

Clydesdale stallion; second in a strong class of three-year-olds at Toronto. Owned by Goodfellow Bros., Bolton, Ont.

LIVE STOCK.

Feed the calves well.

Do not house the sheep too closely.

The box stall is the place for the calves.

Start the lambs on a few pulped roots and chop.

Watch carefully for lice on the stock. Begin the war on them early.

Don't expect the sheep, especially the lambs, to clean up long, coarse timothy hay. Give them clover.

Give stock plenty of water at this season. Dry feed, even though the weather may be cold, induces thirst.

The brood sow wintering out doors should not get too much water or sloppy feed. Give roots and dry chop.

Feed all stock carefully when first stabled. This is when much "stalling" from overfeeding on strong, dry feed occurs.

The brood sow will do well out in the barnyard if judiciously fed and allowed to burrow in the straw around the stack for shelter.

before the live-stock industry will be placed on a basis warranted by conditions, and that is the growth of such crops that will yield most feed per acre, which will be fed to the stock and sold in that way. Previously feeders have been "picking up" their stock in the autumn for winter feeding at a margin of two and one-half cents. This margin has gradually decreased until the feeder and finished animal sell approximately the same. In consequence of this newly-established condition feeders will have to produce their own young stock, and being experienced in care of animals, there will be a tendency to finish them at a younger age and place them on the market. This will lead to a larger percentage of breeders amongst the farmers, and when they cease to buy, as they must of necessity, for their breeding stock will replace the bullock in the stall, then other breeders must finish their own stock. Where corn can be grown it should constitute as large a proportion as the system of rotation and amount of farm labor will permit. Then should follow liberal and intelligent feeding and early maturing of stock. Young animals make more economical gains than older stock, and at the same time this system of early maturing will allow the farmer to keep more breeding cows.

The most practicable, economical and profitable method will be to finish young and finish well. Grow crops to feed, not to sell and buy rather than sell field products of the farm. This system of farming in Canada will place the live-stock industry on a higher plane of profitable and economical production.

Give the bull exercise in the paddock.

The World's Bacon.

Canada at one time was quite alive to the importance of the bacon industry, even to the extent of supplying the home trade and one-fifth of that consumed in Britain. Now very little is sent abroad, as home consumption is almost equal to the amount produced. Production is not keeping pace with consumption, and George J. Nicholls, of West Smithfield, England, pre-pressed at the National Dairy Show, held recently in London, England, that Canada would in a few years be importing bacon and hog products.

As far as Canada is concerned, it was a secondary theme with Mr. Nicholls, but he pictured the attitude of farmers of the British Isles as of the old "take-it-or-leave-it-type" as opposed to the alert and wakeful Dane who is annually taking from the English market 6,000,000 pounds sterling for bacon alone, which should flow into the coffers of the rural districts of his own land.

In his remarks he pointed out the industrious character and progressive superiority of the Dane. In 1888 Denmark's first bacon factory consumed 23,497 hogs, representing transactions amounting to £57,000. In fifteen years there were 27 factories, handling 977,232 hogs, valued at \$2,500,000, but so persistent are the Danish farmers that now bacon to the value of £6,000,000 annually flows from Denmark into the English market.

In striking contrast to the increase in the bacon industry in Denmark is the annual decrease of swine in the British Isles. In spite of the increased demand the Old Country shows no increase in hogs over the production of thirty years ago, and during the last year England and Wales alone dropped nearly 400,000 in her number of swine. Ireland at the beginning of this year had 300,000 less pigs than she had one year previous. Eight years ago Canada supplied the British market with twenty per cent. of her bacon. Now there is, at times, a shortage even for the home Canadian demand. Denmark, Holland and Sweden have not been backward in taking advantage of this situation. They have solicited suggestions for improvement of their type and quality of bacon and the little nation of Denmark with a population of two and one-half million people supports and patronizes forty-four agricultural schools, where the most advanced ideas are taught, while Canada with over seven millions of people, up to date, has only eight of such institutions. This does not reflect discredit upon the educational systems of Canada, but emphasizes Denmark's eagerness to advance her agricultural proficiency. These seats of learning influence the whole national system and to-day Denmark is imitated by all agricultural countries. What they do they do well, but not only that, they study international market conditions, and where a shortage is likely to prevail the Dane is there with the article. Denmark, it is claimed, makes from £60,000 to £80,000 per week out of her bacon trade with Britain. More regrettable too is the fact that she buys her best hogs and brood sows in the British Isles and then ships in her bacon over the heads of those foolish enough to sell off their breeding stock.

Lethargy and inactivity on the part of the English farmer seems accountable for these circumstances; but somewhat different conditions prevail here in Canada. Dairy farmers should be our largest raisers of swine, but labor is scarce, and if the milk be sold to the condenser or powder factory or creamery, they do not get the by-products returned in sufficient quantities to mature a large herd. Even under these conditions a clover pasture will summer a nice bunch of shoats, and some of the grain, commonly sold, would fit them for the market. For years, September has been the month of high prices, with an annual decline in October, due apparently to the farmer's desire to sell in the latter month in order to meet outstanding obligations.

Mr. Nicholls states: "I am convinced that the United States and Canada, before many years, will be large importers of bacon and other hog products." If this condition materializes, the law of supply and demand will ensure a steady and profitable price to the breeder and producer of the bacon hog. United States, generally speaking, does not demand the bacon hog, but the Eastern States and cities do take the thinner kinds, and a shortage of any kind of pork means advances for the bacon hog. With an increase in population and a rural development not corresponding with the urban growth the price of bacon must remain firm. The present outlook does not promise any great shipments into America from hog-producing countries, for they have their own markets at their own doors. It remains for Canadians to acquire some Danish alertness, ingenuity and persistence in the application of principles and incorporate them into their agricultural routine. If such a condition ever exists as a surplus of bacon in Canada and United States we still have the English market,

though not so securely as in former years. But under any conditions Canada to-day warrants a large increase in the bacon industry at home.

THE FARM.

A Normal Day's Work.

What is a normal day's work on the farm? No one can answer this question to the satisfaction of his neighbors and farmers in general, but H. H. Mowry, of the U. S. Bureau of Plant Industry, after a lengthy investigation and enquiry into the practices on several hundreds of farms, has compiled in Bulletin No. 8 of his Department a complete record of averages that are interesting indeed and instructive as well.

So many legends are still connected with daily or timed operations in the field that a

cent. used a 12-inch, and equal numbers used 16 and 18-inch plows. Two-thirds of this number plowed a furrow six inches deep, so we may safely use that depth as a basis for calculation. With this data the following table is submitted:

NET HOURS IN THE FIELD 9.65.

Two-Horse Team.	
Width—	Acres Per Day.
10 inches	1.60
12 inches	1.70
14 inches	1.80
Three-Horse Team.	
Width—	Acres Per Day.
12 inches	2.10
14 inches	2.30
Four-Horse Gang Plow.	
Width—	Acres Per Day.
24 inches	4.00
28 inches	4.25

The last section of this table is computed for four horses on the two-furrow gang plow, but three horses capable of walking at the same rate would execute the same amount of work.

HARROWING.

The different kinds of harrows, the many widths and the character of the land where the work is performed would involve unlimited space if recorded in systematized tables, but the following rule for the spike-tooth harrow will apply in most cases. About 20 per cent. less land can be covered per day on freshly-plowed than on well-packed fields. In general, each foot in width of the harrow should cover from 1½ to 1¾ acres daily and each horse should be able to draw 4½ feet in width and cover from 6 to 6½ acres of freshly-plowed land. The spring-tooth harrow must, of course, be figured on a different basis. Statistics show that the same advantage accrues to firm land as in the case of the spike-tooth harrow and on freshly-plowed land each foot in width should cover from 1.2 to 1.5 acres daily. From 2½ to 2¾ feet in width will not overload the average horse and they should cover from 3 to 3½ acres per day. The many reports show the disc harrow to be very heavy in draft, for over 52 per cent. of the farmers used a four-horse team. In general, 2 feet of harrow was allowed for each horse and must cover from 2½ to 3 acres daily on freshly-plowed land and from 3 to 3½ acres on firm land, when handled at the normal rate of speed. The draft varies greatly with the angle of the disc, but it is assumed that the team is not overloaded in any case.

SEEDING.

Four-horse teams are quite commonly seen in Canada during the seeding season and computations from many reports substantiate the wisdom of this practice. Not only does the extra horse increase proportionately the area covered, but the work of each horse is enlarged by this method of hitching up to a 12-foot drill, which seems to be the limit of practicable width from a mechanical standpoint. In general, 2½ to 2¾ feet in width may be allotted to each horse and may be expected to cover from 4 to 4½ acres per day. When adequate power is supplied the duty of each foot of drill is from 1½ to 1¾ acres daily. Provided the length of the plot of land lies between 40 and 160 rods no advantage accrues from large fields over small.

In the operation of planting corn the two-row planter is most popular and 42 inches is the fashionable width for the rows. The adjusted acreage with these standards is 12½ acres per day. Three systems of planting potatoes give three different estimates per acre. One man, dropping by hand, 1.8 acres; two-horse planter, automatic feeder, 5 acres, and two-horse planter, not automatic, managed by two men, 4.4 acres per day.

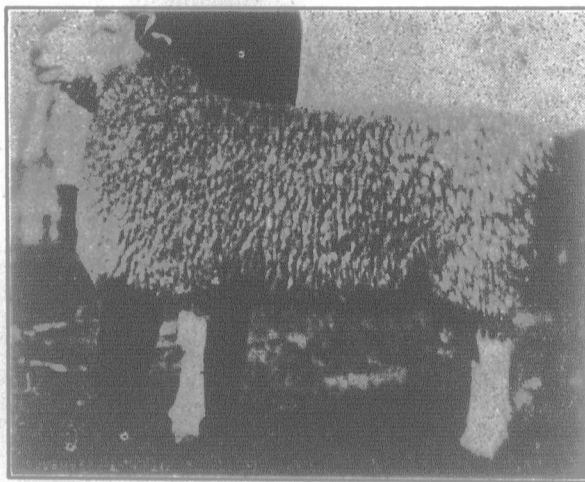
HARVESTING.

The draft of the binder is due chiefly to the mechanism propelling the knife and binding the grain and with the exception of the side draft an addition to the length of the cutting rod and table does not add materially to the load in a new machine. The daily duty per foot of cut is about 2 acres and for horse about 4 acres. With the grain header only, 1 foot of width should cut 2.35 acres and the duty per horse about 5½ acres. Relative to shocking, one man should shock about 7 1-3 acres where the yield is over 60 bushels per acre; 8.4 acres where the yield is between 40 and 60 bushels per acre, and 8.78 acres with a yield of 20 to 40 bushels per acre.

When corn is being cut with a binder, the acreage decreases as the crop increases, indicating an overload for the two-horse team. However, one horse may be expected to cut from 2 to 2½ acres daily.

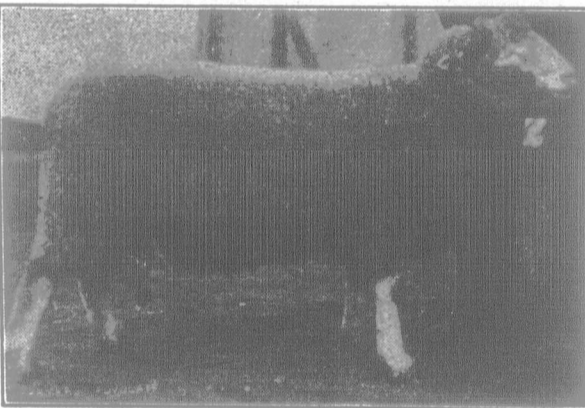
Farmers report that 42 to 55 bushels daily when husking corn from the shock is an average day's work. This range is due to the yield of corn and ease of husking. About 60 per cent. more can be husked from standing stalks than from the shocks.

In haymaking, the two-horse unit is almost



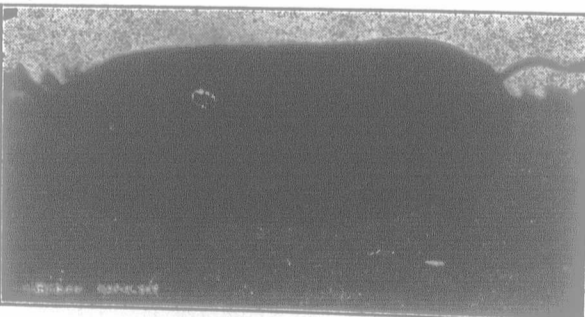
Leicester Ram.

Champion at Toronto, 1913. Owned by Jas. Snell & Son, Clinton, Ont.



Dorset Ram.

Champion at Toronto, 1913. Owned by J. A. Orchard, Shedden, Ont.



Berkshire Sow.

Champion at Toronto, 1913. Owned by H. A. Dolson, Norval, Ont.

simple enquiry will often bring forth tales of wonderful feats of endurance, skill and stamina altogether exaggerating the average of modern man and beast and not in the least enlightening to anyone in search of reliable information. The age of the sickle, scythe and snath is past and gone is the generation that can and will swing them from sun-up till sun-down, day in and day out. "Weaker and wiser," a phrase applied to this generation, is applicable, to a certain extent, in farm husbandry, and the normal day's work now depends more upon the efficiency of the implements, the weight and endurance of the team and the skill of the operator.

The distance to and from the field and conveniences in hitching and unhitching will cause the actual hours in the field to vary, so 9.65 hours is taken as an average or standard, meaning a shade over nine and one-half hours spent in actual labor in the field. In the operation of plowing out of 1,852 reporting to Mr. Mowry, 31 per cent. used a 14-inch implement, 21 per

universal in all operations, with the one exception of fraking, and even then many use the team. In mowing, with a 5-foot cutting bar a two-horse team should cut 8 acres. One horse, raking with an eight-foot rake, should cover 10.8 acres, and one man should cock 5½ acres with a yield of 1½ tons per acre.

Many other farm operations might be tabulated if space permitted, but the ones already mentioned cover, to a large extent, the bulk of farm labor where man and horse combine to do the work.

The Storm.

By Peter McArthur.

Wasn't it sudden? On Saturday I was trenching celery and on Monday morning the trenches were buried under a snowdrift over four feet deep. Of course we were caught before we were ready. I may be wrong, but I have an impression that if the fall were a year and a day long the winter would still come a day too soon. Though we were better prepared for winter than any year since coming to the country there was still work that we hoped to get done before the snowfall. Still I am deriving a lot of solid satisfaction from the fact that the corn is all husked and under cover. Not more than one-half of the corn in this district has been husked, and I am in a position to test the truth of a cynical remark by some surly old philosopher, Rochefoucauld, I think, that "in spite of ourselves we derive a certain amount of satisfaction from the misfortunes of even our best friends." Of course that is not true, and even if it were I would not admit it. I am very sorry that people were caught with their work unfinished, but I have a feeling of satisfaction that almost over-balances my sorrow in the fact that my own work is so well in hand. Candour compels me to admit that if the old cynic was not entirely right he was so close to it that it is not wise to have too much to say about the matter. I am not sure but if my corn-stalks were all in and nicely stacked I would have to admit that he was entirely right. But I am enough behind myself to have sympathy for other people and that prevents me from feeling any mean joy because they were unprepared.

When the storm began to rage in the afternoon I thought we would wait until it quieted a little before doing the chores, but by five o'clock it was worse than ever and getting worse. We could hardly beat our way to the stable against the wind, and by the time we were done the chores

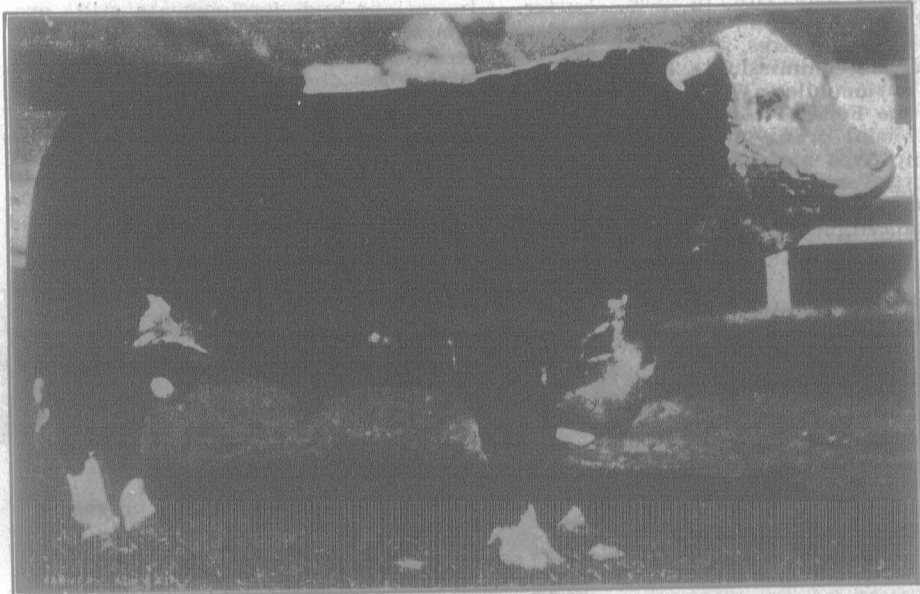
"Ze wind he blow a hurricane
Bymbye he blow some more."

A spruce tree near the house snapped like a pipe-stem at a point where it was over six inches in diameter, and the part that was broken off landed right at the door. The children are now sure that they will have a Christmas tree, for the top of the broken spruce is just the right size and shape. I hear a lot of other spruce trees have suffered the same fate. The wet snow clung to them and then the high wind was more than they could stand up against. Trees that have withstood the wind for over forty years went down before this gale, and the havoc in what remains of the forests must be great. Four big maples went down in our wood lot, and although the large trees in the orchard escaped, I hear that most of the other orchards suffered considerably. Although the storm was still raging on Monday morning, the country was full of activity, for most of the cattle that were out at pasture were caught in the gale. As there had been rain and sleet in the night as well as wet snow the poor brutes that were out in the fields were coated an inch thick with ice. One man a couple of miles away had to dig his sheep out of a snowdrift seven feet deep that had formed over a rail fence beside which they had taken shelter. When going to the stable I saw a bright red spot in a snowdrift and on investigating found that a Leghorn hen was all buried except her beak and comb. She had evidently been blown out of a tree where she had been roosting, but when freed from the packed and frozen snow she flew to the stable and did not seem any the worse of her experience.

The most important work that was left undone was the wrapping of the young apple trees to protect them from the mice. As I had decided to use tar paper because of the difficulty of getting veneer in this district, I purposely left the job as late as possible, still hoping to get it done before the winter had really set in. The storm caught me, however, and I had to fall back on the pioneer method of tramping the snow around the little trees. I have been assured by experienced orchardists that although this method is troublesome it is one of the most effective of all. There was too much to do on

Monday to undertake this task, and when I started on Tuesday morning I found that I was not a bit too soon. When the snow was tramped down I found that the mice had already commenced their work. About a dozen trees bore the marks of their teeth and one was freshly gnawed half way around and up for a distance of about five inches. An hour or two more would probably have settled that tree. Although the snow had been lying only about twenty-four hours, there were holes everywhere where the mice had come to the surface, and their tracks were quite plentiful. The whole district seems to be swarming with them. If this snow melts off, as all weather-wise people assure me it will, I am inclined to think that in addition to putting on the tar paper I shall trample the snow, for with mice so plentiful it will be no little task to save the orchard. Last winter the pestiferous little creatures girdled most of the white ash and catalpa seedlings in the wood lot, and even attacked the pines. As they are about ten times as plentiful this year, I hate to think of the damage they will probably do. Three thousand and five hundred seedlings are altogether too many to try to protect. I would be walking all winter if I tried to trample the snow around them.

It was really surprising that some of the apple and cherry trees were not broken by the



Bonnie Brae 31st.

Hereford bull; first and reserve champion at Brandon, and third at Toronto and London, 1913. Owned by James Page, Tyrconnell, Ont.

storm. As they had not shed their leaves the snow and ice clung to them so heavily that many of them were bent to the ground and frozen into the drifts. I freed them as carefully as possible, but I am afraid that many of them were so nearly uprooted that next spring it will be necessary to go over the whole orchard and straighten up the little trees. While working in the orchard, I had plenty of time to notice the damage done in the wood lot nearby. As three big maples went down in the spring, and many others have the dead tops that betoken maturity, I am afraid that it will not be many years until all that remains of the old, original forest will be gone. As other wood lots are suffering in the same way, it is highly probable that within twenty-five or thirty years there will be very little woods left in this district unless reforestation is taken up seriously. Cattle are still allowed to run in the woods everywhere and the young seedlings are destroyed as soon as they sprout. I know of only two wood lots that have been wisely fenced in so as to give the young trees a chance, and though I have heard of one or two others in the county who have taken advantage of the Government's offer to supply seedlings, my own experiment in reforestation is unique in this district. If the wood lots continue to be neglected as they are now, it will only be a few years until we will have the only picnic grounds in the county. When that time comes people need no longer move West. Ontario will be just as much a Prairie Province as Alberta and Saskatchewan.

Growing Summer Pasture.

Editor "The Farmer's Advocate":

I thought you might like to know how the summer pasture I tried turned out. Last spring I had nine acres of pasture which I found that the white grub or something else had eaten out. I plowed it up on the first of June and sowed oats, sorghum and Hungarian on the fifth day of June. On the seventh and eighth of July I turned fourteen head of cattle, twenty-four sheep and two horses in and they stayed on it for about five or six weeks. Then I removed them

for about five or six weeks and then put them back again for three or four weeks. I kept them on until the frost killed the sorghum and Hungarian. The quantities of seed used on the nine acres were twelve bushels of oats, ninety pounds of sorghum and one bushel of Hungarian. The total cost of seed was \$11.00. When I first turned the cattle on the field the other pastures were pretty well eaten down. My cows, after they were in the field of sorghum and oats for two or three days, gave double the quantity of milk and kept it up till I turned them out. I know the Agricultural College at Guelph recommends sowing one and one-half bushels of oats, thirty pounds of sorghum, with no Hungarian, but I prefer adding the Hungarian and using less sorghum. The reason is this: The sorghum and oats are fast growers and the Hungarian is slow. When I turned the cattle into the field the oats were about eighteen inches high, the sorghum about two feet, and the Hungarian only about two inches. The cattle ate the sorghum and oats off and left the Hungarian. After the oats were eaten off they did not grow again, but the sorghum did. The Hungarian, which the cattle had not touched, came on good and strong. When I turned the stock in the second time the sorghum had grown up about two feet high and the Hungarian was about one foot or a little more. The oats never grew after the cattle had eaten them off. I also found that

the cream from the milk was far more solid than before when the cattle were on the old pasture. I am not in dairying heavily, but keep a few Shorthorns and send the cream to the creamery, but if I were I certainly would have a lot of sorghum pasture, as it comes in just when other pasture has failed. My cattle and sheep never did as well before. I had some young stuff and they were extra fat this fall. I think I will sow some every year. This fall when I plowed the field it was just as mellow as a garden and equal to summer fallow. Next year I think I will sow this mixture: One and one-half bushels of oats, twenty pounds of sorghum and five to seven pounds of Hungarian to the acre.

JAS. H. WHEATON.

Middlesex Co., Ont.

The Highways Commission.

The organization of a highways commission and launching them on an investigation tour throughout Canada is a step towards permanent road improvement. Heretofore the great bulk of the public highways throughout this Province have been made and repaired by the people who front upon these thoroughfares. Each section has its pathmaster, and each township has its warden. There are almost as many ideas regarding road work as there are of these officers, and furthermore they only continue in office for one year, when they are replaced by a new set of officials and a new set of ideas. True, indeed, is the old saying, "God made the country, but man made the country roads," and it would be sacrilege in the extreme to credit any one other than a human being with the condition of some of our rural roadways.

Since Chairman C. A. Magrath, W. A. McLean and A. M. Rankin, M. P. P., undertook, last July, to ascertain the local needs and recommend to the Government a system that would be permanent, efficient and equitable, they have visited five States in the neighboring union embracing New York, Massachusetts, Connecticut, New Jersey and Michigan. Hearings have been held in various points in Ontario where wardens, councilors and public-spirited men may express their wants, and impart to the commission their experience in road construction.

Hamilton was the seat of the last investigation, held on Tuesday, November 11th. Counties lying east, west and south sent in their corps of men who know, and are responsible for, the condition of their thoroughfares. All were profuse in expressing their desire for better roads and wish for Government aid. Senator E. D. Smith, of Winona, voiced the sentiment of the delegates when he outlined the rural needs and suggested that automobiles be taxed according to their horse power, and this with a liberal Government grant be devoted to the maintenance of highways

and construction of trunk lines. Resolutions were presented the commission by the different countries and interests of the city of Hamilton, but the gist of the whole hearing was this, that automobiles should pay a reasonable tax according to their horse power, and this be dispensed for the maintenance of the roads. That long trunk lines would not serve the country best, but short stretches of highways should be improved that lead into marketing centers whereby the producer and consumer would be brought closer together, and that the Federal Government through the provinces should assist in the construction and maintenance of these improved lines of travel. Furthermore it was opined that the ordinary pathmasters are not competent to direct the construction and repairs of roads, and that wardens do not remain in office long enough to do efficient work. When they become acquainted with their county and outline a policy they are replaced by another who must acquaint himself with what his predecessor had just acquired. The automobile was acquitted on several charges, while the narrow steel tire was convicted of much damage to the road.

The good-roads scheme of the Provincial Government has been in vogue in some counties long enough to allow its advocates to voice their sentiments. Wentworth County now has 150 miles of macadam roads, and during the last year the county has expended \$60,000 for maintenance alone. Although, on their part, there is no desire to return to the old system, it is feared that the tax payers may tire of the burden incumbent upon them to retain, in good condition, these improved thoroughfares. In presenting their resolution to the commission asking for a reasonable tax on automobiles, Wentworth County said, "We believe the Federal Government should assist, by a substantial grant, the building and maintaining of improved highways," and again, "We approve of government aid in not only building but maintaining roads in every county which adopts advanced methods of road-building to the extent of two-thirds of such cost, counties to contribute one-third."

There are in Ontario approximately 50,000 miles of roads, and if a trunk system be adopted no more than 5,000 miles of roads could be considered in a comprehensive scheme, this would leave 45,000 miles of highways unembraced by this new system. So exacting is the traffic today that even a macadam road in many places is not able to withstand the wear and tear of modern travel and transportation. Cement and pavement must follow macadam as it has in our towns and cities, for in some sections, near large markets, the travel is so continuous that only the most durable construction will withstand the destructive action of trucks and vehicles. The question then arises, how may they be constructed and maintained. The Hamilton Board of Trade petitioned the commission to recommend to the government that branch lines be constructed leading in to marketing centers. They advised that they be provincial roads, and twenty-five per cent be levied upon properties fronting on this highway or benefiting thereby, that twenty-five per cent be met by cities, towns and villages served by such roads, and that the remaining fifty per cent be paid from the provincial treasury with the assistance of a federal grant.

Whatever value may accrue to a farm consequent to being situated on one of these improved roads, the farmer cannot meet taxes anywhere approaching twenty-five per cent. of the cost of construction. Let his farm increase \$2,000 in value; that will increase his taxes but not the earning value of the property. Good roads, however, increase the acreage of crops that one can market and alter them in nature, thus bettering conditions for which he should be willing to contribute. This increase in crop production means reduced prices to the consumer and living cheaper to the general public. The price of labor is regulated, no doubt, by the law of supply and demand, but what a man can live for determines largely what he can afford to work for. If the laborer can live cheaper he can work cheaper, and thus reduce the cost of production. This means a universal reduction in the price of manufactured goods, a universal reduction in the cost of living and warrants a universal tax for the construction and maintenance of good passable highways. Under the present condition of our roads people must either live in the city or in the country, and make up their minds to that effect. If roads were suitable for speedy travel many townspeople would abide in the country and enjoy the privileges of the city as well. In the country they would be producing foodstuffs which are soaring so high at the present time, also assisting in the reduction of price to the urban consuming population of living necessities.

Villages, towns, cities and country should all deposit their offerings towards this great movement for the betterment of conditions. It will alter not only rural communities but urban districts as well. It is a national question, and should be considered as such by the rank and file of Ontario's population.

We hope the government will not delay after this commission explains the country's needs, in

forming a policy that will be permanent in nature, comprehensive in extent and effective in its execution of construction and maintaining the thoroughfares of Ontario, and give us better roads.

THE DAIRY.

The Goal Unfixed.

Apparently there is no limit to the producing power of the dairy cow. She continues to increase her efficiency to keep pace with improvements in the world's inventions. Contemporary with the cradle with which strong men cut the grain and used the flails to thresh it, we found the "good" cow making two pounds of butter per day. Later the self-binder replaced the cradle, and the large traction machinery threshed the grain. The two-pound cow was then no longer worthy of mention. Only an animal producing four or five pounds per day was considered by the press. The satisfied class then said machinery is now perfected. Railroads and steamboats give excellent service. Telegraph and telephones give us connection with people all over the world without leaving our own home. And relative to dairy production the climax is reached when Colantha 4th's Johanna, in one week, through her wonderful developed mechanism, converted food into thirty-six and one-sixth pounds of butter. Inventions and developments still proceed, and now six pounds per day has been attained by K. P. Pontiac Lass, and many will say that is the best, but the end is not yet.

Many and many a dairy herd show excellent development and capacity for high production, but even they can be improved when we bear in mind the high record which stands as a light to lead us on. Farmers all over Canada have been urged, admonished and implored to test and weigh their milk, promote the good and discard

mer. The actual fact is the reverse of this—we produce a poorer quality of butter, as a rule, in winter than we do in summer. The skilful buttermaker is he who produces a uniformly good butter throughout the whole year, but this is difficult unless he be furnished with good raw material out of which to make a first-class finished article. In no line of manufacture that we know of does the quality of the finished article depend to so great an extent upon the quality of the raw material as is the case in butter-making.

THE FARM SIDE OF THE WINTER CREAMERY.

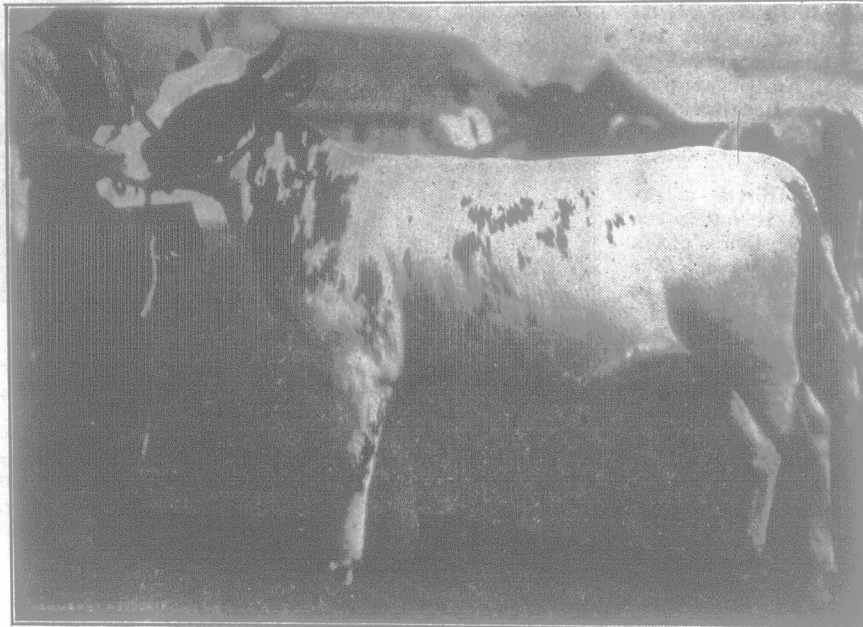
Let us turn our attention to the farm side of the question first. It is needless to say the cows should be clean, the stable kept clean, and that the milking should be done in a cleanly manner. The feed should be of a suitable nature to produce a large flow of milk, and of good flavor, because the character and flavor of the food affects the quality and flavor of the butter. Cows fed on straw, timothy hay, turnips and a little meal tend to produce a milk-fat that is white in color, brittle in texture and lacking in good flavor. While a small amount of such milk or cream mixed with a large quantity of good milk or cream may not materially affect the quality of the butter, we need to remember that in a co-operative creamery the quality of the butter represents, in a large measure, the average quality of the raw material—if this be good or high, then the butter will be good; if poor or medium, the butter will be similar.

Corn silage (30 to 40 lbs. per day daily), clover hay (10 lbs.), mangels (20 to 30 lbs.), oat or mixed oat and barley chop (4 lbs.), wheat bran (2 to 4 lbs.), oil cake, malt sprouts, cottonseed meal, or gluten meal (1 to 2 lbs.) make a ration that will produce good-flavored milk, cream and butter, and will also produce them economically.

Care should be taken that the air of the stable is free from strong smells, (manure, feed or anything else) at the time of milking, otherwise the stream of milk as it passes from the teat into the milk pail carries with the air into the pail taints, which will appear in cream and butter. This is a very important point to bear in mind, as it is the source of more bad flavors than by milk absorption, as is commonly supposed.

If the milk is taken to the creamery, and separated there, as is the common plan in cheese-factory districts, the milk should be cooled at once after milking in a cool, clean place, preferably in a tank of water, as milk cools more rapidly in water than in air. It should also be prevented from freezing, if possible, although we have not noticed any bad effects on the butter from either frozen milk or cream. A

clean blanket thrown over the can-lid-covered milk or cream will often prevent freezing. This should be delivered at the creamery not less than twice a week—three times weekly would be better. The practice of hauling milk once a week to the winter creamery is not to be recommended. Right at this point is one of the chief causes of poor winter creamery butter. The bacterial life that has lain dormant in the milk while cold springs into life and action when the milk is heated for separating and during the cream-ripening process. This is the source of many bad flavors, and the buttermaker finds it very difficult to overcome them. He may pasteurize, "starterize" and "cussize," but cannot get rid of these flavors which have obtained such a foothold in the milk and cream during its long stay on the farm. As farmers are not very busy in winter, as a rule, an extra trip per week to the creamery would pay in the better quality of butter made and improved quality of the skim milk. Skim milk separated from old milk is not nearly so good as that from fresh milk for feeding young stock—in fact, when old milk is heated, though it is apparently sweet, it coagulates at once or soon after heating—sometimes before it can be separated, causing clogging of the separator, and a great deal of extra work at the creamery, as the machine has to be stopped and cleaned before the separation of the milk can be completed. This makes delay in farmers receiving their skim milk and adds to the labor of the buttermaker.



Blue Belle of Menie.

First in the class for senior heifer calves at Toronto. Owned by Wm. Stewart, Menie, Ont.

the bad, and so improve their herds. After a while this advice sounds like, "Wolf," "Wolf," and the herdsman disregards it.

Such a scene as was presented at the last National Dairy Show at Chicago is an inspiration to any dairyman, and if more would visit our large exhibitions and study the type of animal they are most interested in, carry home the concentrated ideas and put them into execution and work towards the goal, which, as we approach, moves higher up, we would then raise the standard of our herds to a much higher level.

The Winter Creamery.

Editor "The Farmer's Advocate":

This is the time of the year when many cheese factories are changing to winter creameries, and when a number of summer creameries are beginning to adjust themselves to winter conditions. A few notes at this time may be suggestive and helpful. The most important factor to consider is the one of temperature. The farmer, the milk or cream hauler, and the buttermaker all need to take into consideration the fact that during the next four months we have to contend with low temperatures for the most part. While cold is more or less unpleasant, we can combat the adverse effects of cold in dairy work more readily and successfully than we can the adverse conditions produced by hot weather. Generally speaking, so far as weather conditions are concerned, the production of a fine quality of butter is more easily obtained in winter than in sum-

SEPARATION AND CREAMERY WORK.

Where the milk is separated on the farm and the cream delivered to the creamery, the separator and room where the separating takes place should be kept clean. The practice of washing the separator once a day, or less often, is one not to be recommended. The quality of the cream under such conditions is not good, and the cream outlet of the separator is likely to become partially clogged, which causes more of the fat or cream to go out the skim-milk outlets, thus causing a double loss. The separator parts are more easily washed if done as soon as possible after each time of using. The parts having milk on them should be placed in luke-warm water at once after separating, and if a little washing soda be added, the bowl, etc., will wash more easily. A very good plan is to put the bowl, discs, cream and skim-milk spouts, float, etc., in a milk pail, or other vessel, and allow them to stand in luke-warm water until they can be washed. This is usually the women's work, and they are often too busy to attend the washing of the separator parts early in the morning or at once after the night milking, especially when separating takes place before supper, as is the case on many farms in winter.

The cream should also be cooled at once, and before mixing with the cream of previous separations. This is the point where trouble arises for the buttermaker who is taking in cream only, or mixed lots of cream and milk. If the cream, while yet warm, be added to lots already cooled, the warm cream starts fermentations in the dormant cream, and although chilling again renders the bacterial life sluggish, their products, or what Lloyd calls their "residual material," is present, and causes the bad flavors with which the buttermaker has to contend at the creamery. He has the same trouble as with the old-milk cream. In principle the causes are identical. Delivery of cream ought to take place at least twice a week, although there is not the same danger in once-a-week delivery of cream as with once-a-week milk, because the conditions are less favorable for bacterial growth, especially in rich cream, as compared with milk.

At the creamery, the buttermaking room ought to be at a comfortable working-room temperature, say 60 degrees to 65 degrees F. This is best obtained by the use of steam heat from the boiler. Stoves are mussy and do not heat the whole room.

All winter cream should be pasteurized, in either a continuous or "flash" pasteurizer, or in one of the more modern "holder" type. The "flash" pasteurizers should heat the cream from 180 degrees to 185 degrees, while 140 degrees to 145 degrees will be high enough for the "holder" plan. No buttermaker can expect to make a uniformly high quality of butter from winter cream without pasteurizing. A good culture as "starter" is also an aid in getting improved flavor. The buttermaker who does not understand pasteurization and the making and use of a pure culture is behind the times. Cold-storage butter can easily compete with most of the fresh winter-made goods, because of lack of care on the farm and lack of skill in the creamery.

The temperatures for churning, washing and working butter need special care in winter, when the tendency is to have these too low, which produces an insipid flavor, and a short, mealy texture. H. H. D.

Our English Correspondence.

FEEDING BRITISH DAIRY CATTLE.

Dairy cattle are receiving all round attention in the old Land at the moment. All the experts, newspapers and otherwise, are doling out advice by the square yard. We are all going back to the land, according to our political leaders. Dukes are offering to the Liberal Government some of their forest land at ten dollars an acre, or, as one man puts it, at a sum less than prairie land is bought in Canada. The politicians are appealing to the cow as the Old Country's salvation; hence everyone is not only eating "cow," but reading it at every meal. We are being "spoon fed" by the Board of Agriculture as to how to correctly look after the winter wants of dairy stock. True, our Board issues some very valuable information as time passes, and I understand the demand for it is becoming a post-office burden.

Winter is coming on with us and the correct feeding of dairy cattle at such a time, is a subject not out of place. In drawing up the rations of a cow, say, weighing about 1,232 lbs., a Shorthorn of average size, and giving two gallons (20 lbs.) of milk per day, such a cow will require a ration per day of about 12 lb. starch-equivalent, including 2 lbs. of digestible albuminoids. For cows giving more (or less) than 2 gallons of milk, the allowance of concentrated foods should be increased (or reduced) at the rate of about 2 lbs. to 3 lbs. for each gallon of milk.

As a rule, the amount of any one oilcake or similar meal included in a ration should not exceed 4 lbs. or 5 lbs., or 3 lbs to 4 lbs. where butter is made.

For each 112 lbs. live weight above (or below) 1,232 lbs. the ration should be increased (or decreased) by about 2 lbs. of hay or 3 lbs. of straw, or such amount of other foods as will supply about .1 lb. of digestible albuminoids and .7 lbs. starch-equivalent.

In Britain the basis of nearly all rations for dairy cows is formed of roots (mangels, swedes, cabbages, etc.) and fodder (hay and straw). A big range may be allowed with respect to the quantity of roots given. Up to 70 lbs. a day may be an economical allowance if roots are plentiful, but it is doubtful if this should be exceeded. When wet grains can be had readily they may be used both in winter and summer in moderate quantities, say, up to about 28 lbs. per day, and may, to a considerable extent, take the place of roots.

The allowance of fodder per day may range between 14 lbs. and 25 lbs., and of this not more than half need be hay. Experiments show that when hay is fed in quantities of 20 lbs. or more the cost of the ration is out of all proportion to the return obtained in milk. When milk records are kept, the farmer should endeavor to group his cows and feed the concentrated foods according to milk yield. A milk record is valuable not only as a guide in breeding, and as a means of detecting the poor milker, but it is also the first step in a rational system of feeding. A saving of two cents per gallon in the cost of feeding will amount to 300 dollars in the winter, six months, with a herd of fifty cows averaging two gallons per head per day, a very handsome return on the small extra expenditure involved in labor and outlay.

The diet should never become monotonous; occasional changes of food during a long winter are advantageous, but these changes should be effected gradually. Swedes, turnips, cabbage, rape, kohlrabi, mangels, carrots and parsnip, all afford suitable green or succulent winter food for cows. For practical purposes these foods are much alike in nutritive qualities. Cabbages, carrots, and mangels are probably the best where first-rate butter is desired, care being taken, in the case of cabbage, to remove the dead and bruised leaves before feeding. Potatoes, either raw or steamed, are a suitable food for cows; they are much richer in carbohydrates than the other foods named. Raw potatoes should not be given near calving time. A mixture of two or more concentrated foods is usually more serviceable and more economical than one foodstuff alone. In selecting the concentrated foods, due regard must be had to their possible influence upon the flavor of the milk, or more particularly the flavor, appearance and texture of the butter.

The British Board of Agriculture lay down that cow-houses should be kept at a temperature of about 56 degrees to 58 degrees F. The ventilation should be ample, but not such as to give rise to cold drafts. It is better for the general health of the cows that the house should be cool and well ventilated, rather than warm at the expense of ventilation. The milk yield will not suffer unless the cows experience actual discomfort from exposure to chilly drafts.

SOME IDEAS ON FATTENING.

We are also entering upon those days when cattle fattening for our Christmas shows is being taken in hand seriously. The fattening of full-grown animals is mainly a process of converting food into body-fat, very little albuminoid matter being contained in the fattening increase. The additional food required in excess of the maintenance ration (i. e., the ration required to keep the animals in "store" condition) may, therefore, consist largely of digestible oil, carbohydrates, and fibre, though a certain minimum weight of digestible albuminoids is necessary.

Animals that are in poor, lean condition at the commencement of fattening should receive a more liberal supply of albuminoids for a few weeks than those which start in fair condition, in order to ensure that the fleshy tissues shall be fully developed and made capable of storing up large quantities of fat. In order to obtain the best results in fattening, it is necessary that the activities of the animal shall be confined, as far as possible, to the consumption of food. Facilities for exercise should, therefore, be restricted, and such provision made for the comfort of the animal as will allow of its resting contentedly almost continuously. Good housing, an abundant supply of litter, freedom from disturbance, and strict adherence to a time-table, so that feeding, removal of manure, etc., are carried out at the same time, and in the same order day after day, contribute very largely to success in fattening cattle.

The growth of young animals is essentially a rapid production of muscle and bone, and the prime consideration in making up the food ration must be to ensure a sufficiently liberal supply of digestible albuminoids, and of the bone-forming mineral ingredients (lime and phosphates). Further, any food given during the early months

of the young animal's life must be, like milk, easily digested. The quantity of food required by the young animal increases, of course, with growth, but not at the same time. The amount of growth produced by a given quantity of food steadily diminishes as growth progresses.

The rations of fattening cattle are usually composed mainly of roots, oat straw, hay, and an allowance of cake or meals which is periodically increased as fattening progresses. On suitable rations, the live weight should increase at an average rate of about two lbs. per day, this rate being, indeed, often exceeded by good animals. Assuming that the ration includes not less than about 14 lbs. of coarse fodder, the rate of increase mentioned will require for a bullock weighing 1,000 lbs., the daily supply of about 28 lbs. dry matter with a starch-equivalent of 13 lbs., including 1.6 lbs. of digestible true albuminoids (or 1.9 lbs. of digestible crude albuminoids). The amount of digestible oil included in the ration should be about three-quarters lb., and the digestible carbohydrates will then be about 16 pounds.

For these interesting figures one has to thank our Board of Agriculture for their instructive statement recently made upon the subject of fattening.

London, England.

G. T. BURROWS.

Cream Testing.

Editor "The Farmer's Advocate":

In your issue of Oct. 30th there appeared a letter on "What Should the Cream Test," which should be digested and understood by all patrons of creameries. Many farmers send their cream and try to compare results with the churn, and yet do not know how to calculate the butter-fat after being given the number of pounds of cream and the test, not to speak of such things as the over-run, moisture test, etc.

Now, I speak from the standpoint of one who has bought cream and tested all summer, and have made several comparisons with patrons who were churning to determine their over-run and to see if our test compared favorably with their test.

Let us take one concrete example. One patron, whose ability as a buttermaker no one would question, in August, churned, according to my weight and test, 24 pounds cream, testing 80 per cent. I figured that she should have 8.6 pounds butter, giving her an over-run of 20 per cent., as follows: $24 \times 80 = 7.2$; 20 per cent. of $7.2 = 1.4$; $7.2 + 1.4 = 8.6$ butter. I found, after deducting weight of crock, that she had 9 pounds 10 ounces, or 9.6 pounds butter. What was her over-run? Let us see. She had 7.2 pounds butter-fat. $9.6 - 7.2 = 2.4$ pounds butter more than butter-fat. Then if on 7.2 it was 2.4, on 100 pounds it would be $100 \times 2.4 \div 7.2 = 33.3$ per cent., or her over-run.

Another patron churned 10 pounds butter, put it in a crock, traded it at the local grocery and departed, rejoicing in the fact that she had made more by making butter than by sending her cream. After she had left, the grocer packed the butter in a tub, and showed me the water in the crock and asked what he should do. I asked the weight of the water and he found there was 22 ounces. This was in July, when without proper conditions, it is hard to make firm dairy butter, but this lady was paid 22c. a pound for water, and who suffered? It is clear if it had been sent in her cream to the factory it would have tested nothing and brought no returns.

Another point, there are various reasons why cream will vary in percentage of butter-fat. I have before me a chapter taken from "Canadian Dairying" on this subject, which, together with the letter, deserves attention from the farmer. It gives several reasons why cream will vary in percentage of butter-fat. My point is this, cream will vary according to conditions as much as six or eight points in one week. Frequently farmers churn the fore part of the week and send the cream the latter part, and then compare. I had one case where I had more butter-fat than the farmer had butter.

With this in view, let us see "what the cream would test" in the aforementioned letter, taking an over-run of 33 1-3 per cent. $80 \div 100 \times 31 = 9.3$; $33 \frac{1}{3}$ per cent. of $9.3 = 3.1$; $9.3 + 3.1 = 12.4$ pounds of butter, instead of 11.1, as it would be with a 20 per cent. over-run. Of course, not knowing facts, above may not be correct, but from facts gathered this summer, the over-run would be nearer 33 per cent. than 20 per cent.

By all means let us have "a square deal" on the testing question; but besides the legislation on this point, let us also have legislation on the limiting of dairy butter to 16 per cent. as well as that of creameries. This may not be practical, but as an alternative let the farmer who is suspicious secure a four-bottle Babcock tester, a copy of Bulletin No. 205, or Dairy School Bulletin; let him visit the local District Representative if he is too suspicious of the creamery and there get a demonstration on testing, and

then he will be in a position to know whether or not he is getting "a square deal" and will be able to take a positive stand when unsatisfactory returns are received. In addition he can locate and dispose of the "boarders" in his herd and can also determine the loss of butter-fat in his skim milk, through defective separators, and, by the way, a loss which is often attributed to creameries, through not knowing just where the leak is, but these are subjects which space or time will not permit us to discuss here. I trust I have not trespassed too much on your valuable space or good nature. J. W. LAWRENCE.
Lambton Co., Ont.

HORTICULTURE.

Fall plowing will more effectively destroy the white grub than spring plowing, and render the land safer for strawberries.

The potato tops carry germs of blight and disease through the winter. By raking and burning, a grower will save valuable time that might be expended next season fighting these troubles.

A small pile of rubbish in the garden will attract the plum curculio and other injurious insects to make their winter quarters there. If this is burned after they are domiciled for the winter many will be destroyed.

Some mistakes in grafting may be forestalled by marking the trees to be top-worked, and those from which the desirable scions are to be obtained in the spring. While the apples are beneath the trees they may be told with more assurance than when the leaves are off and the ground covered with snow.

Mulching Strawberries.

The question arises every fall as to the wisdom of covering the strawberry patch. This will be decided largely by the climate, locality and character of the plants. If the winter will likely be severe without an assurance of a good coat of snow, if late spring frosts are common and likely to injure the bloom, or if you wish to cater to a late market when other berries are done, then you will find a covering profitable and effective. It must be remembered though that unless the covering be very clean, weed seeds will be introduced that will cause considerable work; that is the main objection to covering berries. Many eliminate the necessity by manuring the land well prior to planting, thereby causing a healthy and profuse growth of plants that act as their own protection.

If mulching is practiced good clean straw is desirable, and it should be applied after the ground freezes enough to bear the wagon, and just before the winter's snow covers the ground. Between two and three inches will be heavy enough to remain firm upon the ground. In many respects manure is preferable to straw, but, as a general thing, conveys more weed seeds, and in case of a heavy snowfall, lies a little closer. In the spring the mulch is either raked off and removed from the patch or left between the rows to conserve moisture. The latter system insures cleaner berries but many prefer to cultivate, especially when the plantation is to remain for another year's crop. In a few instances the covering is even loosened up and the plants allowed to shoot through, but under such treatment the mulch must be very light.

Red Raspberries.

Raspberries are quick to return yields after being planted out, and are remunerative, indeed, if labor can be procured at picking time. The third year should show a profitable yield, and subsequent seasons return annual surpluses after expenses are deducted. 100 crates per acre is not exceptional. Many harvest 150 crates per acre in a favorable season, and yet again drop much below the hundred mark in years of pestilence or drouth. During the last two years raspberries have been selling locally for twelve to seventeen cents per box, and even at the minimum figure are a profitable crop.

Raspberries thrive on a great diversity of soils, and the variety has much to do with its adaptability. Sand, sandy loam and loam all are suitable locations for berries, but the value of the plantation is enhanced if the subsoil is such that the water-table will be retained near the roots during a dry season. The amount of moisture determines the crop after the fruit has set, and it is important that we take that into consideration.

In all fruit-growing sections in Canada there

is at least one of the following varieties: Marlboro, Cuthbert and Herbert. They are outstanding varieties of red raspberries. The Marlboro, generally speaking, is a week or ten days earlier than the Cuthbert, and has the advantage of the early market. Its quality is good, but can hardly compare with the Cuthbert in ability to bear. The Cuthbert has, for a few years past, been the standard by which all red raspberries were judged. It is moderately hardy, of first-class quality, a good shipper and a good yielder. It matures in mid season, and is drawn on heavily by the jam factories as well as private homes. The Herbert is, in many districts, displacing the Cuthbert as a cropper. It is not so upright in its tendency of growth, nor is the fruit considered as firm as that of the Marlboro or Cuthbert; two undesirable characters, but where the market is close at hand the Herbert may prove a profitable berry to set. It is not the purpose of this article to discuss the setting and care of raspberries; that will be treated later, but to define the varieties that are leaders in plantations at the present time. Then the prospective buyer may make his choice of the many kinds offered.

Annapolis Valley Apple Shipments.

Editor "The Farmer's Advocate":

Despite the big margin between the crop of last year and the smaller one of this year in the Annapolis Valley, shipments have not fallen off accordingly. The difference between the figures of October, 1912, and October, 1913, computed in barrels and including only October shipments, is only 21,382 barrels, and the decrease between the shipments of last year from the first of the season and those this year since the season began, a corresponding period, is only 41,335 barrels. The following statement shows the shipments for the past two seasons to date: Apple shipments from Halifax up to Nov. 1st, 1912, 235,110 barrels; apple shipments from Halifax up to Nov. 1st, 1913, 193,975, a decrease of 41,335 barrels. Apple shipments from Halifax during Oct., 1912, were 160,887 barrels, while from Halifax, Oct., 1913, 140,495 barrels were shipped, a decrease of 21,382 barrels.

This year, so far, has been marked by the successful efforts made to extend the markets for Nova Scotia fruit. Howard Bligh & Son and the United Fruit Company, the principal shippers of this fruit, have both made large shipments to foreign markets, such as Germany and South Africa. Both markets have taken the fruit packed in boxes and barrels.

The method of packing apples in boxes has recently attracted considerable attention in Halifax, and buyers are favorably impressed with this kind of package.

No. 1 apples sold as high as \$6.00 a barrel in Johannesburg, but from that must be deducted a freight rate nearly equal to the price of No. 1's on our local market. Fruit shipped to South American, West Indian and South African markets must be of a showy variety. The King, packed in boxes, each apple wrapped in tissue paper, is the favorite and best seller on that market. This season may see experiments carried on in these markets quite extensively, where it is thought Nova Scotia apples can easily compete with the American.

THE MARKET GLUTTED.

With the glut of the foreign market came the overstocking of the Halifax market. In sympathy with the prices ruling abroad, those of Halifax advanced, with the same result of the heavy shipments being sent forward to the Halifax houses. The consequence is that there are even now in the yards at Halifax several shipments which cannot be disposed of except at too low a price for a profitable investment to the shipper.

Prices ruling in Halifax at present are ranging as follows: Kings, No. 1's and 2's mixed, \$4.00; Kings, No. 3's, \$2.00; Blenheims, No. 1's and 2's, \$3.00; odd varieties cleaning up end of season, \$1.50; Bishop Pippins, of which there are few on the market, No. 1's and 2's mixed, \$3.00.

The most favorable reports are regarding Northern Spies, which it is said still hold strong, good quality, and demand a good price, but not a large crop. However, the future is very bright for Nova Scotia shippers. Early summer apples are now off the market, and the movement has already set in for the winter varieties. But up to a few days ago the weather was affecting even them by too rapidly advancing their ripening.

G. E. O'BRIEN.
Halifax Co., N. S.

FARM BULLETIN.

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Renew your own subscription at half-price. We will accept \$2.25 any time from now to December 31 to pay your own renewal and one new subscription both for one full year. This offer is made on condition that the new subscriber pays you \$1.50 for his year's subscription. It is a Christmas box to our present subscribers. We want YOU to get the benefit. Take advantage of this exceptional offer at once; tell your neighbor how valuable the Farmer's Advocate is to you EVERY WEEK in the year; you'll have no difficulty in obtaining his subscription. Tell him it costs about \$3.00 a year to produce the 52 copies he will receive for \$1.50; tell him the Farmer's Advocate gives its readers more sound practical reading matter than any other three Agricultural papers combined.

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South Peel Notes.

Editor "The Farmer's Advocate":

At the time of writing everybody is rushing trying to finish what plowing is yet left undone. The riding plow seems to be growing very popular in this district and with them plowmen are able to do good work. Sizing up the crops in this county this year, we might say it was a bountiful harvest and the stockmen are facing the winter with no fear of shortage. The silo is growing more popular every day as there are more going up every year and the proof of their popularity is their excellence. The county and the township fairs were favored with good weather and large crowds were permitted to see much live stock. One notable feature of the fairs this fall was the small exhibit of beef cattle in comparison with the large exhibit of the different dairy breeds. The writer can well remember only a few years ago when two of the noted herds, not only through this county but through the Province, faced the judges at these fairs; the dairy breeds at that time were represented by a few animals. The Ayrshire, Jersey and Holstein are the three most popular breeds here, each breeder boosting his own breed and each breed proving in the hands of their admirers that they are capable of lifting the mortgages, paying the rents and bringing comforts to the home.

One of the new features of the fairs this fall were the stock-judging competitions introduced in our county by the District Representative of the Ontario Department of Agriculture, W. H. J. Tisdale, a young man possessed of great energy and noble visions, and we hope to see in the near future large results of his work in this county. Live stock is selling high at the sales; the writer was at one last week where an ordinary two-year-old heifer sold for \$83.00, while an ordinary sow and ten pigs brought over \$90.00. Some time ago the writer advised those people who had sufficient skim milk to raise all the heifer calves possible. Even in this small district breeders of good dairy cattle would find a ready market right here for at least two hundred head. Although beef prices are going high, a dairy heifer will make more profit at two and one-half years of age than a bullock. JAS. B. ROSS.
Peel, Co., Ont.

Ontario's Crops and Conditions.

The following statement regarding crop conditions, based on the reports of 2,000 correspondents, sent in during the first week in November, has been issued by the Ontario Department of Agriculture:

Fall wheat has been a most satisfactory crop, both as to yield and quality, the sample as a rule being fully up to weight. While the straw was rather short, it was clean and bright. The weather at harvesting was most favorable.

Reports indicate an enlarged acreage of wheat sown this fall, every fall wheat district promising to share in the increase. Notwithstanding the rather dry conditions at the time of sowing, the soil as a rule proved to be in good tilth for a seedbed, and the young fields at present are described as looking strong and promising. Only a few complaints have been made of injury from Hessian fly or other insects. Seeding ranged from the last week of August into the third week of September, the bulk of the crop being got in

during the first twelve days of the latter month Dawson's Golden Chaff is still the favorite variety.

Spring wheat has now a comparatively small acreage in this Province. Where grown it was a good average crop, both as to yield and quality.

An average yield of plump, well-colored barley on short, clean straw, harvested under most favorable conditions, describes the barley crop, taking the province as a whole.

Oats are well up to weight and general quality of grain—the best in this regard for years—and are about an average in yield per acre; but owing to the drouth the straw is short, though clean and first-class for fodder. While some of the cut was caught by rain, the bulk of the crop was harvested satisfactorily.

Comparatively little rye is now raised in this province, but where grown the crop has done well this season.

Although not so much grown as formerly, owing to the ravages of the weevil, peas have done well this year, especially where raised for the canning factories. As but little mention has been made of the presence of the weevil this season, the absence of the pest in so many localities may induce farmers to give a larger acreage to this one popular field crop.

Buckwheat suffered from frost to a greater degree than any other field crop, and the drouth of summer also told against it. On the whole it is not at all up to the average of recent years in either yield or quality, although a few excellent fields have been reported.

The bean crop was slightly caught by frost in some localities, but taken all together it was well harvested, and has turned out to be fair both as to yield and sample. Some low-lying fields suffered from rain in August.

The corn crop was checked in early growth by cold weather followed by drouth, but later on it picked up wonderfully and gave promise of a fair yield, although somewhat shorter in stand than usual. Some of the corn fields got touched by frost about the middle of September, and as a consequence there will be little soft grain; but the bulk of the crop will be of first-class quality both for husking and the silo, being well matured, and all of it will make good feed for live stock.

The growing of mixed grains does not appear to be increasing in popularity. Barley and early oats are most commonly used together, although some suggest the addition of wheat or peas to the mixture. Oats and wheat, and peas, oats and wheat also have a few advocates, while there are scattering preferences for other combinations.

Potatoes are somewhat smaller in size and yield than usual, owing to the dry season, but as a rule the quality is excellent, and so far there is said to be an almost complete absence of rot. All were under cover when correspondents wrote.

Returns concerning turnips vary, some very poor and some very good fields being reported, but as a whole the crop is a disappointing one. In a number of counties the plants were severely attacked by lice, and the drouth also told on the crop, and as a result many of the turnips will be undersized. A portion of the crop remained to be pulled on the first of November.

Like turnips, mangels are reported to be rather light in yield, and smaller in size than usual, but as a rule they are reported to be of good quality. The crop was practically all housed when correspondents reported.

Very few carrots are now grown as a field crop. The crop is being reported as being from poor to good.

Like the other roots, sugar beets were rather light in yield, but of good quality.

Cold weather and drouth just after planting were very trying to the tobacco crop, but later the weather was more favorable, and the fall proved to be ideal for harvesting the leaf. Most of the crop escaped frost, and it is said to be of good quality on the whole although only moderate in yield.

The second growth of clover did better relatively for hay than for seed, for although the heads at one time gave much promise, the late summer drouth seemed to prevent satisfactory filling, and there was consequently a light yield of seed. The drouth had also compelled many farmers to pasture some of the clover fields. Hardly any injury from midge is reported. Alsike and alfalfa did better than clover for seed.

Fruit trees, vines and bushes are likely to enter the winter with well-ripened wood. Some orchards, however, where spraying has been neglected, are suffering from San Jose scale and other insect and fungus pests. The tent caterpillar was more prevalent than usual, especially in the eastern half of the province. Winter apples will not be plentiful; pears have done better relatively. Plums, cherries, and peaches gave generous yields, and small fruits gave a fair yield despite the spring frosts and summer drouth, although grapes were not up to the standard in their bearing.

While some correspondents speak favorably of the condition of fall pastures, the bulk of the reports describe them as being scant. Farmers, however, have found so keen competition for beef

between local butchers and buyers for the British and United States' markets, that not only fat cattle and stockers, but even old dry cows and very young cattle have been disposed of at prices very satisfactory to the sellers. Some, indeed, fear that too many young animals have been let go, and as a consequence, more calves are being kept than formerly. The demand for sheep has also been strong, and they are now scarcer than ever. Many of our best farmers now finish off sheep and other live stock on rape. Hogs have been selling steadily all the year, but they also are scarce and dear. All classes of stock show a clean bill of health, though many have been a little on the lean side. Taking it all together, the live-stock business in Ontario is booming.

The yield of milk fell off in August owing to the drouth, but picked up later with favorable rains, although in many cases the pastures had to be supplemented by concentrated feeds. Butter is crowding cheese in some localities long dominated by the latter industry, while both are being somewhat limited by the growing demand of the cities and towns for milk and cream. In some of the Lake Erie and West Midland counties a considerable quantity of milk is also being diverted to factories which are putting it out in condensed form, either fluid or powder. The breeds of cows most in favor at present for milking are Holsteins, Shorthorns and their grades, Ayrshires, Jerseys.

Threshing is completed in most localities, owing to the use of modern machinery. The fall was most favorable to the work, and the straw has been housed in excellent condition. Some wheat and other grains have been marketed, and more will be disposed of when sleighing comes. At present prices, however, most of the grain will be ground or chopped and fed to live stock on the farm; for, as a Leeds County correspondent tersely puts it: "It now goes to market as milk, butter, cheese or meat."

While some farmers have completed their fall plowing, others are only beginning. The dry weather up to the middle of October made plowing almost impossible on clay soils, but later rains put the land in good condition. Should open weather continue, more land than ever will be turned under, especially in Eastern Ontario.

Skilled farm labor is difficult to procure, and even indifferent help has been scarce in most localities. Larger field implements and more horses are now being used, and farmers exchange work with each other to help out the situation. Several of those reporting state that more married men with families should be procured from the agricultural districts of Great Britain, as the boys and girls could help out during the rush seasons. More pasturing is also urged. Correspondents state wages are now fully as high as farmers can afford to pay. Agricultural domestics are nearly impossible to find.

Prince Edward Island Notes.

Editor "The Farmer's Advocate":

The rainy weather has passed, at time of writing November 10th, and we are again having delightful clear days with autumn sunshine. The temperature, too, is very mild—more like the latter part of September than the second week of November. There is still quite a lot of potatoes to be harvested; over 75 per cent. of the roots are still out, and in a few of the lower-lying sections all the grain is not yet saved. The autumn work, too, is backward on account of the wet weather, but a continuation of what we are now having will see a lot more red land, and the chores pretty well rounded up for the autumn. There have not been the usual market activities this autumn. So much grain has been injured by the wet weather that there is not likely to be the same amount for market, and besides, the weather conditions were not favorable to marketing. During the past week live stock matters have been engaging the attention of the farmers. W. J. Reid and Robert Robertson, of the Provincial Department of Agriculture, have been holding meetings in different parts of this Province, and have been laying before the breeders the importance of the live-stock associations. Dr. McMillan has been applying the tuberculin test and finds the cattle in general fairly free from tuberculosis. Several live-stock associations have been formed in accordance with the rules and regulations laid down by the Dominion Government for the distribution of pure-bred male animals. Quite a number of rams and boars have been distributed among the farmers. Next week the Long Course in agriculture will open. Arrangements are now completed, and it is expected that about a dozen students will be in attendance. The Fruit Grower's Association meets early in December, and a meeting of the Farmers' Association, which is composed of delegates from all the institutes and other agricultural societies in the Province will be held the same week.

F. R.

Clydesdale Sales in Scotland.

Clydesdale men have had a great time selling foals. The October sales are always noteworthy, but this year they surpassed anything ever known in Scotland. Lanark was the scene of the best trade. For three days sales of Clydesdales of all ages and both sexes went merrily forward, and horses to the value of £37,872 changed hands. A colt foal by Baron of Buchlyvie made 520 guineas, and a filly foal by Apukwa 300 guineas. Both were bred by the late Robert Chapman, Glenboig, near Glasgow, and were sold by his heirs. Altogether they sold twenty Clydesdales at an average of £140. Eight foals in this lot made £163 apiece of an average. There is extraordinary activity in the trade and in spite of a big slump in the export trade prices for Clydesdales are ruling high. Horses—generally work horses—have seldom been as high as they are at present. A good horse is worth anywhere from £60 to \$100, and even higher figures can be obtained for the best class of work horses. Horses of the stamp wanted are getting scarce, and there is a decided revulsion in favor of the bigger and thicker type of horse. The export trade is by no means extinct. Although numbers will not be much more than one-half what they were in 1911, they still represent a very big item in the budget of the average farmer. The price of a good filly, £40 or thereby, may not seem large, but to a tenant farmer who has rent and all expenses to pay, the sum is often the redeeming feature in the balance sheet. It comes in a piece and there is almost always an outlet for it, but wherever it comes there is an easing of the financial situation. Further, there is always the rent to meet about the end of the year, and the price of the filly or colt means everything to meet that, while in breeding there is the off chance of breeding a "cracker," and if the farmer is wise and sells it as a foal, he becomes a capitalist right away.

Dairy Shows, in which Cheddar and Dunlop cheese have been the leading feature, have been held in London and at Castle Douglas, Campbeltown and Kilmarnock. Cheddar cheesemaking, in spite of all the efforts which have been made, does not seem to improve as rapidly as many would like. At the present time it would appear as if Canadian and New Zealand Cheddars were coming into pretty close competition with the best of our products. Much money is spent on technical education, but it seems to beat us to maintain a long lead in cheesemaking. The London Show should be the final roundup where the men who go to Frome, in Somerset, and the men of Galloway, and Ayrshire who try conclusions at Kilmarnock meet in battle array. But unfortunately the judging at London has more than once been a perfect farce, and this year it was even more so than usual. In the end the best cheese, which come from Somerset, had their own, Ayrshire coming second, and the other prizes were fairly well divided between exhibitors from the West of England and the Southwest of Scotland. Tastes greatly differ in all parts and there is no absolute standard of taste in cheese. It ought, however, to be comparatively easy to arrive at some greater measure of uniformity than prevails at present. SCOTLAND YET.

The English Hens Win.

At the close of the 52nd week in the second Philadelphia North American Egg-laying Contest, at Storrs, Conn., the English pen of five White Leghorns, owned by Thos. Barron, led the way with a total of 1,190 eggs, another English pen, owned by Ed. Cam, following with 1,107 eggs, a Pennsylvania pen, owned by W. L. Steeger, being third with 1,029 eggs. The only other pen that went beyond the 1,000 record were the White Wyandottes, Ed. Cam of England with 1,009 eggs. A pen (No. 18) of Beulah Farm (McLeod Bros.), Stoney Creek, Ont., scored well with 945 eggs. The best score made by the Barred Plymouth Rocks was 776 eggs; White Rocks, 777; Buff Rocks, 731; Columbian Rocks, 835; Silver Wyandottes, 783; Buff Wyandottes, 712; Columbia Wyandottes, 755; Single Comb Rhode Island Reds, 968; Rose Comb R. I. Reds, 821; Brown Leghorns, 650, the pen owned by A. P. Hillhouse, Bondville, P. Q.; Buff Leghorns, 874; Black Minorcas, 725; Blue Andalusians, 810; Anconas, 644; Buff Orpingtons, 711; Black Orpingtons, 390; White Orpingtons, 818; White Laced Red Cornish, 587, and Buttercups, 479. In several cases the breeds were represented by one pen only, but of white Leghorns there were no less than 43 pens, and the lowest scores by any one pen of them was 590. The grand total of eggs laid by the 100 pens in the year was 77,916, as compared with 75,230 during the first year.

A Revival of the Provincial Plowing Match.

A hard-fought battle was waged about one and one-half miles east of Yonge Street and on the very borders of the city of Toronto, Ontario's Metropolis, all day Tuesday, November the eleventh. This was a final contest—a battle of picked men, the flower of the Province, these having asserted their rights to participate in this final struggle for supremacy by having been, returned victors in smaller conflicts recently fought in various portions of this Province. The battle was not fought by men in entrenchments and regimental dress with missiles of war, but all the entrenchments were the straight, even and narrow furrows turned by the men behind the plow who put up as good a fight as any man behind the gun could ever hope to do. It was a battle royal—a Provincial Plowing Match—in a level valley on the beautiful "Sunnybrook Farm" home of Joseph Kilgour. Twenty seven teams participated. To the southeast three teams driven by boys under sixteen years of age tugged eagerly at the plows with which these boys hoped to land the best prizes in stubble. A little northwest of these were four boys under eighteen years of age side by side doing their best to win laurels in sod. Then came the veterans, two aged men, one 82 years old and the other one 60. They held their positions nobly and merited the admiration of the hundreds of spectators. Just west of these seven men with jointer plows contested for highest honors in their class, and farther west the men who had never won a first prize in their class competed. There were five teams in this class. Just north of these, where the largest crowd gathered, was the championship contest. Six were out in this class, and it was the contest of the day. This was the disposition of the various sections of this little army of plowmen. All did their work steadily, methodically and well, and it was no disgrace to be vanquished in a fight like this.

A LITTLE PAST HISTORY.

A few decades ago plowing matches were considered by many the feature of the year's agricultural activities. Township and county matches were held yearly and large crowds took keen interest in the work done, the final reckoning coming at a Provincial or Dominion match. There have been many changes during recent years in farming conditions in Ontario. In the earlier days farm help was not so scarce as it is to-day. The boys on the farm plowed with the single, walking plow because there were plenty of them to get the work done and done right, and the acreage in the farms was often not so large as now. Grain growing gave way to stock farming; a diminishing labor supply and the inevitable rush of work consequent caused farmers to replace their single plows with two-furrowed, four-horse plows, and in some places even a gasoline tractor has superseded the two-furrowed plow and six or eight furrows are turned at once instead of one or two. In the rush, prize plowing almost became a lost art. The old guard of staunch believers in the best plowing, many of whom learned the art in the Old Land or were tutored by fathers or grandfathers who took more than usual pride in being able to plow well, dwindled until only a few were left. The younger generations, accustomed to doing all things with a rush in accord with the spirit of the time, were more concerned in "blacking it over" than in doing first-class work, and, consequently, they took the double plow, handled it carelessly in many instances, and the plowing got worse and worse. However, in many districts a few still took pride in their plowing, and some localities kept up the practice of holding local matches. But the interest waned. Young men did not get the encouragement out of the matches which they should have. This Provincial Match, the first of its kind in three decades, may be taken as an indication of a revival of the interest so general in the eighties of last century.

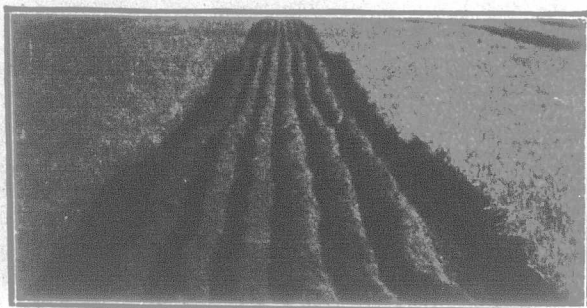
THE MATCH.

The match was a good one. Sunnybrook Farm is conveniently situated, and the hospitality of Mr. Kilgour added to the success of the event. The sod field was scarcely "stiff" enough for the plowmen to do the best work, as the furrows broke over badly in places, and many of the contestants were obliged to cross old ridges and dead furrows, which made it difficult to do the highest class of work. The lands were short. However, on the whole it was a very good place for a match. The day was bright at times, but in the afternoon the sky became overcast, and a piercing wind chilled the thousand spectators to the marrow. But they huddled in groups around their favorites and stayed to the finish.

Special mention should be made of the boys' classes. In stubble Clifford Knupp, plowed a

good crown and a good finish, and at fifteen years of age won his first provincial championship in his class.

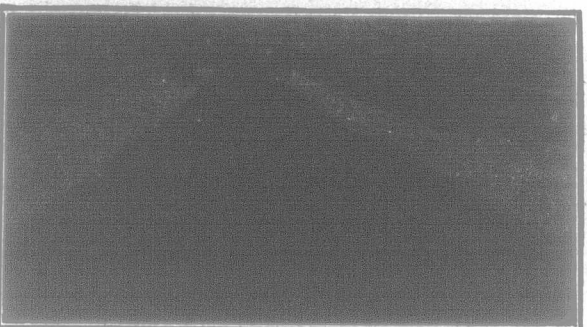
The class for boys under eighteen in sod was closely contested, but Eddie Timbers, of Malvern,



A Good Crown.

The first six furrows of one of the contestants in the championship class.

had the best crown of the lot and took the gold watch given by "The Farmer's Advocate" for first prize. He was closely followed by Charles Hunt, of Richmond Hill, and Stanley Watson, Agincourt.



A Good Land.

Cameron Walkington's winning work.

The feature of the day was the work of the eighty-two-year-old Wm. Milliken, of Toronto, who plowed his first match sixty years ago. He took second to Robt. J. McLean, aged 62 years. The work of these old men was admired by all.



A Straight Finish.

Work by one of the prizewinners in the first class.

The championship class was close, but as time wore on Cameron Walkington was adjudged by many the winner. He had an almost faultless crown, but not quite so good a finish. However, his land was good enough to win. Some crack plowmen entered this class, and interest was at



Eddie Timbers and His Outfit.

Winner of the gold watch donated by "The Farmer's Advocate" in the class for boys under eighteen years of age, in sod.

a high pitch all day at the ends of each man's land.

A DISCUSSION OF METHODS.

All plowing was done according to rules, but one could not help commenting upon the methods employed to even up, level down and straighten furrows. Plowing, as it is understood by the average agriculturist, should be done with the plow, but at this match, and we presume it is true of many matches, the men working in sod were allowed to go from end to end of their furrows fixing up the turned furrows with their hands. Turning with the foot occasionally does not look so bad, but hand work seems to unnecessarily prolong operations. Of course each man was working on a time limit, but even so it would seem to conform more closely to the requirements of farm practice to eliminate hand-turning and hand-leveling of furrows.

Again a good plowman should be a good teamster. In fact it is held by many that none but a man who handles horses well can be a first-class plowman. At this match a little more than the necessary amount of leading horses was participated in. We do not blame the men for doing it because the rules permit, but these things, it seems to us, would be better disallowed. One or two "coaching" would not look so bad, but six or eight at either end of the field shouting advice to the man with the plow does not add to appearances, and perhaps not to the chances of the plowman, although at times it appeared differently. Work must be done in this age as well as possible in very short spaces of time. The man plowing on his farm does not hand-turn furrows. He does the work with the plow and his team, occasionally using his foot to turn the sod. Should this not be enough for the man plowing for a prize? It would be as fair for one as another and would be plowing, not a combination of driving, horse leading, plowing, hand-turning and expert coaching.

These are only suggestions. The match was a success, and accomplished much in interesting the young men in better plowing, which we consider the basis of all good cultivation. After all was over the spectators and competitors were entertained to dinner by Mr. Kilgour, after which the handsome prizes donated by newspapers, companies and individuals were presented. Right here it might be suggested that the Government look more favorably upon this Provincial match in the future. This year they refused to make a grant towards it, but private concerns realizing the worth of such competitions rose to the occasion, and very suitable prizes were donated. It is a worthy cause and should be helped.

JUDGES AND AWARDS.

Judges on plowing: Andrew Pearson, Hamilton; John Fixter, Ottawa; John Morgan, Niagara-on-the-Lake; Andrew Hood, Agincourt; Wm. Hawstrasser, Woodville; Mr. Murray, Milton. On horses: Wm. Graham, Claremont; John Gardhouse, Highfield; W. G. Scott, Richmond Hill. Awards:—Championship Class: 1, Cameron Walkington, King; 2, Charles Clubine, Maple; 3, Stanley Tyndale, Richmond Hill. Second class, open to those who have never won a first in an open sod class: 1, Wm. Orr, Maple; 2, Stewart Baird, Woburn; 3, Walter Middleton, Edenvale. Jointer Class: 1, Clarke Young, Hagerman; 2, Wm. Clarke, Agincourt; 3, Wm. Gray, Rockwood. Boys under eighteen in sod: 1, Eddie Timbers, Malvern; 2, Chas. Hunt, Richmond Hill; 3, Stanley Watson, Agincourt. Boys under sixteen in stubble: Clifford Knupp, Minesing; 2, Russell Cowie, Markham; 3, Fred Watson, Agincourt. Men over 60 years old: 1, R. J. McLean, Eglinton; 2, Wm. Milliken, Toronto. Best outfit: 1, Fred Fisher, Malvern; 2, H. J. Piggott; 3, Clarke Young.

Our Scottish Letter.

October has gone, and on the whole we probably have not had a more typical autumn month for many years. The weather was not too cold, and we had some warm, genial days. There was rather a cold "snap" about the middle of the month, but it did not last, and on the whole farmers are reasonably well satisfied with their experiences. These experiences have been decidedly varied. In some counties harvest was got over early, and the grain crop was harvested in good condition. In others quite a different code of things prevailed, and stooks were standing black in the fields long after harvest should have been over. The Shorthorn week in Aberdeenshire was rendered somewhat melancholy by the harvest conditions. In the fields the stooks spoke of a weary season, one farmer reporting that he never cut his crop in so short a time or had it standing in the fields so long after it was cut. The absence of anything like uniformity in the harvest conditions was puzzling. The potato crop has done very well. There is a heavy crop, and little or no disease, yet there is nothing special about the market. The alleged presence of what is called Black Scab in a few gardens gives an excuse for the imposition of an embargo by the Department of Agriculture at Washington, otherwise there would undoubtedly have been a big export trade to New York. So long as the embargo is imposed, Americans will not be able to import potatoes as cheaply as might be.

October is a great month for the sale of stock. There are great horse sales in different parts of the country, and cattle sales, both pure-bred and stores, all over. The cattle sales usually come first, and this year there were quite a large number of Aberdeen-Angus sales in the very beginning of the month. Two hundred and twenty-eight head were sold at an average price of £32.3.9. The Cullen House herd, which, under the skilful management of Mr. Lewis Beaton, had contributed much to the advancement of the breed, was dispersed. Seventy-one head made an average of £38.14.2. This dispersion was rendered necessary by the death of the Countess Dowager of Seafield, who held the estates in her own right. Death duties are heavy, and in several cases the course of disposing of a pedigree herd has been adopted in order to raise funds for their payment. Death duties are exigible by the National Exchequer on estates above a certain figure at the death of their owners. The Countess Dowager of Seafield had an only child—a son—who grew to manhood, and had just entered on possession of his great inheritance when he

died. He left the whole to his mother in fee simple. She was absolute owner of the whole estates, which, in olden days, carried with it the Chieftainship of the Clan Grant. The title has reverted to the heir, who was a very distant relative of the young Earl, who died, and provision was made in her will by the Dowager for maintaining the dignity of the title. The estates were not, however, disposed of altogether, hence the dispersion to collect funds for the Death duties. The herd has in recent years furnished Smithfield champions and noted breeding bulls for leading herds. At subsequent sales good prices were realized also. At Inverquharly four two-year-old heifers made £52.10 and five yearling heifers made £37.16 apiece. These are good paying averages, but nothing extraordinary. The "blacks" have not shared to any appreciable extent in the "boom" which for several years has kept the Shorthorn on the crest of the wave.

Shorthorn sales in Aberdeenshire were held under exhilarating conditions. News reached the Granite City on the first day of the sales regarding the results of the sales at Palermo, Buenos Ayres. Two bulls which had been purchased in Perth in the spring of this year when calves made £3,600 apiece. One of them was first at Perth as a calf and made 1,000 guineas at the sale there. He was, therefore, leaving his owner, Dan. MacLennan, the veteran exporter, a clear profit of £2,500. The profit on the other was far greater, as he did not cost anything like £1,000. One exporter had an average of £357 for eighteen bulls, and another had £765 for thirty-three head. The highest price made at Buenos Ayres was £7,000, paid for a bull bred in the country and not imported. Under the inspiration of such prices as these trades in Aberdeenshire was exceptionally good. Mr. Duthie had an average of £263.8.10 for twenty-five bull calves, and John Marr, Uppermill, had £84.15 for fourteen bull calves. The best trade of all was seen at the Newton dispersion, when 100 head of all ages and both sexes made an average of £115, one of the best results of modern times. The best breeding bull at Collynie, as judged by the results of the sale, is Knight of Collynie, 112229, home-bred and out of a splendid cow, whose calf in 1912 made 2,000 guineas. Nine bull calves got by Knight of Collynie made £425.9.8 of an average. Knight of Collynie is a much better breeding bull than he looks.

In recent years there have been no better buyers at the Northern sales than Wallace & Gresson, of the Edgcote Shorthorn Company, Edgcote, Banbury, Oxfordshire. These gentlemen have simply bought what they wanted regardless of price, and they have had their reward. They had

a sale of bull and heifer calves a week after the Northern sales and made an average of £131.18.8 for forty-nine head. Their highest prices were 390 guineas, and 350 guineas, the latter being paid for the white bull, Edgcote Masterpiece, a beauty, which won numerous prizes, including first at the Highland in July. His buyer was J. Moubray, of Naemoor, Dollar, the breeder of one of the bulls which made £3,600 in the Argentine. Thus the money circulates.

Two features of the Shorthorn season of 1912 are to be noted—the arrival of the Pedigree Dairy Shorthorn, and the triumph of the Tuberculin test. The Dairy Shorthorn has been greatly neglected in recent years, but now it is in much request. At the London Dairy Show, held in this same October, there was a splendid display of these animals, all registered in Coates' Herd Book. They are big and have grand udders and were being judged for milk and butter as well as for appearance. In no sense is there any discredit attaching to the appearance. The dual test was demonstrated that a cow may be quite fit to win a prize or prizes in a milking trial and yet score high on points in the showing. This also applies to Ayrshires, in connection with which evidence accumulates that an animal may be quite first-class on show points and yet give an excellent account of herself at the pail. The Tuberculin test has been ignored and condemned by Scottish and English breeders, but at last the great leaders in the Shorthorn world have been compelled to acknowledge its supremacy. A few years ago—not ten—Mr. Duthie, in name of the Northern breeders, on the opening day at Collynie, repudiated the test, refused to sell on it, and publicly announced on behalf of himself and all concerned that they sold their stock without any guarantee, and would not subject them to the test. This year all the young stock at all the Northern sales were tested, and the results declared as soon as the animals were brought into the saleroom. The effect was marvellous. It simply meant that a guaranteed bull calf sold for almost any money, whereas nothing but tame bids could be got for a bull that could not be guaranteed, or the chart for which was unsatisfactory. The charts were in every case given along with the animal when it was knocked down. Had Scots breeders adopted Bang's method of controlling tuberculosis when it was first announced, they would to-day have travelled a long way in the direction of mastering the disease. However, it is never too late to mend, and already several prominent men have adopted the plan of separating the cows and their calves, and keeping the calves away from affected dams.

SCOTLAND YET.

Markets.

Toronto.

At the Union Stock-yards, West Toronto, on Monday, Nov. 17th, receipts numbered 188 cars, comprising 4,003 cattle, 765 hogs, 2,286 sheep and lambs, and 218 calves. Only a limited number of good to choice cattle, and they were readily taken at firm prices, as there were many buyers; in fact, there was a brisk trade in all classes of live stock. Choice butchers', \$7.50 to \$8; good, \$6.75 to \$7; medium, \$6.25 to \$6.60; common, \$5 to \$6; cows, \$3 to \$6.50; bulls, \$4.25 to \$7; milkers, \$55 to \$100; calves, \$4.80 to \$10.50; sheep, \$3.50 to \$5.50; lambs, \$7.40 to \$7.70.

REVIEW OF LAST WEEK'S MARKETS

The total receipts of live stock at the City and Union Stock-yards for the past week were:

Table with 3 columns: City, Union, Total. Rows for Cattle, Hogs, Sheep, Calves, Horses.

The total receipts of live stock at the two markets for the corresponding week of 1912 were:

Table with 3 columns: City, Union, Total. Rows for Cattle, Hogs, Sheep, Calves, Horses.

The combined receipts of live stock at the two yards for the past week, show an increase of 232 cars, 6,395 cattle, 932 sheep and lambs, 433 calves, and 51 horses; but a decrease of 1,399 hogs,

compared with the corresponding week of 1912.

Receipts of live stock were not as large for the past week. The number of good to choice cattle was smaller, although the demand for good quality was just as great, if not greater. This caused the market for good killing cattle to be very firm; in fact, all classes of cattle were stronger in values. The demand for stockers and feeders was as great as ever, as there were many American buyers, besides a large number of Ontario farmers who were looking for a supply. The consequence was that values were firm, some choice 1,100-lb. steers selling as high as \$7 per cwt. The demand for the canner and cutter cows was very strong. Geo. Campbell, buyer for the Nelson Morris Co., of Chicago, having bought several hundreds of this class, which caused prices to be much stronger than usual.

Exporters.—There were no cattle bought for export to the British markets, yet there were several lots and loads, "not there in comparison with the large number of cattle on sale," that sold from \$7.75 to \$8.25, and these were bought by the local abattoirs; and more of this class would have found ready sale.

Butchers'.—Choice butcher's steers sold at \$7 to \$7.50; good, \$6.75 to \$7; medium, \$6.25 to \$6.60; common, \$5.50 to \$6; inferior, light-weight steers and heifers for butcher purposes, sold at \$4.50 to \$5.25; choice cows, \$5.75 to \$6.25, and sometimes \$6.50; good cows, \$5.25 to \$5.50; medium cows, \$4.50 to \$5; canners and cutters, at \$3.25 to \$4.25; export bulls, \$6 to \$7; good bologna bulls, \$4.75 to \$5.25; light bologna bulls, \$4 to \$4.50.

Stockers and Feeders.—There was a stronger demand for feeders and stockers all week. Choice, 1,000 to 1,100 feeders, sold from \$6.40 to \$6.75, and sometimes \$7; good steers, 800 to 950 lbs., at \$6 to \$6.30; stockers, 500 to 700 lbs., at \$5.50 to \$6; common, rough,

Eastern stockers, sold from \$4.50 to \$5.25.

Milkers and Springers.—There still continues an excellent demand for choice, fresh milkers and forward springers, at prices ranging from \$65 to \$100, and in a few instances considerably over that amount was paid for some extra quality cows. The bulk of the cows were bought between \$70 and \$80.

Veal Calves.—There has not been any material change in calf values for many weeks. Choice calves sold at \$9 to \$10.50; good calves at \$8 to \$9; medium at \$7 to \$8, and common to medium at \$4.50 to \$6.50.

Sheep and Lambs.—Sheep, ewes, sold at \$4.50 to \$5.50; culs and rams, \$2.50 to \$4.25; lambs, \$7.60 to \$7.85; and in one or two instances, \$7.90 was paid.

Hogs.—Receipts were light all week, which caused prices to be firm. Selects, fed and watered, \$8.90 to \$9.

Horses.—The market for horses was dull, and almost dead last week. Several consignments of horses, many of which were good quality drafters, came forward to the Union Stock Exchange, but there was practically no demand for them outside the local trade, for which there was only a limited number required. No demand from the United States, even when the duty has been removed. Drafters are quoted at \$225 to \$275; general-purpose horses, \$175 to \$200; expressers, \$160 to \$225; drivers, \$100 to \$150, and something choice would bring \$200, and even \$250 for an extra choice driver.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 80c. to 82c., outside; 85c., track, Toronto. Manitoba, No. 1 northern, 88½c.; No. 2 northern, 87c.

Oats.—Ontario, new, white, 33½c. to 34½c., outside; 35½c. to 36½c., track, Toronto.

Rye.—No. 2, 61c. to 62c., outside.

Peas.—No. 2, 83c. to 85c., outside.

Buckwheat.—No. 2, 52c. to 53c., outside.

Barley.—For malting, 56c. to 58c., outside.

Corn.—American, No. 2 yellow, 76c., Midland; 81c., track, Toronto.

Flour.—Ontario, ninety-per-cent. winter-wheat patents, new, \$3.60 to \$3.70, bulk, seaboard. Manitoba flour—Prices at Toronto: First patents, \$5.50; second patents, \$5; in cotton, 10c. more; strong bakers', \$4.80, in jute.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$13 to \$14; No. 2, \$11 to \$12.

Straw.—Baled, car lots, track, Toronto, \$6 to \$9.

HIDES AND SKINS.

No. 1 inspected steers and cows, 13c.; No. 2 inspected steers and cows, 12c.; city hides, 14c.; country hides, cured, 13½c.; calf skins, per lb., 16c.; lamb skins and pelts, 60c. to 90c.; horse hair, 35c. to 38c.; horse hides, No. 1, \$3.50 to \$4; tallow, No. 1, per lb., 5½c. to 7c.

COUNTRY PRODUCE.

Butter.—Market steady. Creamery pound rolls, 28c. to 31c.; creamery solids, 27c. to 29c.; separator dairy, 27c.; store lots, 20c. to 25c.

Eggs.—New-laid, 40c.; cold-storage selects, 32c. to 33c.; cold storage, 29c.

Cheese.—Old, large, 15c.; twins, 15½c.; new, large, 14c.; twins, 14½c.

Honey.—Extracted, 10c. to 11c.; combs, per dozen sections, \$2.50 to \$3.

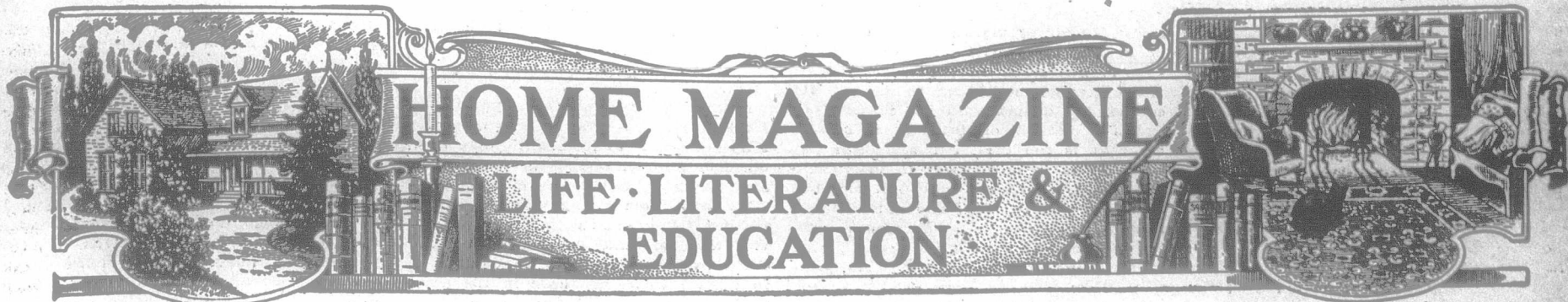
Beans.—Imported, hand-picked, \$2.25 per bushel. Canadians, hand-picked, \$2.10 to \$2.25; primes, \$1.65.

Potatoes.—Market firmer. Ontario, in car lots, track, Toronto, per bag, 80c.; New Brunswick Delawares, 90c.

Poultry.—Receipts liberal, and prices steady to firm. Turkeys dressed, 20c. to 22c.; geese, 18c. to 14c.; ducks, 18c. to 15c.; chickens, 16c. to 17c.; hens, 12c.

TORONTO SEED MARKET.

Alsike, No. 1, per bushel, \$7.75 to \$8; alsike, No. 2, per bushel, \$6.50 to \$7.50; alsike, No. 3, per bushel, \$5 to



Archibald Lampman.
(From a medallion.)

The Passing of Spring.

(By Archibald Lampman.)

No longer in the meadow coigns shall
blow
The creamy blood-root in her suit of
gray,
But all the first strange flowers have
passed away,
Gone with the child-like dreams that
touched us so;
April is spent, and summer soon shall go,
Swift as a shadow o'er the heads of
men,
And autumn with the painted leaves;
and then,
When fires are set, and windows blind
with snow,
We shall remember with a yearning
pang,
How in the poplars the first robins
sang,
The wind-flowers risen from their leafy
cots,
When life was gay and spring was at
the helm,
The maple full of little crimson knots
And all that delicate blossoming of the
elm.

Canadian Poets.

THE POET OF THE FIELDS.
(By Clayton Duff.)

Another poet to be called away before his work was done was Archibald Lampman. He was still under forty when, in February, 1899, an illness brought on by over-exertion while taking part in a canoeing expedition, ended in his death. Lampman was one of a group of Ottawa poets who have shed lustre on the capital city. He was born at Morpeth, near Lake Erie, in Kent County, where his father was rector, a man of culture, with an especial taste for poetry. Archibald had the advantage of living, during most of his childhood, at Gore's Landing, on Rice Lake, a region of much natural beauty, and as he was shut out by ill-health from the usual active life of boyhood, the reflective side of his nature had an unusual chance to develop. At that time he had as a teacher a man of somewhat remarkable personality, Mr. F. W. Barron, M. A., father of Judge Barron, of Stratford, who was the principal of a Grammar School at Gore's Landing. Later on the family lived at Cobourg, and a correspondent of the Toronto Mail and Empire writes, that on one occasion, when attending church there, she observed, sitting near her, a boy who was making grimaces for the amusement of a smaller companion. At the close of the service she asked the younger boy who his friend was. "That's Archie Lampman," he replied. "He's awfully clever at school, but when he's out he's just like another fellow." Lampman graduated from Trinity College, Toronto, as a man with a future. He spent a troubled

year teaching in a High School at Orangeville, but from there he escaped to the Post-office Department at Ottawa, where he was employed until his death. While not in a sense congenial, this occupation gave him an assured income, and a fair proportion of leisure in which to follow his true vocation as a man of letters.

At the time of Lampman's death, his friend, Wilfred Campbell, wrote a noble eulogy in his memory entitled, "Recreation of the Fields," and this phrase suggests better than a detailed description, the striking characteristic of his poetry. While many of Lampman's poems, especially his sonnets, are on ethical themes, noble as poetry and impressive as teachings, and while he has written some of the best of Canadian ballads and poetic narratives, yet it is as a nature poet that Lampman is most notable. No other Canadian poet is so intimate with the woods and aspects of nature as we in Ontario know them. The first feeling on opening a volume of Lampman is one of surprise and pleasure at finding the very birds and blossoms, the fields and woods and skies we have loved since childhood described in verse, whose beauty gives a new charm to the familiar and the known. There is the bobolink, "Sprinkling his music about the meadows," the bold robin that

"Whistles and warbles disconnectedly,
As if he were too happy and too free
To tune his notes and sing a perfect
measure."

The poet shows us where
"The blood-root kindles at dawn,
Her spiritual taper of snow,"

and we see "The daisies in great meadows swing and shine," or

"The delicate, thought-wrapped buttercups that glide
Like sparks of fire above the waving grass."

He is even more happy in conveying the feeling of earth's varying moods, the first snow, the wakening rain, the midsummer heat, or the raptures of spring when

"The meadows are greening as if
They never were green before."

Perhaps one reason why Lampman speaks to us so familiarly is because his life was, in a literal sense, provincial. He had little of that cosmopolitan experience that comes to some literary men. Occasionally his holidays may have taken him farther afield than the borders of Ontario, but by preference they were spent in the northern wilderness, of which Ottawa is the gateway, and the inspiration for most of his poems was apparently gained from the countryside within easy reach of his city home. While "The bell-tongued city with its glorious towers" appealed to his sense of beauty, more dear to him was the wood-cutter's hut in the forest solitude, the deserted dwelling that he describes with such sympathy and charm,—

"And all summer long, round the lonely hut, the black earth burgeons and breeds,
Till the spaces are filled with the tall-plumed ferns and the triumphing forest weeds;
The thick, wild raspberries, hem its walls, and stretching on either hand,
The red-ribbed stems and the giant leaves of the sovereign spikenard stand.
So lonely and silent it is, so withered and warped by the sun and snow,
You would think it the fruit of some dead man's toil a hundred years ago;

And he who finds it suddenly there as he wanders far and alone
Is touched with a sweet and beautiful sense of something, come and gone,
The sense of a struggling life in the waste, and the mark of a soul's command
The going and coming of vanished feet, the touch of a human hand."

Lampman was very exact in his method, and his descriptive poetry is full of carefully-observed detail. Bliss Carman conveys a picture by a flash of suggestion, and sometimes makes a more vivid impression on the reader's mind than Lampman with all his conscientious care; but, on the other hand, the latter poet, by his very minuteness, often seems to enhance and prolong the charm of his theme.

While there is a pensive note in much of his verse which reveals a sensitive mind, there is also a serenity borrowed from the largeness and peace of nature, and the simplicity and sweetness of his own spirit, and the poet has his moods of exaltation and lyric joy in such poems as "After Rain" and "Amor Vitae," that carry the sighing spirit away from wintry gloom and imprisoning walls to the glorious world of which he sings,—

"Through miles of shadow and soft heat,
Where field and fallow, fence and tree,
Were all one world of greenery.
I heard the robin singing sweet,
The sparrow piping silvery,
The thrushes at the forest's hem;
And as I went I sang with them."

Men Notable in Canadian History.

Champlain—Continued.

And now for some years the history of Quebec is a history of kaleidoscopically changing events. The fur company was suppressed by the viceroy, Montmorency, and given into the hands of the Huguenot De Caen brothers. On the succession of the Duc de Ventadour to the viceroyalty, the Jesuits, so famed afterwards in the annals of martyrdom, Brebeuf, Masse and Lalemant, were sent out to the colonies; then finally, when the powerful personality of Richelieu became supreme in France the famous Company of One Hundred Associates was formed. In return for the monopoly of the fur-trade, this company, of which Champlain was a member, pledged itself to bring in two or three hundred tradesmen, and, within fifteen years, to establish 4,000 colonists in the country, all Huguenots to be debarred.

KIRKE'S FLEET.

Champlain was re-appointed lieutenant-governor, and hoped that at last real progress would be made, but an ominous cloud was gathering on the horizon. While the little band of Frenchmen at Quebec were anxiously waiting for the provisions and men expected from France, news came that an English fleet was off the Saguenay. What this might mean was, of course, evident enough, for not long before war had been declared between England and France.

Almost immediately following the announcement came a message from the English admiral, David Kirke, demanding that the fort of Quebec be surrendered.

There were only fifty pounds of gunpowder in the fort, but Champlain determined upon presenting a bold front, feasted the messengers ostentatiously, although the town "was on an allowance of only seven ounces of bread per day," and assigned every man to his post. Kirke, however, made no ad-

vance this time. Satisfied with the capture, off the Saguenay, of four armed vessels and eighteen transports with supplies for the colony, and evidently deceived by the front assumed at Quebec, he sailed away again.

With their supplies cut off, the sufferings of the little company at the fort may be well imagined. Before spring seven ounces of pounded peas was the daily ration for each, and all foraged the woods for roots and acorns. The root known as Solomon's Seal, was, it is recorded, the one most in demand.

THE ENGLISH CAPTURE QUEBEC.

On the 19th of July, 1629, an Indian brought the news that three ships were again sailing up the river. Champlain was alone when the word came, for all the rest were away, fishing or searching for roots. As they came straggling in—sixteen in all, starved and ragged—they were ordered to their posts, and in the meantime the English ships, in command of two brothers of David Kirke, anchored below and a boat approached demanding the surrender of the fortresses. Overpowered by numbers, the French were forced to capitulate; Lewis Kirke, landed, and, amid the roar of cannon, the British flag was floated over the Plains of Abraham.

Champlain begged to be sent to Tadoussac, where the main squadron, five ships under command of David Kirke, was anchored. His request was granted, and he appears to have been treated as a much-honored prisoner, as he writes in his journal of having gone along the shore with the Admiral shooting "larks."

On the way down the river, the squadron met a French vessel, and after a hot fight she also was added to the English prize.

TREATY OF ST. GERMAIN-EN-LAYE.

On arriving in Plymouth Champlain, probably no less than Admiral Kirke, was astounded to learn that peace had been restored some time before, and that "all conquests made by the fleets or armies of either France or England after the 24th of April, 1629, must be restored." It was three years, however, before matters were finally settled and, by the treaty of St. Germain-en-Laye, signed on March 27th, 1632, Quebec, indeed all Canada, Cape Breton and Acadia were restored to France.

Notwithstanding the hardships and worries that he had come through Champlain was still hopeful as persevering, and the last of May, 1633, saw him back again in his fort on the rock above the St. Lawrence.

During the last years of his life in Canada, however, little of spectacular importance occurred. The Company of One Hundred Associates, crippled by the capture of the expedition in 1628, was on the verge of bankruptcy and able to do but little, and there were few others interested in the welfare of the new world. Champlain alone toiled indefatigably for it and its people. As religious as patriotic, he still cherished his dream of a continent of Christianized red men and flourishing settlements of happy and prosperous Frenchmen, and none fought so bitterly as he against the idea that the wilds of Canada should be made a dumping ground for undesirables from the home-land, a process by which, as held by its advocates, "New France might be peopled and Old France purified."

Once more he got a few enthusiasts to raise a fund and send out an expedition, with which came the Jesuits, Father Paul le Jeune, and Anne de la Noue, but he was not long to witness the success of this new venture. He was stricken with paralysis. For ten weeks, we are told, he lay unable to even sign

his name, and on Christmas Day, 1635, he breathed his last in the little fort at Quebec, the scene of so much of his toil and hardship, of so many of his hopes and fears.

So passed away a man of heroic mould, a man whose ideals never ceased to be high, and whose courage never gave way before the repeated onslaughts of misfortune. "His books mark the man," remarks an admiring historian,— "all for his theme and his purpose, nothing for himself. Crude in style, full of superficial errors of carelessness and haste, rarely diffuse, often brief to a fault, they bear on every page the palpable impress of truth."

Champlain had failed in much that he had attempted. He had not found the dreamed-of waterway to China; after nearly thirty years of toil the still miserable collection of houses and the little wooden fort at Quebec, were all that was to show of the populous New France which ever hovered as a star, before him; and probably as he lay on his death-bed he looked back over his life as that of a man who had failed. How could he know the inspiration that his example would be to others in the years to come? How could he know the importance of the trails he had blazed? How could he know the pricelessness of the treasure that his journals, written, perhaps, chiefly for personal satisfaction, were to prove in years to come? How could he possibly measure the influence of his fair and noble life?

Truly, in the words of the poet, "not failure but low aim is crime," and judged by that standard the life of Champlain was a dazzling success, such a success as has fully vindicated the title which the historian Charlevoix has placed upon him, that of the "Father of New France."

A Correction.

A misprint occurred under the Literary Society Study Picture on page 1932, November 6th issue. The word "or" should be "on," thus "write an essay on a poem suggested by this picture."

The New Public Health.

"The Farmer's Advocate" Bureau of Public Health Information.

QUESTIONS, ANSWERS, AND COMMENTS.

Conducted by the Institute of Public Health.—(The Public Health Faculty of Western University, London, Ontario.)

[Questions should be addressed: "New Public Health, care of 'The Farmer's Advocate,' London, Ont." Private questions, accompanied by a stamped, self-addressed envelope, will receive private answers. Medical treatment or diagnosis for individual cases cannot be prescribed.]

Question Re Ventilation

I was much interested in your article on "The New Ventilation" in the "New Public Health"; but it seems to me that you actually object to fresh air! Surely you do not mean this—or that open windows, etc., are bad. If so, why are tuberculosis patients kept in the open air? Why do we ventilate stables for stock? Or vegetable cellars? Or bedrooms? I am so puzzled by so many contradictions. How would you keep sweet air in a country house that is not regularly fixed up for ventilation, by electric fans, or ventilators, etc.?

O. W.

Ans.—You ask some hard questions, and I hardly know where to begin. When the outside air is at or near the ideal point (60-per-cent. humidity, 60 degrees F.), bringing it in unchanged, to replace air in the room that is not ideal (because it is not at 60-per-cent. humidity and 60 degrees F.), i. e., because it is too dry or too damp, or too hot or too cold, is perfectly proper. Again, if the outside air is not ideal, changing the humidity and heat of the air on the way becomes 60-per-cent.

humidity and 60 degrees F. (as by moistening the air or drying it or warming it or cooling it), would also be perfectly proper, but often requires an elaborate and expensive mechanism to do it. (Of course, the ordinary hot-air furnace furnishes a method of bringing in outside air that is too cold, but which the furnace warms up on the way to the rooms. The air in winter is usually not only too cold, but also too dry, and most hot-air furnaces try to make up for this by supplying humidity from a water-pan placed in the front of the furnace. An ordinary stove also, to some extent, warms up outside air brought in indirectly through cracks around the windows and doors, or through the walls themselves, etc., although stoves heat rooms in other ways also, by throwing the heat directly into the room and by keeping the air of the room in circulation.) There is another reason why it is sometimes desirable to change the air in a room, even though it is quite comfortable in humidity and heat. That other reason is bad smells. Now it is far better not to have bad smells, especially from unwashed feet or armpits, etc., than merely to remove the odors when they get too bad, especially if we must use expensive systems for changing the whole air, merely to get rid of these unnecessary bad smells. A drop of ink in a bottle of cologne may ruin it: why not keep out the ink, rather than continually throw out the old cologne and get in new?

As to ventilation in stables; again it is the heat and humidity thrown off by the stock animals themselves which make the trouble chiefly. To a certain point, the heat of the animals' bodies takes the place of artificial heat in a stable; and the humidity they throw off, up to a certain point, is a good thing: 60-per-cent. humidity and 60 degrees F. again! When the heat or humidity get much above this point, artificial ventilation is required, sometimes even artificial heating, although this depends on the animals themselves, the number, etc., a good deal. It is not a question of oxygen or carbonic-acid gas—but of heat and humidity.

In a vegetable cellar, the chief question is heat and humidity—too much dampness or too much cold. You don't want the vegetables to freeze; you don't want them to become sodden with dampness. They don't throw out much, if any, heat themselves, it is true, unless they ferment, but they do throw out moisture.

About tuberculosis—the reasons for the fresh-air treatment are not the securing of more oxygen or the getting rid of carbonic-acid gas, so far as we know. If so, opening the windows would be sufficient to cure tuberculosis. But, as a matter of fact, really successful treatment of lung tuberculosis requires, not open windows, but outdoor life, combined with two other things equally important, rest, and good feeding.

This is a three-legged stool that will not support the patient unless all three legs, rest, food, and out-doors, are all acting properly. The real reason why out-doors is necessary seems to be that it affects the appetite and digestion, permitting the necessary over-feeding in spite of the rest; for rest naturally would reduce appetite and digestion if rest were taken indoors. Just why out-doors increases appetite it is hard to say. There are a lot of things we don't know yet, and it is far better to confess it and keep digging away to fill in the blank spaces in our knowledge, than to manufacture or guess at some reason, so that we can pose as "knowing it all."

Open windows are all right if they do not create drafts or chill the house too much. A draft is a curious thing. People who do not suffer at all in a strong breeze out-doors may be made very uncomfortable, or even sick, by a draft; probably (but this is a guess) because of the local chilling of parts of the body by the draft, whereas a breeze affects the whole body uniformly. Moreover, open windows are all right for those who are continuously using open air, out-doors, etc., in their daily lives. They are not advisable for people who must spend a good part of their lives where open windows cannot be had. In other words, continuous life in fresh air is ideal; the nearer the fresh air approaches living outdoors, the better. But if your outdoor life is necessarily spasmodic, a short time at an open window is likely to do more harm than good. So sleeping out-

of-doors is excellent, if you do it night after night. But sleeping out one night and in the next is really bad practice. Better do one or the other, not mix them.

I notice I have answered your questions nearly in reverse order. Of course, I do not object to fresh air. Man is an out-door animal, and living in the artificial caves we call houses is abnormal.

All that I am trying to show is that the prevailing notion that we can convert these artificial caves into real out-doors by trying to bring in outside air to replace what we have in the house already is neither so easy nor so entirely logical as most people imagine; and above all I am trying to show that modern investigation has proved that we are entirely mistaken in thinking that the indoor air becomes exhausted of oxygen or poisoned by carbonic-acid gas, under ordinary living conditions. It is heat and humidity and circulation of air that we must think of, not exhaustion of oxygen or accumulation of carbonic-acid gas or other "poisons."

The practical way to be comfortable in an ordinary house in winter, is first to keep down all disagreeable smells as far as possible by reasonable personal bathing and reasonable cleanliness in the house, especially as concerns anything rotting or decaying; by keeping inside doors open, to secure a circulation from room to room, hall to room, etc.; and by supplying humidity enough to approximate 60 degrees of saturation in the air. The heat will automatically notify you when it gets too high, for if the air is moist, the heat will be oppressive if it gets much above 60 degrees F. In most houses, the leakage of air about windows, the constant opening and shutting of doors, and the perviousness of the walls, will supply all the oxygen and get rid of all the carbonic-acid gas that health requires, if the other matters, heat, humidity and circulation, are attended to also. A window opened four to six inches from the bottom with an eight-inch board or strip of glass set on the sill, leaning outwards slightly to throw the incoming air upwards and prevent a direct draft on to the floor, will meet all the requirements for fresh air in most rooms for healthy persons in winter; that is, short of actually "sleeping out." In summer, where the heat is not a matter to conserve, but to disperse, the wider the windows are open the better, unless, as sometimes happens, the air in the house is cooler and drier than the air outside.

I shall be very glad to have further questions on this subject from anyone who has not a clear idea of it.

Next time I will say something about sleeping outdoors.

H. W. HILL.

Hope's Quiet Hour.

For Thy Sake.

And unto Adam He said . . . cursed is the ground for thy sake; in sorrow shalt thou eat of it all the days of thy life: thorns also and thistles shall it bring forth to thee . . . in the sweat of thy face shalt thou eat bread, till thou return unto the ground.—Gen. iii: 17-19.

"For the love of God is broader Than the measures of man's mind; And the heart of the Eternal Is most wonderfully kind." —Faber.

We often hear men speak about the curse that was laid upon our race as a punishment for the sin of our first parents. The curse of hard work, sorrow, and pain, seems a heavy one, and mankind struggles vainly to banish it from earth. But read over the words of our text and you will see a strange fact which is often overlooked. The toil of fighting thorns and thistles was imposed for Adam's sake—because God loved him. If the earth had brought forth all its stored riches, without effort on man's part, humanity would have been ruined long ago. More than that, we should have been robbed of a great deal of pleasure. The other day I saw someone playing a game of "Patience." The cards ran in such a way that there was not

the slightest difficulty in winning the game, so the player stopped short in disgust, and said, "What's the use of playing it out? It's too easy!" We none of us like to have "too easy" things to do. Even the little child in the kindergarten is eager for a harder task when one has been mastered. The boys and girls are very disappointed if they fail to "pass" into a higher grade at school, even though the only reward offered may be the strange reward of harder lessons to attack and conquer. Without the pressure of poverty, very little work would be done, and without work men would never attain the heights of which they are capable. Without pain and sorrow no one can really be a master in any of the great arts—such as music, poetry, painting and sculpture—and pain is one of the great instruments in God's hand when He is doing His great work of moulding and shaping a beautiful character.

If a man could give his son a splendid education in some magical fashion, without any effort on the son's part, or any serious difficulty having been met and conquered, that easily-won education would be of little value. The father, in such an imaginary case, would be doing his son a great wrong. Many of the most valuable gains of school-life are habits of plucky persistence, of patience and fortitude, and other spiritual graces which can only belong to a person who has won them for himself. If you sent your son to an artist to take lessons in painting, and the artist did all the difficult bits of the paintings which your son brought home as his own, you would feel justly indignant. You were not expecting your son to produce beautiful pictures—not yet—but you had a right to expect progress on his part; and without difficulty to overcome there can be no progress. God is educating souls and trying to perfect saints. We pray earnestly for the gift of goodness; and yet if He should suddenly make us good, without effort on our part, we should be like the child bringing home as his own the painting which was the work of another. It is for our sake that this life is so thorny. We may not always see it, and yet it is so. It is for our sake and for the sake of others. What we gain through conflict—we may, to some extent, pass on to others.

One day lately I was talking to a friend of yours about the difficulty many bright young souls have in accepting the Christian revelation. I said that if I had the power of giving to a doubting searcher after truth a brand-new, ready-made faith in Christ, I would not do it. It is better for each of us to do as we all have to do—if we are going to have a faith worth anything—fight our way, with God's help, through the darkness of doubt into the light. Doubt is an abnormal condition, a sickness of the soul. We have no business to submit tamely to bodily sickness, without fighting with all our might against it; and we have still less reason to submit to be sickly in spirit when health is always possible. A man who prides himself on his "doubts," as if they proved his intellectual superiority to men of faith, is as foolish as a man who prides himself on the number of bodily ailments he has contracted. Can doubt give him power to "glory in tribulations"? Faith can. Will doubt give him light when he steps over the threshold of death, or give him power to still clasp, in sweet fellowship, the hand of a friend who is out of sight? Faith is doing this every day.

I said that I had no desire to put a ready-made faith in the hands of a searcher after truth, but it would be a great joy to know that because of my faith, another soul had been roused to desire the knowledge of God, had searched more earnestly and found the light.

Stanley found Livingstone in Africa, and tried to persuade him to desert his mission-work, telling him that he could make a fortune as a lecturer in America. The great missionary declared that he had no time to make money, his far grander work was to carry the Bible into the heart of Africa. Stanley says: "I entered Livingstone's tent an avowed atheist; I left that tent a Christian." It was partly for Stanley's sake that the heroic pioneer of Christ's Gospel in Central Africa had grappled with numberless difficulties and dangers. If his life had been easy, if there had been no thorns and thistles to hinder his sowing of the

good seed, his heroic character and high ambition would not have gone to the heart of the "avowed atheist." A Christian may be ignorant and despised, his arguments may have little weight with men of learning; but a life of unselfish service and white purity is an argument for Christianity of the greatest missionary value everywhere. If you desire to live such a life, you must not choose the easiest possible path for yourself. Our Leader might have avoided the cross, if He had been content to spend His earthly life in selfish pursuit of prosperity and popularity. Pain—especially the pain of the innocent—is a mystery. We cannot expect to understand the reasons for its existence, but we can turn it to account. Men in this age are eager to turn everything to account. Nothing must be wasted, and even the refuse of an industry may be of great commercial value. Let us be careful to make good use of all the pain and difficulty which falls to our share, transforming it into spiritual energy. How disappointing it will be if we pass through earth's school and gain nothing. There is some truth in the poet's words: "When pain ends, gain ends, too, "and in the Arab proverb: "All sunshine makes a Sahara."

In my weekly chats I very often find myself writing about this mystery of suffering. Perhaps it is because I always begin by asking God to speak, through this Quiet Hour, some personal message to each of our readers—and suffering of some kind is practically universal. Each heart knows its own special pain, each soldier of Christ has orders to take up his cross "daily." Our cross is the raw material, out of which we may—if we will—evolve a beautiful character. The primal curse has, all through the ages, been a blessing in disguise. But it is only a blessing to those who transform it into one, as even death—the great enemy—is "gain" to one who loves Christ.

"Wounded? I know it, my brother,
Sorrow hath pierced thy heart;
Patience! In silent endurance
Play thou the hero's part.
Brother, the road thou'rt treading
Our Captain himself hath trod;
Shrink not, if His order comes ringing,
'Forward! the City for God!
Pledged to follow thy Captain,
Through good report or ill;
With a cheer, take the post set thee,
Rejoice if He think thee worthy
To front the fiercest war;
Wrap His peace around thee,
Thy patience God doth know."

DORA FARNCOMB.

The Beaver Circle

Doll's Dress Competition.

Several little girls have written to the Circle asking us "when we are to have another doll's dress competition."

Well, girlies, here you are. Make the dresses as soon as you like, and send them so that they will arrive here not later than December 19th. All will be given to the little children at a Children's Home on the day before Christmas, so if you wish the little girl who gets the dress that you made to know who made it, write your name and post-office address on a slip of paper and pin it to the dress.

The children at the home were greatly delighted with the dresses last year.

Address all to "The Beaver Circle," "The Farmer's Advocate and Home Magazine," London, Ont. The competition is open to both Seniors and Juniors, and prizes will be given.

The Hawkesville School Fair.

(By Celestine Spies, age 10.)

We have for the first year had a fair. Last fall a piece of the school grounds was plowed up and manured. In the spring we marked off plots for all the scholars, and each one hoed the garden, planted it with the seeds which were sent from Guelph. We watered and mulched our garden in fall, then we prepared for the fair.

The farmers helped very much by bring-

ing in exhibits of grains, vegetables, etc., and we scholars also had quite a successful exhibit, considering that it was our first year.

In the fall when the vegetables were taken up, we washed and weighed them.

A couple of weeks before the fair we practiced our games and recitations. The day before the fair we put our vegetables on the school seats and decorated them with a few maple leaves.

There were two tables of prize vegetables brought in, which helped us a great deal. The farmers' grains and vegetables which took first prize were given to the school, and we are going to sow them in our school or home gardens. The morning of the fair the things were numbered and given prizes. The boys made wagons and chicken-coops, and the girls made cakes and fancy-work. The dark cakes were given prizes, and the light cakes also.

Those who made chicken-coops brought a pair of doves, a pair of chickens, and two rabbits.

There were some nice bouquets and house plants. There was also a mould of butter, done up in the form of a lamb, which was very beautiful.

The prizes were satin badges. First prize was red; second prize was dark blue, and third prize was light blue.

There were about one hundred attended our School Fair. Mr. Austin was up from Guelph, and was chairman of the afternoon, and helped to judge the exhibits. Mr. Shepherd, of Berlin, gave a short speech, and Rev. Mr. Thom, of Hawkesville, favored us with a short address.

The teacher and we scholars played quite a few games, such as "The farmer," "relay race," "I took a walk one evening," "fox and goose," and "the shoemaker." Miss Lackner and we scholars sang four or five songs, such as "The Round Song," "The Village Fair," "Where the Sugar-maple Grows," and "O Canada!" A few of the children had recitations.

All the younger folks joined in the races. We had an ordinary race, a three-legged race, and a potato race.

We had a weed contest, which was very interesting to young and old.

Between five and six o'clock in the evening we had tea. Afterwards we gathered everything together and went home.

This was a very successful fair, and I hope everyone enjoyed it as well as I did. The day was dull and cold.

Senior Beavers' Letter Box.

Good-day, Puck.—Well, Puck, I am, I guess, too much up in my years to stay in the Circle any longer, so I will write my farewell letter to the Beavers, and let some more into the pond. Well, Puck, I will tell you about my garden. I planted and weeded, and watered, and cared for it the best I could. Some people said it was far better than my mother's. One day, just as the flowers were blooming, the cows broke in and devoured and tramped it, and that was the last of my troubles.

On Thanksgiving Day father and mother were down to Toronto, and I was to be cook for two days. On Monday I went down in the cellar for potatoes, and what did I find? I found a great big muskrat running over the potatoes. I will send you a plan some time later on. Well, Puck, I will bid you and the Beavers good-bye.

Wishing the rest of the Beavers good luck with their gardens.

ALLDON PATTERSON (age 14).
Rockwood, Ont.

You may stay in the Beaver Circle all through your 15th year, Alldon, if you wish. We are placing the limit at under 16. I am so sorry about the catastrophe to your garden. Better luck—or better fences—another time.

Dear Puck and Beavers.—I am coming again to visit your charming Circle. I have noticed a large number of new Beaver letters. Where is Helen Parry gone? I used to enjoy her letters so much. Also Edith Bates?

I have read quite a few books this summer. I have read "The Leroy Family," "Not Like Other Folks," "Little Herman," "Carola," "The Sunny Side of the Street," "Averil," "Black Rock," by

Ralph Connor; "The Spectator," "Elsie's Children," "On the Banks of the Amazon," and "Uncle Tom's Cabin." I have read a great many more, but I cannot remember their names. I like Ralph Connor's books very well. It is very interesting to read "Black Rock." The minister had a hard time among the rough miners, lumbermen, and saloon-keepers. I don't know how he would have managed if that woman hadn't sung to them. Their hard hearts softened as they listened to her.

"On the Banks of the Amazon" is a very instructive book. It tells about all the wild animals, their nature, and habits. "Uncle Tom's Cabin" has done a great deal of good in helping to banish slavery. Eliza had great courage to run away from her cruel master to save her child from being sold.

The slaves were beaten very cruelly, and they did not get enough to eat, nor hardly anything to wear. I guess they were set free. The English were very good to help them. I have also read some of "The Tales of the Borders." I do not like them very well.

I have read five of Dickens' books. Their names are, "David Copperfield," "Dombey and Son," "Old Curiosity Shop," "Great Expectations," and "Oliver Twist." Dickens has so many different characters. Betsy Jane Trotwood had a great time chasing the donkeys off the lawn. Uriah Heep was a very odd character. Oliver Twist had a hard time battling with the thieves and pickpockets of the city. "Old Curiosity Shop" is one of my favorite books. I admire Nell's courage to get her grandfather to stop gambling. He was very anxious to win a fortune for her. Don't you think the dwarf, Mr. Quilp, was a mean, hideous man, to take possession of their home when the grandfather was lying ill with fever? It makes one sad to read about their trials, such as going through the city and sleeping on a bed of ashes. The school teacher was very kind to give them such a nice little house. I think they deserved it.

I have just finished reading William Telford's poems. They are very amusing, also instructive. "Sandy and Jimmy," and "Bob and the Duck," are very comical ones. I have read a few of Burns' poems, but I do not like them very well. Well, I have talked about books long enough, so I will try and talk about something else.

I have taken over a quarter of music lessons, and like it fine. I did not have a garden, because our hens are great scratchers. I will try to have one next year if you have another competition.

I suppose Dorothy Newton will be getting first prize again this year. I think she got it last year. You must be a very good gardener, Dorothy. Well, I must close, as my letter is getting pretty long. Your friend,

EFFIE STOLTZ.

(Age 12, passed Entrance.)

Auburn, Ont.

P. S.—I would be pleased if some of the Beaver girls would write to me. I would be sure to answer.

The Windrow.

A new silky fibre from the kapok-tree of the Dutch Indies and Java is being extensively manufactured, in Germany, into upholstery fabrics.

Ivar Aasen, the son of a small peasant farmer born one hundred years ago in Sondmore, Norway, in 1850 invented a language based on ancient Norse which so appealed to the masses of the people, because of its melody and poetic adaptability, that it was speedily adopted by them. It is now proposed to make this language, called the "Landsmaal," the official language of the nation, instead of the Danish which has been the official language of the country for more than four hundred years. This will be the first instance in history in which a people has compelled its rulers to abandon the national language for a new one.

The Scandinavian countries are apparently anxious that women shall vote. In 1911 Norwegian women were fully enfranchised, and some of them have

served as members of the Storting or Parliament; in Sweden a woman suffrage bill is part of the present Government program; in Denmark in Dec., 1912 a bill was passed giving votes to all women over twenty-five; and in Iceland at present there is a movement afoot to grant political equality.

The Russian Government at St. Petersburg has a monopoly in the manufacture and sale of "vodka," the spirituous drink of the masses of the people. Last year the income from this source alone was \$412,000,000.

Helen Keller, born blind and deaf, but now an educated woman, a college graduate, has recently had another book published, "Out of the Dark," a collection of essays covering a broad range of subjects.

Five years ago the first public flight was made by an airman. Now there are 7,000 licensed aviators, and about 10,000 non-licensed, who are learning to operate air-craft. An average of over 115,000 passengers were carried by them each month of the past year.

A farm of eighty acres in the Northwest was for some time managed by six energetic young women. One, a college-trained girl, had charge of the green-houses. Another did the housework, and one looked after the poultry and outside work. A Scotch girl opened a supply store in the nearest town, where the fifth, an English typist, did all the clerical work. The sixth member of the colony attended to the cows, bees and rabbits. All went well until Dan Cupid joined the company, when four of the women became wives of farmers, the weddings taking place within a fortnight. The remaining two held on a month longer, doing all the work, then they, too, succumbed. The farm was sold and the proceeds divided equally among the six companions.

Mr. Robert Bruce Mantell, the American tragedian, whom many Canadians saw in his role of "Macbeth" when he toured Canada, spends his summers on his beautiful farm, "Brucewood," about twenty miles out of New York. He is a great lover of horses, and owns three fine ones. The farm also boasts a number of first-class cows, chickens and ducks.

It appears that Australia, so long worried by a plague of rabbits, has now a plague of cats to fight against. In many cases the cats were brought in in the hope that they would help to diminish the number of rabbits, but finding no enemy of their race in Australia numbers of them have taken to the bush where they have founded families of almost a new type, larger and more ferocious than the domestic cats. These wild cats have been attacking seabirds, opossums, even young lambs, and so, as stated by a writer in Cosmos, "it has been decided to make an end of this race of malefactors, and to that end there has been introduced a breed of savage dogs to destroy them. This succeeded very well, but where the cats became scarce the dogs, to live, began to attack the seals, and now it is proposed to exterminate the dogs!" Apparently, as Literary Digest notes, "there is to be no end to this endless-chain game of The House That Jack Built."

Comfort One Another,
For the way is often dreary,
And the feet are often weary,
And the heart is often sad,
There is a heavy burden bearing,
When it seems that none are caring,
And we half forget that ever we were glad.

Comfort one another,
With a hand-clasp close and tender,
With the sweetness none can render,
And the looks of friendly eyes,
Do not wait with grace unspoken,
While life's bread is daily broken—
Gentle speech is oft-like manna from the skies.

Fashion Dept.

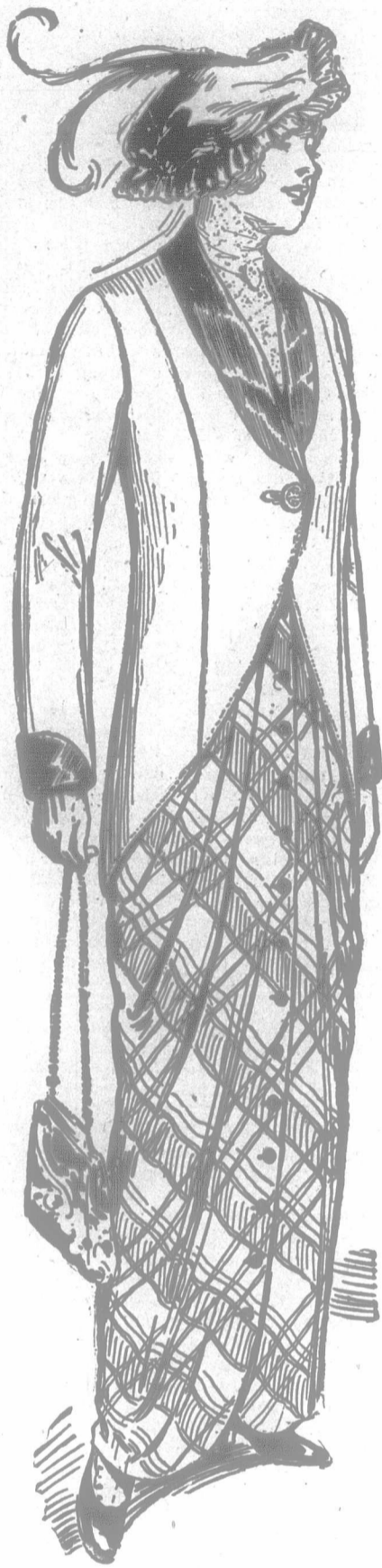
HOW TO ORDER PATTERNS.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state issue in which design appeared. Price ten cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, twenty cents must be sent. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

When ordering, please use this form :-

Send the following pattern to :
 Name
 Post Office
 County
 Province
 Number of pattern.....
 Age (if child or misses' pattern).....
 Measurement—Waist, Bust,
 Date of issue in which pattern appeared.....

Address: Pattern Dept., "The Farmer's Advocate and Home Magazine," London Ontario.



DESIGN BY MAY MANTON.
 7965 Cutaway Coat, 34 to 44 bust.
 7984 Diazed One-Piece Skirt, 22 to 30 waist.



7112 Corset Cover with Straight Upper Edge. 34 to 42 bust.



8037 Tucked Yoke Blouse, 34 to 42 bust.



8057 Fancy Blouse, 34 to 44 bust.



DESIGN BY MAY MANTON.
 7951 Cutaway Coat, 34 to 42 bust.
 7970 Three-Piece Plaited Skirt, 22 to 32 waist.



8039 Coatee with Vest, 34 to 42 bust.



8060 Girls Long Waisted Dress, 8 to 12 years.



8052 Semi-Princess Gown, 34 to 42 bust.



8033 Semi-Princess Gown, 34 to 42 bust.



8031 Low Belted Coat for Misses and Small Women, 16 and 18 years.



1044 Child's Under-shirt, 1, 2 and 4 years.



7361 Boy's Suit, 6 to 12 years.



8034 Child's Coat 4 to 8 years.



8035 Girl's Low Belted Dress, 8 to 12 years.



8055 Coat in Russian Style, for Misses and Small Women, 16 and 18 years.



8032 Semi-Princesse Dress for Misses and Small Women, 16 and 18 years.



8043 Child's One-Piece Night Gown, 2, 4 to 6 years.



8063 Long Coat, 34 to 42 bust.



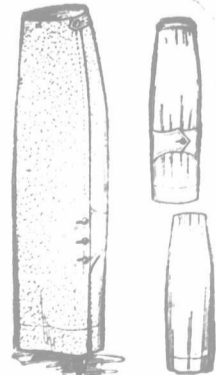
7744 Blouse or Shirt, Waist, 34 to 42 bust.



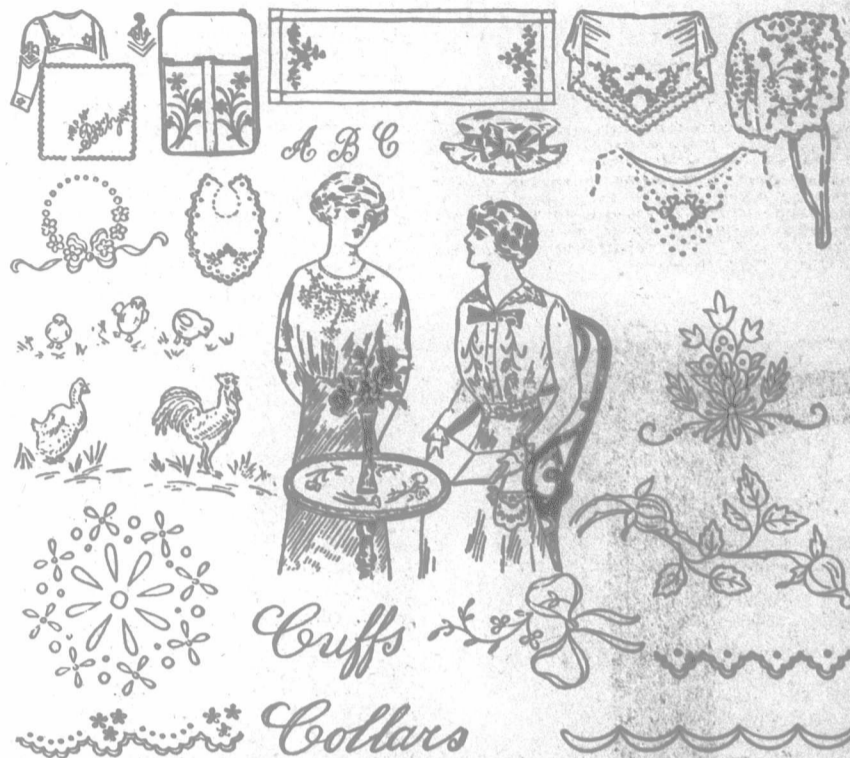
8047 Two-Piece Draped Skirt, 22 to 32 waist.



8054 Girl's Low Belted Dress, 8 to 12 years.



8030 Two-Piece Skirt, 22 to 30 waist.



Perfect Transfer Outfit for Stamping.

Perfect Transfer Outfit For Stamping.

The above illustration shows a few of the fifty designs included in the "Perfect" Transfer outfit for stamping, which will be sent you on receipt of 35 cents. Address, as usual, to the Pattern Dept., "The Farmer's Advocate and Home Magazine," London, Ont., allowing at least ten days to receive pattern. Patterns are stamped by simply pressing with a warm iron.

The set consists of the following patterns:

- 1, shirtwaist; 2, bib; 3, two wreaths; 4, two stars; 5, two anchors; 6, two corners; 7, 2 1/2 yards scallops (1 in. w. x 1/2 d.); 8, 2 1/2 yards scallops (1/2 w. x 1/2 d.); 9, two bow knots and sprays; 10, two butterflies; 11, two motifs for shirtwaists, etc.; 12, two medallions; 13, two motifs for sideboard or scarfs; 14, 2 1/2 yards scallops (1 1/2 x 1/2); 15, two eagle emblems; 16, border with scallops; 17, infant's cap; 18, two motifs for shirtwaist; 19, word "Baby"; 20, front for nightgown; 21, handbag; 22, two wheat sprays; 24, two stars; 25, motif for belt; 26, two small motifs; 27, nightgown neck-line; 28, motif for belt; 29, two yards scallops with dots; 30, collar; 31, alphabet; 32, small nursery design; 33, two medallions; 34, baskets with violets; 35, flower motif; 36, eight small sprays; 37, two medallions; 38, fancy scallops; 39, shirtwaist front; 40, nursery design; 41, design for cushion; 42, poppies; 43, forget-me-nots; 44, rose; 45, wild rose; 46, bachelor button; 47, circular scallops; 48, eighteen inches circular scallops; 49, carnations; 50, words, "collars" and "cuffs."

Lighthouses and Wharfs in the Air.

There is a skyscraper in New York now that has everything in the building line outdistanced tremendously. This is the Woolworth Building on Broadway, which is forty-five stories high, an almost incredible number. The height of the main part of the building is 375 feet from the street, and a massive tower rises above that again, making the full height of the whole building 750 feet.

But the mere size of this structure is not its only or its greatest attention. On the apex of that tower is a huge electric light, not merely for advertising purposes, but to act as a signal and guiding light to travellers in the air—an aviator's lighthouse, in fact. Besides that, the roof of the main building is fitted up as a landing-place, or wharf for aeroplanes. Mr. Woolworth is looking forward to that not far distant future when the airship will be as much a part of commercial life as the steamship is to-day, and air stations be as common as railway stations.

Keep Your Friends.

In an article in the Woman's Home Companion on the compensations that come to those who live away from great centers of population there appears the following sound advice:

"We are idly inclined to think that a real friendship, once begun, ought to survive of its own vitality; but, alas! all beauty in this world, from a cowslip to a human soul, needs nurture. Nietzsche speaks very scornfully of those who fancy they dare show themselves as they are to their friends. 'For your friends,' he advised, 'wear every adornment.' It is well worth while to save the highest cheer, the brightest thoughts, the greatest attentions, for the friend. One should always keep some impersonal topics of conversation ready, so that your thoughts together should not huddle down to the sordid atmosphere of narrow spaces. Be not only the sunshine to your friend, but be a broad outlook and a wide view! Love must have space and air to thrive in.

"Human life offers us nothing else so beautiful as real friendship; not love, not prosperity, not fame, are so fair, so precious. So foster it! Let no distrust, no absence, no difference of environment dim its lustre. Let death itself be powerless to rob you of its sweetness! Never break it; never lose it, it is the sweetest touch of mortal life."

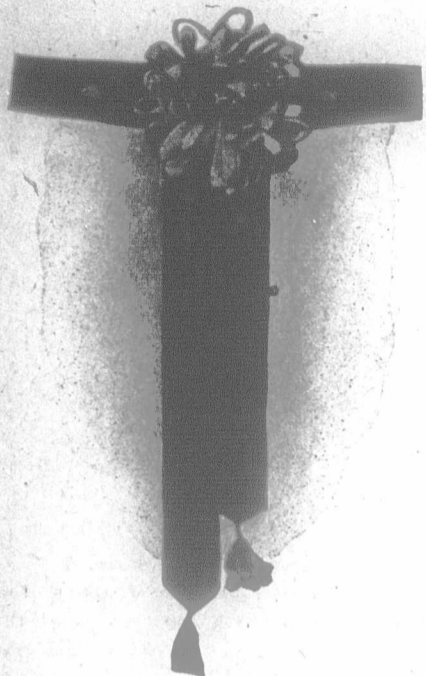
To discourage, to take hope out of the heart, to cover up the sun with clouds, to pile up barriers across the pathway, is treason to human happiness. Yet there are a great many kind, neighborly people, who are constantly doing just that. Somehow they never see the bright side and the sunny side of life. They see only the possibilities of failure, never the possibilities of success. They are messengers of doubt, never of hope. If they enter a sick room it is less cheery when they leave. If you talk with them about your burdens and difficulties, you think of your burdens as being heavier and your difficulties as being greater than before. Some way they lessen your hope, weaken your ambition, and steal your courage.

There is no mission more divine than to be an encourager; not a jollier, nor one who says pleasant things because he considers it policy to say them; but a man who is thoughtful, tactful, kind, helpful, and sympathetic, because he loves, men and esteems it a pleasure to minister to their happiness.

Sometimes we allow ourselves to think that only the strong, or the rich, or those who have leisure, can be encouragers, but that is a mistake. There is no one who cannot speak a kindly word or do a thoughtful, tactful deed. No one is so poor or so obscure that he cannot help to lessen the frictions of life, lighten its burdens, and brighten its dark days.—Onward.

The Ingle Nook.

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



Fancy Girdle.

Christmas Gifts and Giving.

I had been reading some pre-Christmas magazine articles, filled, as is the significant fashion nowadays, with wallings over the present strain and worry of Christmas. I had been reading, too, some futurist art stuff. And I fell asleep. And I dreamed. And my dream was a futurist picture.

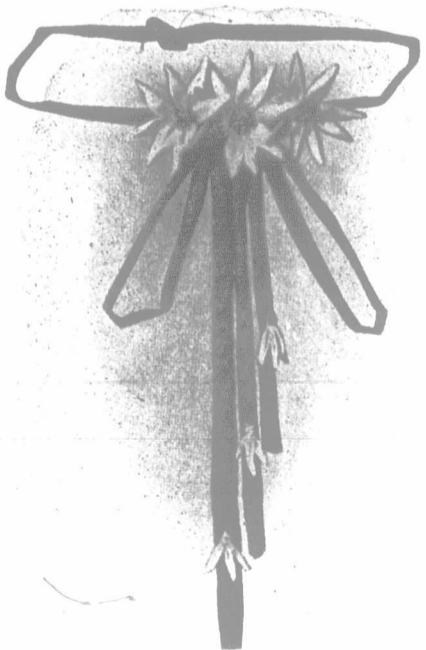
An odd sort of picture, though, for in it everything seemed moving, and, most striking of all, across the whole length of it below was a label in huge, very black letters—"Christmas."

"Hi! hi!" thought I. "What sort of Christmas is this?" But I wasn't very much surprised, for in dreams one never is much surprised. And so I fell to examining the picture.

As I said before, everything in it seemed to be moving, in a hurrying, misty sort of way, but as I watched certain things kept coming out in fitful clearness and in the queerest sort of order.

"A curious kaleidoscopic business this," I thought. "but why 'Christmas'?"

For a moment out bobbed a bit of a departmental store crowded with people waited on by tired-to-death clerks. Then a lot of junk floated by. Then a man laden with five hundred parcels



"Daisy" Bow.

Made of narrow ribbon; centers in knot stitch.

darted up, looking for his wife. Then a baby squalled. Then more junk. Then a word—just a word—floated past slowly. It was "misfits." And the baby squalled again. A woman's worried face peered out for a moment (her hat was on one side). More junk, a whole procession of junk, with a brass kettle and a casserole and a half dozen engagement rings at the end of it. And when all had passed the whole picture became alive with happy childish faces. Then a big roast turkey appeared, and—I woke up.

For a while I rubbed my eyes, then—"Why it really was Christmas," I thought, "Christmas as it is to-day."

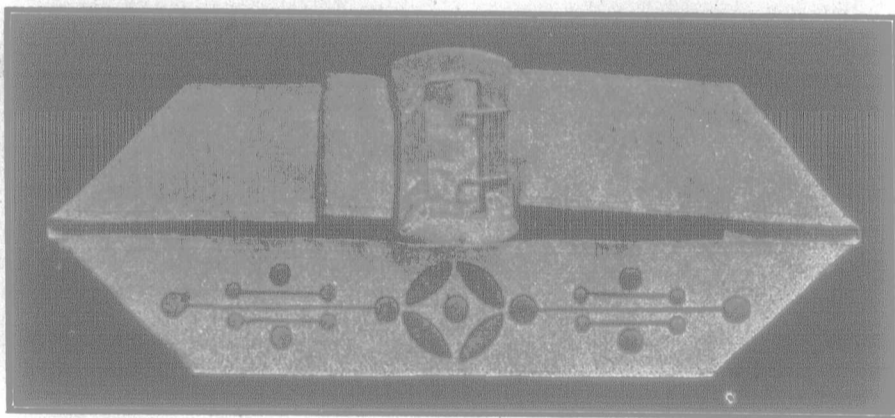
Isn't that about it?—Some worry, a lot of junk, a big dinner, and a good deal of enjoyment in a worldly sort of way.

Not very much of the religious idea, is there? The churches aren't very well filled on the 25th of December, are they?—Although the preachers, dear souls, usually try to bring the true Christmas spirit to the people by catching them on the Sunday nearest to Christmas Day. That word "catching" doesn't look well there, I know,—but it fits. . . . Yet despite the "catching" what do too many of us do? Is it not just this?—We let a jumble of presents, a riot of gawdy, and the steam of roast turkey and plum pudding and mince-pies quite blur and obscure the face of the little Christ-child, and the meaning of His coming to the world. Think of it for a while. Is this well?

TO DO AWAY WITH WORRY.

Yes there is worry for a good many people in connection with Christmas. And why so?

"Do you know," a friend said the other day, "I used to give on an average fifty Christmas presents every year." "How many friends you must have!" I exclaimed.



Embroidered Belt.

"No, it wasn't that," she said, "Some of them were not very intimate friends at all. I have forgotten how it was that I began interchanging gifts with the most of them.—some obligation, I suppose, or some impulse on one side or the other,—and so the list grew. It was a sort of meaningless business, and a dreadful strain on both time and purse. I really couldn't afford it."

"But how did you get out of it?" "Why I just decided to drop all the people off my list except the few I could not bear not to give to. So a couple of months before Christmas I wrote to all the others telling them I felt obliged to spend less, and asking them not to send me anything but a Christmas letter, which would be the best gift of all. . . . Well, I don't think many of them were vexed; I could fairly see the relief bulging out between the lines of some of the replies.—And so that's all over."

Quite by accident I heard that another girl who had written similar "begging-off" letters to a number of mere acquaintances, used the money thus saved to treat the children in an orphanage.

"I could just hug you," wrote one of her friends who heard of the affair afterwards, "Your treat was worth a thousand times more than all the fussy things I gave away to people who didn't need them in the least. I think you have found the right Christmas, and I'm going to follow your example next time."

Are there not suggestions in these two examples for those who have come to find Christmas a worry?

A VERY WRONG SPIRIT.

Occasionally a very pitiful spirit is evinced at Christmas time. There are those (but few it is to be hoped) who look forward to Christmas as a time of getting, and give in order that they may be given to. These are the people who reckon up the money value of the things received, and prize them accordingly.

"I hate Christmas!" snapped a clerk in a departmental store last year. "You give away two months' salary in things, and get a lot of truck worth twenty-five cents apiece!"

Now how far had the true spirit of Christmas slid from this girl?

Had she had time to listen one might have said to her: "But why give away two months' salary in Christmas presents? Why not give things just to those you love so well that you don't care in the least whether they can find time or money to give you anything or not? After all it's the love that counts. And more love may be shown in a little remembrance that costs ten cents—or nothing—than in one that costs many dollars."

If she had had time to listen, too, one might have told the delight which a little white card on which was glued a bit of "pigeonberry" vine from the old home woods brought to one heart, and a little box of home-forced tulips to another. Oh no, it is not always the money-value that counts.

MEN AND CHRISTMAS.

Have you ever noticed how many men seem to dislike Christmas? They feel that they are expected to give things, and they don't know what to buy.—And they feel that they are expected to make a fuss over things given to them, and they don't know how to make a fuss.—And so they are just ill at ease over the whole thing, no doubt agreeing in their hearts with the frank young man who said, "Christmas is giving

with heavy mercerized floss. . . . A "boudoir" cap of white net and ribbon or crocheted with colored "brilliant." . . . A tray may be made of any old plain wood picture frame. Instead of the picture, under the glass, put a piece of chintz or cretonne, or a piece of linen crash embroidered with the initial in silk. Add handles, put a piece of felt or flannel on the back, and the tray is finished.

For the dainty girl: A net boudoir



Work-bag.

cap. . . . A silk powder-case made like an envelope open at the ends. Inside place a double lining of chamois, with powder between and a few small slashes for it to work through. . . . A pin-case made like a travelling "companion," with bags inside for needles and tape, and all kinds of pins. Fasten with dome fasteners. . . . A safety-pin holder made of an embroidery-hoop covered with holly ribbon. From baby-ribbon loops at the bottom suspend safety pins in all sizes. . . . A pretty "tea-apron." . . . a fine corset-cover. . . . embroidered belts, fancy girdle, etc.

For the friend in town:—A little decorated box containing fresh eggs, each wrapped in tissue paper. Box may contain instead a little jar of home-made fruit or mince-meat, a few vegetables, a pat of butter, or anything else one chooses.

For the man who smokes:—A tobacco pouch crocheted with brown silk or brilliant in single crochet, lined with oiled-silk, and labelled with the word "Tobacco," cross-stitched on.

For the book-lover:—A book-cover made of linen, embroidered, with a ribbon bow and book-mark attached.

For anybody:—A box of home-made candy or stuffed dates, the box neatly wrapped in white tissue-paper, tied with red baby-ribbon, and decorated with a bit of greenery of any kind.

DATE CAKES, ETC.

Dear Junia,—I have been a silent reader of the Ingle Nook for a long time, though we have taken "The Farmer's Advocate" for a good many years. I often felt like writing before, but always received so many helpful ideas through its columns, sometimes just

INEXPENSIVE WAYS OF REMEMBERING.

When all has been said, though, there will always be the few left to whom even she who has little to spend will just "want to" give something—some little thing packed up full of love, and wrapped with love, and tied by love, and it is for the one who has little to spend that the following hints are given. Try, if possible, to find out the particular likes, and wants, and sentiments of your friend, then choose for her accordingly. Don't risk misfits, for far more than half of the love is shown in the choosing.

For the busy housewife:—A cookbook of tested recipes, written neatly, and bound between paste-board covers covered with white oilcloth, the whole tied with red ribbon and a bit of greenery. . . . A laundry bag with the bottom left open and fastened by a flap buttoned over the front. When washday comes unbutton the flap and let the clothes drop out. . . . A set of "holders" made of cloth, neatly bound with tape, and provided with loops to hang up by. . . . A cretonne or denim stocking-bag. . . . Scrim or linen crash dresser cover, a crash cushion top embroidered



Slipper Bag.

what we needed. I am sending some questions.

Could anyone send a recipe for date cake? I saw a nice one in the Ingle Nook about a month ago, but mislaid it.

Would like to know what custard sauce is usually served with?

How to keep pumpkins for making pies for winter, by canning or how?

Would like to get some crochet patterns for insertion for towels or pillow cases.

Grey Co., Ont. "DAISY."

Date Cake—Mix together 2½ cups flour and 2½ cups oatmeal. Add 1 cup sugar, then rub in 1 cup butter. Make to a paste with ½ cup (scant) of luke-warm water in which is dissolved 1 level teaspoon soda. Roll in two sheets and put together with stowed dates between, then bake. Cut in squares before serving.

Date Cake—Beat together 1 cup butter and 2 of sugar, then beat in 1 cup milk, then 3 cups flour sifted with 3 teaspoons baking powder. Last of all add the whites of 6 eggs beaten very stiff. Bake in layers, and when cool put together with stowed or chopped dates between. Cover the top with whipped cream, whipped until very stiff. For a smaller cake use half the quantities.

Custard Sauce may be served with any kind of pudding, but is especially good with the various kinds of "snow" puddings.

Recipes for canning pumpkin appeared in our pages since your letter was written.

We have no new patterns for towel insertion other than those which appeared in our columns a year ago, but you can get a crochet book by writing to the fancy work department of any large departmental store.

A PERPLEXITY.

Dear Junia,—Just another troubled girl come to you for help. I am going to a large city to take a position, and would like to know how to get my trunk from the station to my boarding house.

Thanking you in advance, I will sign myself,
VINEGAR.

I understand very well your perplexity, because, you see, I have been "through it all." You will find some drays drawn up somewhere at the rear of the station. Choose a man, give him your check, and he will get the trunk and take it to the address you give him, then you can go yourself on a street-car. If you are timid about that, it might be better to take a cab. That will cost you more, but the cabman will take you and your trunk at the same time, and so you will have less trouble. Cabs and taxicabs are as a rule drawn up in a convenient place, but if, for any reason, one is not there, it is always possible to telephone from the station and have one come. If the public telephone should happen to be a "nickel-in-the-slot" affair, read directions above the phone before using.

I hope someone you know can meet you. If not, and you feel at all confused, look about for one of the women in uniform, "travellers' aids" or "Y. W. C. A." women, who should be at every large station, and get her to help you. What a name you choose! I hope it's not the prospect of going to the city that suggested it. There'll be a wee bit of sugar too, you know.

DISINFECTING, CHEESE, ETC.

Kindly tell the best way to clean "grained floor," also linoleum. Are cotton or woollen cloths best; and fancy quilt which has been exposed to contagious disease?

How often should a hen-house with a dozen hens require cleaning? Also give directions as to how to disinfect hen-house? What is the best kind of a box to keep bread in? Should it be air-tight?

If a pear tree is badly affected with blight does it render the fruit injurious? Is there any cure? Give good recipe for cottage cheese.

Kindly answer these questions and oblige.

MRS. D. M.

Do not use soap on the linoleum; simply wash it with warm water or

warm water mixed with skimmed milk. If the grained floor is much soiled a little mild soap may be necessary. Nothing can be better for keeping either stained floors or linoleum in good condition than the dustless mops now for sale everywhere. The oily preparation on the mop both polishes and preserves.

Regarding the disinfection of the quilt we quote from Aiken's Handbook of Practical Nursing. If the quilt can be washed soak it first for one hour in a solution made as follows:

Carbolic acid 3 parts; soft soap 1½ parts; water 100 parts. Use hot. Wash as usual afterwards.

If the quilt will not bear soaking, it will have to be fumigated. Formaldehyde is now almost invariably used for this purpose. The method is as follows: Suspend the article in a large box, over a rope or on hooks, in such a way that the surface will be exposed as much as possible. See that all cracks in the box are filled or papered over, also that the lid fits tightly. Allow 1½ oz. potassium permanganate to ½ pint of formaldehyde in a 40 per cent. solution. Put the potassium crystals in a large tin pail which is set inside a wooden bucket in the box. Pour the formaldehyde solution over and close the box at once. Leave for at least 12 hours, then sun and air the article.

A hen-house of any kind should be cleaned out every day.

To disinfect a hen-house, spray it with a lime wash to which is added a 4 per cent. solution of carbolic acid. Or use about 1 oz. carbolic acid to the pailful.

The tin bread boxes sold for the purpose are very good for keeping bread in. A tight lid is advisable to prevent the moisture in the bread from evaporating and so drying it out.

The fruit from a blighted pear tree is not injurious. To remove the blight cut off and burn all infected parts, treating the raw stubs left at once with a solution of corrosive sublimate. Tablets of the latter, with directions for using can be bought at any drug store.

To Make Cheese—Allow 100 lbs. milk for each cheese. Warm the milk to 80 degrees, then put in a rennet tablet, dissolved in a cupful of warm, not hot, water. Stir well. Cover the vessel with a blanket to keep the milk warm. In an hour or less the curd will be made. Cut it with a long knife into cubes about an inch square. Draw off the whey and leave the curd to harden a little, then dip it out, into moulds about eight inches in diameter. These are best made of tin and have no bottom, but are set on a board. Put in a piece of cheesecloth, then put in the curd. Heap the curd up about two inches, let it settle and press into the mould, when level with the top put a circle of thin board on top and a weight. When the curd is firm enough lift it out carefully, by the cheesecloth, and remove the cloth leaving the cheese on the board. Sew a fresh bit of cheesecloth around, leaving it projecting an inch or two, top and bottom. Plaster these borders down on the cheese with butter, then leave the cheese to ripen, rubbing it well with fine salt and turning it every day for ten days. Afterwards rub and turn only every other day. The turning prevents the moisture from settling to one end. Also rub the rind several times with butter to keep it from cracking. If mould appears, which is likely as the cheese must be kept in a fairly moist place, scrape it off. The cheese will be ready for use in two months. If kept in a dry place and buttered occasionally, it will keep a year. This recipe is for a firm home-made cheese.

A recipe for "Cottage" cheese as given in "Hoard's Dairyman" is as follows:—To skim milk at a temperature of about 75 degrees F. add enough butter-milk to coagulate it, say, 20 per cent. Next set the vessel in hot water and heat to 90 or 95 degrees F. When the curd forms cut finely and heat to 104 degrees to 107 degrees F. Let stand for about three-quarters of an hour, then dip the curd into a straining cloth and drain. Salt to taste, and add eight ounces thick cream to ten pounds cheese.

SPIDERS.

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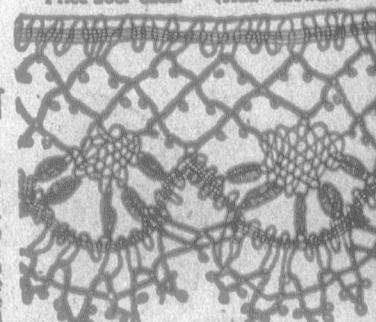
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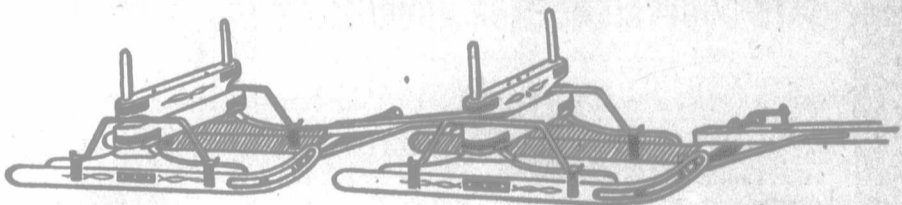
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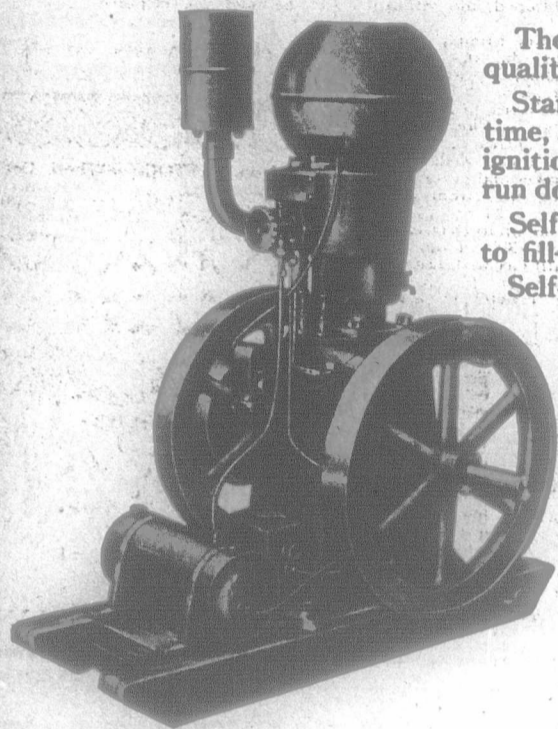
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Spiders are not true insects, but they are very interesting little creatures. How do they spin their webs? To answer that one cannot do better than quote from Comstock's "Manual for the Study of Insects." Of course you know that the "silk" comes from a viscid substance contained in a receptacle within the body of the spider. "The spinning organs which are situated near the end of the abdomen," says Comstock, "consist of two or three pairs of spinnerets. These appendages are more or less finger-like in form, and sometimes spinning tubes, from which the silk is jointed. Upon the end of each spinneret there are many small tubes, the spun. Some spiders have as many as one hundred and fifty or two hundred of these spinning tubes on each spinneret. The silk is in a fluid state while it is in the body, but it hardens as soon as it comes in contact with the air.

"In addition to the many small spinning tubes, there are a few larger ones, termed spigots. The ordinary thread is spun from two or four of these. The small spinning tubes are used in making attachment disks for fastening threads in place, in making a swathing band for enveloping prey, and, sometimes, in making a broad, wavy band across the center of a web. We have observed a spider seize a large grasshopper which was entangled in its web, and, rolling it over two or three times, completely envelop it in a sheet of silk spun from its spread-apart spinnerets."

Spiders use the "silk" as you may have noted, in making their webs to snare insects, and the tents in which they live, also for making egg-sacs and to help them to swing from place to place.

To ascertain the manner in which they stretch and anchor their webs, examine any spiders' webs that you may see. You will discover a great variety. For instance, you will find that the grass-spider spins a sheet from which a tube runs off at one side,—to afford the spider a means of escape should an enemy appear; the orb-weavers, on the other hand construct wheel-like webs; the "ballooning spiders" simply weave long threads that float out from any support chosen; while the cobweb-weavers, found in houses, etc., as well as on bushes, merely make a tangled mass of threads, useful for catching insects, but not at all artistic.

Of course you know that spiders are, as a rule, carnivorous, and that the webs are spun to catch flies and other small insects that serve as food. All spiders, however, do not spin webs for that purpose. The short, sturdy "jumping-spiders" never do so, but simply stalk their prey or lie in wait for it; while the tropical tarantulas and trap-door spiders, while pursuing their prey, dig long tubes in the ground and line them with silk, to serve as nesting places and retreats from danger. The trap-door spider actually constructs a lid to its nest, which it pulls shut after entering. This interesting little creature, however, is not found here, although several species of the family are found in the Southern States.

SEASONABLE RECIPES.

Stewed Pumpkin—Pare the pumpkin (or Hubbard squash) and cut it into pieces so that it will cook quickly. Put on barely enough water to cover and cook slowly, with the lid off, stirring occasionally. When tender drain, put through a colander and reheat, adding 4 tablespoons butter, ½ teaspoon ground mace, a little cinnamon and allspice mixed, and 2 tablespoons brown sugar to each 4 cups of pulp. Simmer slowly for ½ hour and serve as a vegetable, or, with more sugar, as sauce.

Pumpkin Pie—8 cups stewed pumpkin put through a colander, 3 eggs, 1 heaping tablespoon flour, 1 tablespoon cinnamon, ½ teaspoon nutmeg, 1 quart milk, a little salt. Sugar to taste. Enough to fill two deep pies. Bake crust and all together.

Pumpkin Pie, No. 2—2 cups stewed pumpkin put through a colander, 2 rolled crackers, 1 cup sugar, pinch salt, ½ teaspoon cinnamon, 1 pint milk. Pour into a deep pie-plate lined with crust, and bake in a slow oven one hour.

Cream of Carrots—Cook six small carrots or three large ones in 1 quart boiling water. Add 2 stalks celery, a few sprigs of parsley and a medium

onion. When tender rub through a sieve. Add 1 pint milk and 1 tablespoon butter rubbed in 2 tablespoons flour. Let come to a boil, season with salt, cayenne and nutmeg and serve.

Carrots and Celery—Cut both carrots and celery in bits, and boil separately until tender in a very little water. Drain, put together and reheat in milk to cover, slightly thickened with flour. Season with salt, white pepper, nutmeg, and a teaspoon of sugar. Just before serving drop in a bit of butter.

Jam Cake—Cream together 1 cup sugar and ½ cup butter; add beaten yolks of 3 eggs, then ½ cup strawberry or raspberry jam, then 1 cup flour, then one-third cup sour milk mixed with 1 teaspoon soda, then another cup of flour. Beat well, then add 1 teaspoon cinnamon, ½ teaspoon grated nutmeg, then the beaten whites of the eggs. Bake in a moderate oven. Cover with frosting or stiffly whipped cream slightly sweetened and flavored with vanilla.

Scrap Bag.

CORN BAGS.

If you can spare corn enough to fill a few small cotton bags, you need never be in want of a good substitute for hot-water bottles. Fill the bags with the corn; when needed heat in the oven for ten or fifteen minutes.

DRY CLEANING YOKES.

To clean a white lace yoke without removing it from the dress, cover it with a mixture of 2 parts white corn meal and 1 part powdered borax. Roll up and leave over night, then brush out. Repeat if necessary.

TO EASE TOOTHACHE.

Rub a little dry mustard or ginger on the gums. Another way is to split a fig, put it in boiling water for a minute, and then place, as hot as can be borne, upon the gum and aching tooth. Keep reheating until the pain eases.

USE FOR OLD BEDSPREADS.

Very good bath mats may be made of old cotton bed spreads. Cut two pieces of the size desired, lay them together and stretch lengthwise and crosswise to make a firm mat. Bind around with tape.

TO PREVENT DUST.

Shut the check draft in the coal stove before opening the door to rake out clinkers, and no dust will fly out into the room nor will the coal gas escape.

TO TEST OVEN HEAT.

Put a piece of white paper in the oven. If too hot it will blacken; if it becomes a light brown the oven is right for pastry; if dark yellow it is right for bread and fruit cake; if light yellow it is ready for sponge cake and light desserts.

TO DRY CLEAN HAIR.

Brush a stiff hair brush full of absorbent cotton, then brush the hair vigorously with it. The cotton will absorb the dust and oil, leaving the hair clean. This is a very good method for people who take cold from having their hair washed with water in winter.

CHOOSING BEEF.

Good beef is firm, fine-grained, and a good, clear red in color, and the fat is a light straw-color. The fat of poor beef is a dark yellow, and the lean is coarse, open-grained and flabby, with a dull color.

TO SAVE A TABLE.

Asbestos mats slipped under all hot dishes will greatly save a polished table. The mats may be put in embroidered cases which look like doilies.

A KITCHEN HELP.

A useful article in a kitchen is a piece of board, smoothly planed or covered with zinc. On this board place hot dishes, kettles, etc., thus saving the oil-cloth on the table or the paint on the cabinet.

TO TEST AN EGG.

Take nine ounces water and one ounce salt. Stir well and drop the egg in. If it floats it is not fresh.

A TASTY SYRUP.

A syrup that is a very good substitute for maple syrup may be made by boiling together 1 cup "C" sugar and 1/2 cup hot water. Just before taking off the fire add 1/2 teaspoon vanilla.

COOKING MEAT.

If the oven gets too hot when cooking meat lay a piece of brown paper over it to prevent scorching. Or place a pan of cold water in the oven.

FOR INSECTS ON PLANTS.

Make a suds of ivory soap and soft water, adding a tablespoonful of kerosene to each gallon. Thoroughly mix, then spray the plants.

TO IMPROVE SUEDE GLOVES.

When suede gloves or slippers have become shiny, rub the spots lightly with sandpaper.

THE PANTRY OR STORE-ROOM.

Keep all dry groceries and cereals in large glass candy jars if possible. This will keep them dry, clean, and free from insects or mice. The general store-room should be always kept airy and sweet. Butter, milk, eggs and flour all absorb odors and "off" flavors very readily.

News of the Week

CANADIAN.

It is now believed that over three hundred lives in all were lost by the wreck of the vessels on the Great Lakes during the terrible storm of November 9th and 10th. Upwards of thirty vessels were lost, including the James Carruthers, the largest freighter ever constructed in the British Empire. The disaster is marked as the worst that ever occurred in the history of inland lake navigation. The money loss will run into millions.

The gold medal of the Royal Society of England has been conferred upon Dr. Alexander Graham Bell in recognition of his inventions, notably that of the telephone. Dr. Bell is a Canadian. He was born in Brantford, Ont.

BRITISH AND FOREIGN.

A treaty of peace between Greece and Turkey was signed at Athens on November 13th.

It is reported that the Czarevitch, the Czar's only son, who has been ill for some time, cannot live more than six months. He is ten years of age.

Signor Ulivi, an Italian, has discovered a method of exploding mines for blowing up battleships by the use of wireless rays. The mines may be miles away from the exploding apparatus.

Lady Strathcona, wife of Lord Strathcona, Canada's High Commissioner, died in London last week.

The Nobel prize for literature was awarded on November 13th to the Hindu poet, Rabindranath Tagore, the first time it has gone to any other than a "white" man. The prize amounts to about \$40,000.

Miss Jessie Woodrow Wilson, daughter of President Wilson, will be married on November 25th, to Mr. Francis Bowes Sayre, the wedding to be very simple, as compared with other White House weddings. An interesting connection is that Dr. Wilfred T. Grenfell, of "the Labrador," with whom Mr. Sayre worked for a time, will be best man.

The Secretary of the U. S. navy has declared his admiration of Winston

Churchill's proposal that England and Germany agree to cease building battleships for one year. He adds his conviction that all first-class nations should be parties to an agreement stopping the building of such vessels completely for a stipulated time.

When Bismarck Shewed Pity.

Bismarck is always thought of as the Iron Chancellor, who cemented the German States into one empire with the blood of German soldiers shed in three great wars. But a French army surgeon, Doctor Czernicke, in a recent volume of reminiscences from which Forest and Stream quotes, most unexpectedly presents him as a man who felt and deplored all the horrors of war. The surgeon met the statesman at Rezonville during the Franco-Prussian War of 1870. "You are taking part, sir, in a terrible war," began Bismarck to the young man. "What a beginning for your career! What awful sights! What suffering!" "It is not you or these poor mutilated fellows that I should like to see here," Bismarck continued, earnestly, "but your Senators and Deputies! They would then see what war is."

This idea that the war had been forced upon the two nations by politicians was ever with Bismarck, according to Doctor Czernicke. He referred to it again on going over the battle-field, where, seated on some straw and propped up against a pillar of the church, was one of the French soldiers, a very young man. He was terribly wounded. A shell, striking him like the lash of a whip, had carried away both his eyes and the bridge of his nose, leaving the skull bare. The wound was covered with a dressing. He lay there, calm, silent, motionless, in dumb resignation. Bismarck stooped in front of him and asked the surgeon of the case. "There is war for you, messieurs the Senators and Deputies!" he said, bitterly. Then turning to one of his suite, "Please bring me some wine and a glass." He filled the glass to the brim, and took a sip. Then, gently tapping the poor fellow, "My friend, will you not drink something?" The wounded soldier roused himself. Bending, Bismarck very tenderly and slowly gave him the wine, and, rising again, almost solemnly drank what was left in the glass. "What is your name, my boy, and where do you come from?" "Rossignol—from Brittany."

"I am Bismarck, my comrade, and I am very proud to have drunk out of the same glass with a brave man like you." Stretching his hand over the horribly mutilated head, Bismarck gave mute benediction, and passed on.—Youth's Companion.

Little Sandy McPherson and his tall friend Henders were returning together from the festivities, leaning against each other for mutual support. "Henders, man, I canna remember what the bride looked like," said Sandy. "Whisht, man, whisht!" replied the other in a shocked voice. "'Twasna a weddin'; 'twas a funeral."

He had waited long years to marry her, waited till her rich old uncle's death had paved the way. "And do you still love me?" she asked anxiously. "My darling," he reassured her, "you are worth your wait in gold." Of course this was spoken, not written, so the fine distinction was not apparent to her.—New York Tribune.

CLEAN OUT THE MENTAL COBWEBS. Sam Walter Foss uses rhyme to read us farmers a very useful lesson, one that we should heed more than we do:

"Yes, clean yer house, and clean yer shed, And clean yer barn in ev'ry part; But brush the cobwebs from yer head, And sweep the snowbanks from yer heart.

Yes, when spring cleanin' comes around Bring forth the duster and the broom, But rake yer foggy notions down, And sweep yer dusty soul of gloom." —Hoard's Dairyman.

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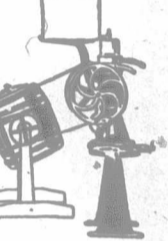
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knots. True, the boys admired the most thickly flowered gown immensely for a few minutes. Richard bringing me a posy to match for my hair, while Ian walked about me in silence which he broke suddenly with the trenchant remark—"Barbara, I think your dress would be prettier if it was weeded some!"

All of which is of course perfectly true. I have not been growing thinner all these six years, but this morning, in stooping over one of the cold frames to see how the plants within had weathered the storm, it came quite as a shock to me to feel that, like Martin Cortright, I am getting stout and in the way of myself when I bend, like an impediment in a door hinge.

However, as Miss Lavinia desired guidance in buying some real country clothes, I felt it my duty to give it. She is already making elaborate preparations for her visit to me. It seems strange, that simplicity is apparently one of the most laborious things in the world to those unaccustomed to it, yet so it is.

She is about to make her initial venture in shirtwaists, and she approaches them with as much caution as if she were experimenting with tights and trunks. The poor little seamstress who is officiating has, to my certain knowledge, tried one waist on five times, because, as Miss Lavinia does not "feel it," she thinks it cannot fit properly.

Never mind, she will get over all that, of course. The plan that she has formed of spending five or six months in the real country must appear somewhat in the light of a revolution to her, and the preparation of a special uniform and munitions for the campaign a necessary precaution. Her present plan is to come to me for May, then, if the life suits her, she will either take a small house that one of our farmer neighbors often rents for the summer months, or else, together with her maid, Lucy, board at one of the hill farms.

I have told her plainly (for what is friendship worth if one may not be frank) that if after trial we agree with each other, I hope she will stay with us all the season; but as for her maid, I myself will supply her place, if need be, and Kille do her mending, for I could not have Lucy come.

Perhaps it may be very narrow and provincial, but to harbor other people's servants seems to me like inviting contagion and subjecting one's kitchen to all the evils of boarding house atmosphere.

I used to think last summer, when I saw the arrival of various men and maids belonging to guests of the Bluff Colony, that I should feel much more at ease in the presence of royalty, and that I could probably entertain Queen Alexandra at dinner with less shock to her nerves and traditions than one of these ladies' maids or gentlemen's gentlemen.

Martha Corlie expresses her opinion freely upon this subject, and I must confess to being a willing listener, for she does not gossip, she portrays, and often with a masterly touch. The woes of her countrywoman, the Ponsonby's housekeeper, often stir her to the quick. The Ponsonby household is perhaps one of the most "difficult" on the Bluffs, because its members are of widely divergent ages. The three Ponsonby girls range from six to twenty-two, with a college freshman son second from the beginning, while Josephine, sister of the head of the family, though quite Miss Lavinia's age, is the gayest of the gay, and almost outdoes her good-naturedly giddy sister-in-law.

"It's just awful, Mrs. Evan," Martha said one day, when, judging by the contents of the station 'bus and baggage wagon, almost the entire Ponsonby house staff must have left at a swoop; "my eyes fairly bleeds for poor Mrs. Maggs" (the housekeeper), "that they do. 'Twas bad enough in the Old Country, where we knew our places, even though some was ambitious to get out of them; but here it's like blind man's buff, and enough to turn a body giddy. Mrs. Maggs hasn't a sittin' room of her own where she and the butler and the nurse can have their tea in peace or entertain guests, but she sets two tables in the servants' hall, and a pretty time she has of it.

"The kitchen maid and the laundress's assistant wait on the first table; but

one day when, the maid of one of Miss Ponsonby's friends comin' down over late, she was served with instead o' by them, she gave Mrs. Maggs the 'orriblest settin' down, as not knowin' her business in puttin' a lady's lady with servants' servants, the same which Mrs. Maggs does know perfectly (accidents bein' unpreventable), bein' child of Lord Peacock's steward and his head nurse, and swallowin' it all in with her mother's milk, so to speak, not borrowin' it second hand as some of the great folks on the Bluffs themselves do from their servants, not feelin' sure of the kerrect thing, yet desirin' so to do. Mrs. Maggs, poor body, she has more mess with that servants' hall first table than with all the big dinners the master gives.

"Mrs. Corlie," says she, bein' used to that name, besides Corlie bein' kin to her husband, "what I sets before my own household, as it were, they leaves or they eats, it's one to me; but company's got to be handled different, be it upstairs or down, for the name of the 'ouse, but when Mr. Jollie, the French valet that comes here frequent with the master's partner, wants dripped coffee and the fat scraped clean from his chop shank, else the flavor's spoiled for him, and Bruce the mistress' brother's man wants boiled coffee, and thick fat left on his breakfast ham, what stands between my poor 'ead and a h'asseylum? that's what I want to know. Three cooks I've had this very season, it really bein' the duty of the first kitchen maid to cook for the servants' hall; but if a cook is suited to a kitchen maid, as is most important, she'll stand by her. No, Martha Corlie, wages is 'igh, no doubt,—fortunes to what they were when we were gells,—but not 'igh for the worry; and bein' in service ain't what it were."

Then I knew that Martha, even as her bosom heaves over her friend's grievances, was also sighing with content at thought of Timothy Saunders and her own lot; and I recalled the Lady of the Bluffs' passing remark, and felt that I am only beginning to realize the deliciousness of "comfortable poverty."

Miss Lavinia and I spent some time browsing among the shops, finally bringing up at an old conservative dry goods concern in Broadway, the most satisfactory place to shop in New York, because there is never a crowd, and the salesmen, many of them grown gray in the service, take an Old World interest in their wares and in you.

While I was trying to convince Miss Lavinia as to the need of serviceable, she was equally determined to decoy me toward the frivolous; and I yielded, I may say fell, to the extent of buying a white crepey sort of pattern gown that had an open work white lilac pattern embroidered on it. It certainly was very lovely, and it is nice to have a really good gown in reserve, even if a plainer one that will stand hugging, sticky fingers, and dogs' damp noses is more truly enjoyable.

N. B.—I must get over apologizing to myself when I buy respectable clothes. It savors too much of Aunt Lot's old habit of saying, every time she bought a best gown, and I remonstrated with her for the color (it was always black in those days; since she's married the Reverend Jabez she's taken to greens). "When I consider that a black dress would be suitable to be buried in, it seems like a vain luxury."

We were admiring the dainty muslins, but only in the "abstract," when I looked up, conscious that some one was coming directly toward us, and saw Sylvia Latham crossing the shop from the door, her rapid, swinging gait bringing her to us before short-sighted Miss Lavinia had a chance to raise her log-nette.

Sylvia was genuinely glad to see us, and she expressed it both by look and speech, without the slightest symptom of gush, yet with the confiding manner of one who craves companionship. I had, in fact, noticed the same thing during our call the afternoon before.

"Well, and what are we buying to-day?" asked Miss Lavinia, clearing her voice by a little caressing sound halfway between a purr and a cluck, and patting the hand that lingered affectionately on hers.

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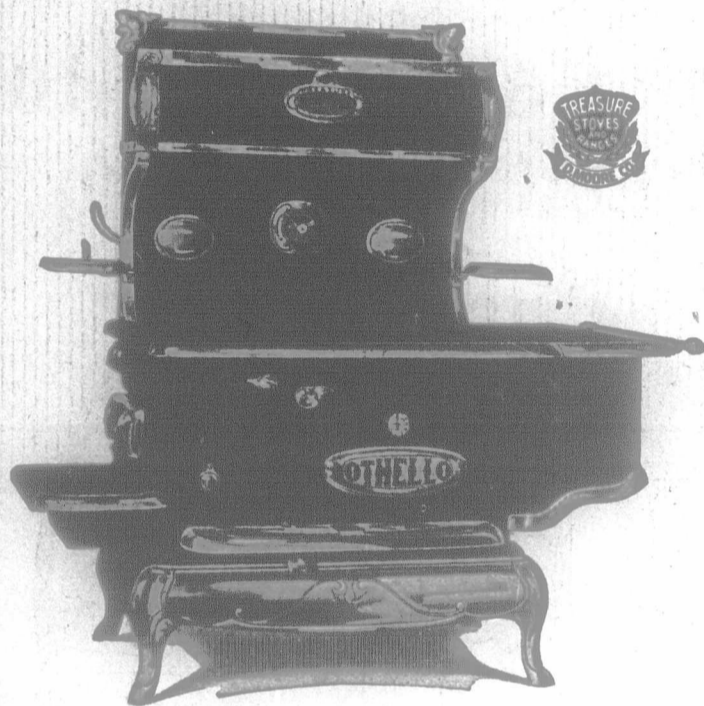
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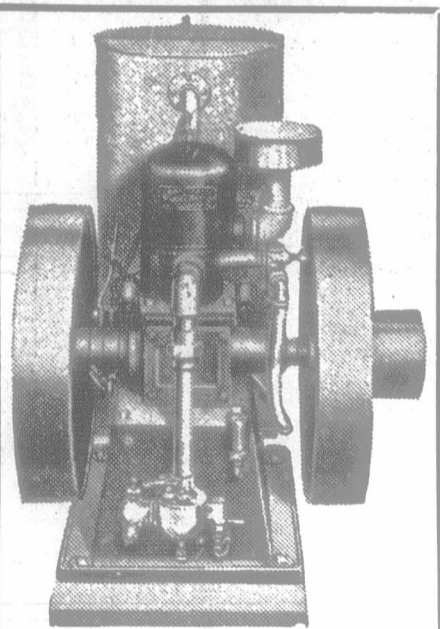
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"I really—don't—know," answered Sylvia, smiling at her own hesitation. "Mamma says that if I do not get my clothes together before people begin to come back from the South, I shall be nowhere, so she took me to her Mme. Couteaux's this morning. Mamma goes there because she says it saves so much trouble. Madame keeps a list of every article her customers have, and supplies everything, even down to under linen and hosiery, so she has made for mamma a plan of exactly what she would need for next season, and after having received her permission, will at once begin to carry it out. Of course the clothes will be very beautiful and harmonious, and mamma has so much on her hands, now that father is away,—the new cottage at Oaklands is being furnished, and me to initiate in the way I'm supposed to go,—that it certainly simplifies matters for her.

"Me? Ah, I do not like the system at all, or Madame Couteaux either, and the feeling is mutual, I assure you. Without waiting to be asked, even, she looked me over from head to foot and said that my lines are very bad, that I curve in and out at the wrong places, that I must at once be wearing higher heels to throw me forward!

"At first I was indignant, and then the ludicrous climbed uppermost, and I laughed, whereat Madame looked positively shocked, and even mamma seemed aghast and murmured something apologetic about my having been at boarding-school in the country, and at college, where I had ridden horseback without proper instruction, which had injured my figure. Only imagine, Aunt Lavinia, those glorious gallops among the Rockcliffe Hills hurting one's body in any way! But then, I suppose body and figure are wholly different things; at any rate, Madame Couteaux gave a shrug, as if shedding all responsibility for my future from her fat shoulders, and so, while mamma is there, I am taking a run out in the cold world of raw material and observing for myself.

"Of course I shall make mistakes, but I have had everything done for me to such an extent, during the last four months, that I really must make a point of picking and choosing for once. I've had a mad desire since the last storm to stir up the pools in the gutters with my best shoes, as the happy little children do with their rubber boots. How I shall enjoy it when we go to Oaklands, and there is really something to do instead of merely being amused.

"By the way, Mrs. Evan, won't you and Miss Lavinia join us at luncheon? We are to have it somewhere downtown, to-day,—the Waldorf, I believe,—as mamma expects to spend most of the afternoon at the decorators' to see the designs for the Oaklands hangings and furniture, and," glancing at the big clock, between the lifts, as Miss Lavinia made her last purchase, "it's high time for me to go and pick her up."

Having a feeling that possibly mamma might not be so cordial, in addition to being due at home for more shirtwaist fittings, Miss Lavinia declined, and reminding Sylvia that dinner would be at the old-fashioned hour of half-past six, we drifted out the door together, Sylvia going toward Fifth Avenue, while we turned the corner and sauntered down Broadway, pausing at every attractive window.

Miss Lavinia's short-sightedness caused her to bump into a man, who was intently gazing, from the height of six feet, at jewelled hugs, displayed in the window of a dealer in Oriental wares.

The man, thinking himself to blame, raised his hat in apology, glancing casually down as he did so, whereupon the hat remained off, and he and Miss Lavinia grasped hands with sudden enthusiasm, followed by a medley of questions and answers, so that before she remembered me, and turned to introduce the stranger, I knew that it was Horace Bradford himself. A strange, but positive, fact about New York is that one may at one time be in it but a few hours and run across half the people of one's acquaintance, gathered from all parts of the country, and at another, wander about for weeks without seeing a familiar face.

I liked Bradford from the moment I shook hands with him. There is so

much in the mere touching of hands. His neither crushed as if to compel, nor flopped equivocally, but said, as it enclosed yours in its bigness, "I am here, command me."

Broadway, during shopping hours, is not an ideal place for the interchange of either ideas, or more, even, than the merest courtesies: but after thanking Miss Lavinia for the dinner invitation, to which he had just sent the answer, and inquiring for Sylvia Latham, as he walked beside us for a block or two, it was very evident that he had something on his mind that he wished to say, and did not know how to compass the matter.

As he talked to Miss Lavinia in jerky monosyllables,—the only speech that the noise made possible,—I had a chance to look at him. He did not possess a single feature of classic proportions, and yet he was a handsome man, owing to the illumination of his face. Brown, introspective eyes, with a merry way of shutting; heavy, dark hair and brows, and a few, thoughtful lines here and there; mustache pulled down at the corners, as if by the unconscious weight of a nervously strong hand; and a firm jaw, but not squared to the point that suggests the dominance of the physical. He wore a dark gray Inverness coat, evidently one of the fruits of his English tour, and a well-proportioned soft felt hat, set on firmly, the crown creased in the precise way necessary to justify the city use of the article by a man of thirty. He seemed to be in excellent, almost boyish spirits, and so natural and wholesome withal, that I am sure I should not feel at all embarrassed at finding myself alone with him on a desert island. This is one of my pet similes of approval.

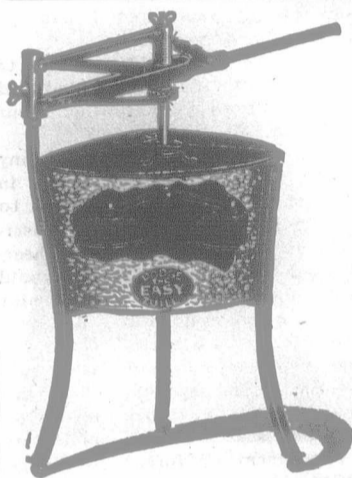
Finally he blurted out: "Miss Lavinia, I do so wish your advice upon a strictly woman's matter; one, however, that

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is of great importance to me. I shall have to take the night express back, and this is the only time I have left. Would you—could we go in somewhere, do you think, and have something while I explain?"

Miss Lavinia looked dubious as to whether his invitation might mean drinks, man fashion, or luncheon. But as at that moment we reached the chief New York residence of well-born ice cream soda, for which I always hanker, in spite of snow and slush, much to Evan's disgust, I relieved the situation by plunging in, saying that I was even more thirsty in winter than in summer. Whereat Miss Lavinia shivered, but cheerfully resigned herself to hot chocolate.

"The matter in point is," continued Bradford, feeling boyishly of one of the blocks of ice that decorated the counter to find it was real, and speaking directly to Miss Lavinia. "I've had a great happiness come into my life this last week; something that I did not expect to happen for years. My chief has retired, and I have been promoted. I will not take your time to go selfishly into details now. I can tell you tonight, if you care to hear. I cannot go home until the Easter holidays, and so I want to send something to my mother by way of celebration. Would you select it for me?" said the big fellow swept the shop with an indefinite sort of gaze, as if buying candy for the universe would but feebly express his feelings.

"Certainly I will," replied Miss Lavinia, warming at once;—"but what kind of something?"

"I think,"—hesitating a trifle,—"a very good gown, and an ornament of some kind."

"Would she not prefer choosing the gown herself? People's tastes differ so much about clothing," ventured Miss Lavinia.

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vinia, willing, even anxious, to help the man, yet shrinking from the possibility of feminine criticism.

"No, I think not; that is, it doesn't work well. Beforetimes I've often written her to buy some little finery to wear for my sake, but my gift has generally been turned into flannels for poor children or to restock the chickenyard of some unfortunate neighbor whose fowls have all died of gapes. While if I send her the articles themselves, she will prize and wear them, even if the gown was a horse blanket and the ornament a Plymouth Rock rooster to wear on her head. You know how mothers are about buying things for themselves, don't you, Mrs. Evan?" he said, turning to me, that I need not consider myself excluded from the conversation.

"I have no mother, but I have two little sons," I answered.

"Ah, then you will know as soon as they grow old enough to wish to buy things for you," and somehow the soda water flew up my nose, and I had to grope for my handkerchief.

Miss Lavinia evidently did not like to ask Mrs. Bradford's age, so she evaded it by asking, "Does your mother wear colors or black, Mr. Bradford?"

"She has worn black ever since my father died; for the last ten years, in fact. I wish I could persuade her to adopt something that looks more cheerful, for she is the very essence of cheerfulness herself. Do you think this would be a good time to give a sort of hint by choosing a colored gown, a handsome blue silk, for instance?"

"I know precisely how you feel," said Miss Lavinia, laying her hand upon his sleeve sympathetically, "men never like mourning; but still I advise you not to try the experiment or force the change. A brocaded black silk gown, with a pretty lace fichu to soften it about the shoulders, and a simple pin to hold it together at the neck,—how would that suit you?" As she spoke she waved her dainty hands about so expressively in a way of her own that I could seem to see the folds of the material drape themselves.

"That is it! You have exactly the idea that I could not formulate. How clever women are!" he exclaimed, and for a minute I really thought he was going to hug Miss Lavinia.

"One other favor. Will you buy these things for me? I always feel so out of place and cowardly in the women's shops where such things are sold. Will \$100 be enough, think you?" he added a trifle anxiously, as he drew a small envelope from a compartment of his letter book, where it had evidently been stowed away for this special purpose.

"Yes, I can manage nicely with it," replied Miss Lavinia, cheerfully; "and now you must leave us at once, so that we can do this shopping, and not be too late for luncheon. Remember, dinner to-night at 6.30."

"One thing more," he said, as we turned to leave, "I shall not now have time to present my respects to Miss Lathan's mother as I intended; do you think that she will hold me very rude? I remember that Miss Sylvia once said her mother was very particular in matters of etiquette,—about her going out unchaperoned and all that,—and should not wish her to feel slighted." Miss Lavinia assured him very dryly that he need not worry upon that score, that no notice would be taken of the omission. Not saying, however, that in all probability he was entirely unconsidered, ranked as a tutor and little better than a governess by the elder woman, even if Sylvia had spoken of him as her instructor.

So, after holding open the heavy doors for us, he strode off down town, the bright smile still lingering about his eyes, while we retraced our steps to the shop we had visited early that morning, and then down to a Jeweller's. The result was a dress pattern of soft black silk, brocaded with a small leafy design, a graceful lace-edged, muslin fichu, and an onyx bar pin upon which three butterflies were outlined by tiny pearls.

"Isn't he a dear fellow?" asked Miss Lavinia, apparently of a big gray truck horse that blocked the way as we waited at the last crossing before reaching home. And I replied, "He—certainly is," with rash but unshakable feminine conviction.

(To be continued.)

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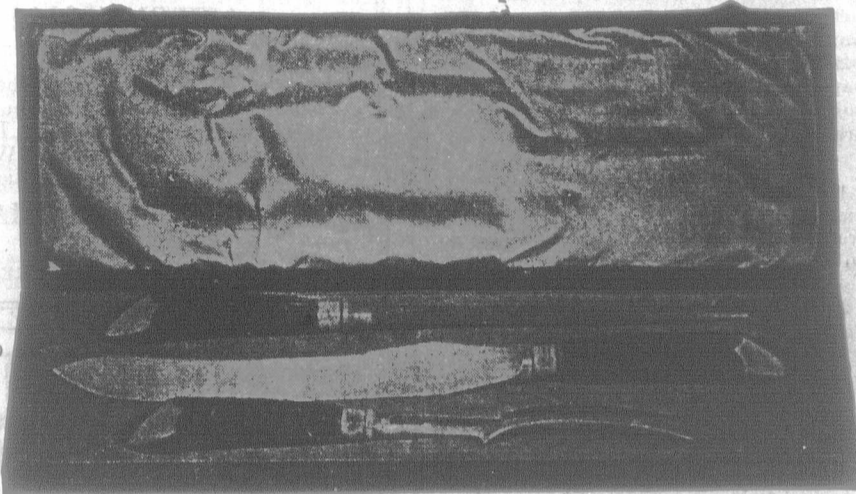
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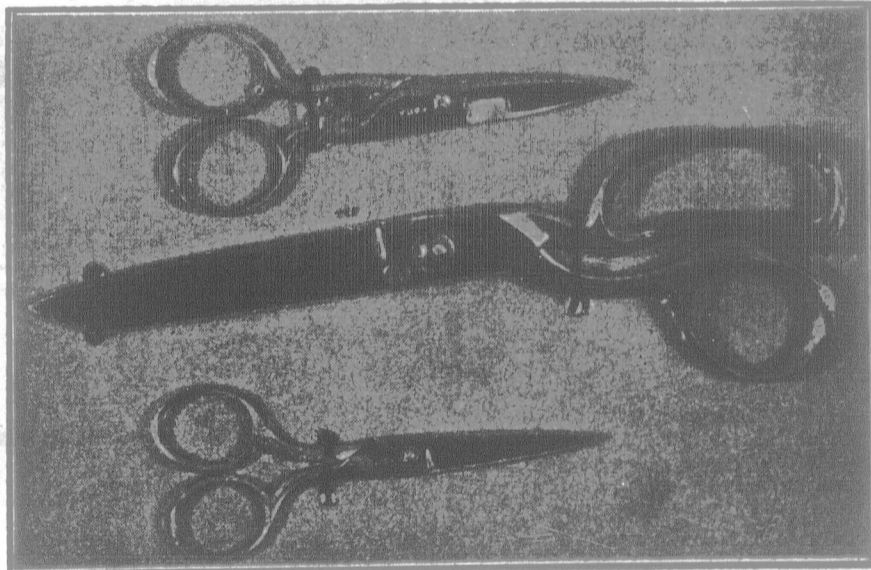
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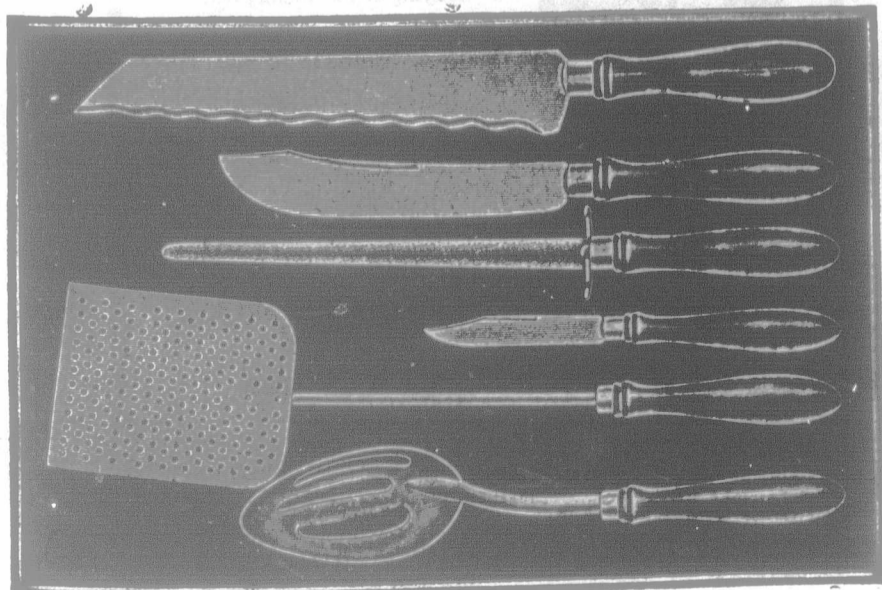
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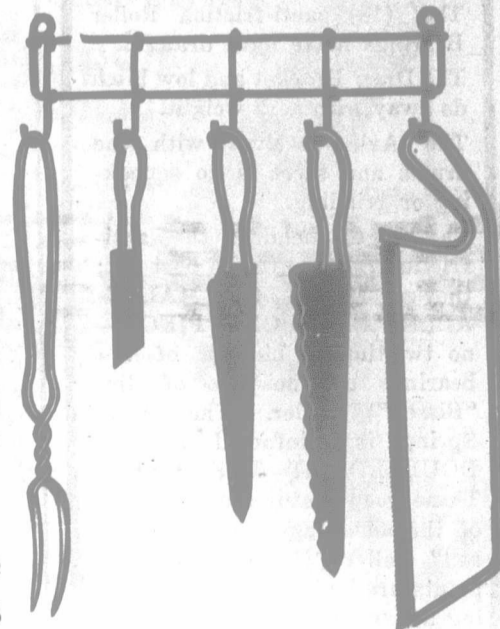
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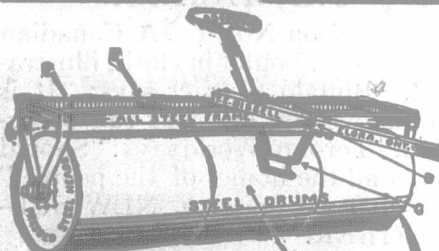
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3rd.—In Veterinary questions the symptoms especially must be fully and clearly stated otherwise satisfactory replies cannot be given.

4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Veterinary.

Chronic Cough.

Mare had distemper or cold last fall, and she has coughed ever since. It is not heaves. I have given her different treatment without results.

Ans.—Chronic coughs like this are very hard to check. You will probably find benefit by giving her every morning 1 dram powdered opium, 1½ drams solid extract of belladonna, 1 dram camphor, and 80 grains digitalis, with sufficient oil of tar to make moist. Roll in tissue paper and administer as a ball, or dissolve in warm water and give as a drench.

Unthrifty Heifer and Steer.

1. Heifer calved last May and became very stiff in her legs. My veterinarian treated her for pneumonia, but she got no better. She eats well, but is very poor.

2. Steer voids urine constantly in drops. He is very poor, but eats well.

Ans.—This heifer may be tubercular, but there is no means of diagnosing except the tuberculin test, applied by a veterinarian. She may be rheumatic. Give her 1 dram salicylic acid three times daily, and rub the joints of her legs well three times daily with hot camphorated oil.

2. There are probably calculi (stones) in the bladder, for which treatment is not successful. As he eats well, tonics would do no good. I am of the opinion that it would be wise to destroy him.

Miscellaneous.

Books on Swine.

Can you tell me what is the best work on pigs, and the rearing of them, and where the book can be obtained?

Ans.—"Swine in America," by F. D. Coburn, is an exhaustive work on swine. It is published by the Orange Judd Company, or may be procured through this office for \$2.50, postpaid. "Swine," by Prof. G. E. Day, O. A. C., Guelph, is also a good book, but we understand it is out of print, being replaced by another work by the same author.

Blackhead in Turkeys.

Can you tell me what is the matter with my turkeys? They get stupid and won't eat; their heads get a blue-black color, and have a slight diarrhoea; which is of orange color. I am feeding a mixture of whole grain, and one dies about every other day. What is the cause, and what can I do for them? They are full-grown, but not fat. Would you advise me to get a change of turkey hens to keep over for another year?

Ans.—Your turkeys, evidently, are affected with a disease known as blackhead. If you would open one, you would likely find the liver much enlarged, and studded with pale, irregular spots. They may be gray, pale-brown, or yellow in color. A dead fowl sent to the Bacteriological Department, O. A. C., Guelph, will be examined free of charge, and a report returned to you. The individual fowl is very hard to treat, but when the disease manifests itself, the victim should be isolated at once from the rest of the flock. Take away all birds that show any symptoms of the disease, and change the healthy ones to new haunts. Where possible, plow or dig up the old runs, and cleanse the buildings thoroughly where they might go for shelter. A remedy sometimes effective is to starve the bird forty-eight hours, and then allow it to drink from a mixture of one teaspoonful of muriatic acid to a quart of water. You would be wise to get new stock, or wiser still, to cease raising turkeys for a couple of years. The disease is caused by a germ, which would perish from the soil and surroundings in that time.



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STOVE POLISH**

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FOR A BRIGHT STOVE AND A BRIGHT
REPUTATION, USE BLACK KNIGHT.

A PASTE | THE F. F. DALLEY & LTD. | No DUST
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Must be bought by us this year. We must have them to fill our large European orders. If you ship to others we must buy your furs from them. We must pay them a profit on your furs. By shipping direct to us you will get this extra profit yourself. This means far more money for you. We guarantee to satisfy you. We pay all express charges. Write at once for our price list and general fur information.

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We don't ask you to pay us a cent until you have used this wonderful modern light in your own home for ten days, then you may return it at our expense if not perfectly satisfied. We want you to prove for yourself that it gives five to fifteen times as much light as the ordinary oil lamp; beats electric, gasoline or acetylene. Lights and is put out just like the old oil lamp.

BURNS 70 HOURS ON 1 GALLON OIL

Gives powerful white light, burns common coal oil (kerosene), no odor, smoke or noise, simple, clean, won't explode. Guaranteed.

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will be given to the person who shows us an oil lamp equal to this Aladdin in every way (details of offer given in our circular). Would we dare make such a challenge to the world if there was the slightest doubt as to the merits of the Aladdin? We want one person in each locality to whom we can refer customers. Write quick for our 10 Day Absolutely Free Trial Proposition, Agents' Wholesale Prices, and learn how to get ONE FREE.

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Buying at the factory will land this range at your station freight prepaid for \$20.00 less than the next best stove on the market. You pocket the dealer's profit—about 30 per cent.—get a beautiful steel and malleable iron range built to last a lifetime. And what's more you save money every month on your fuel bill.

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WE are now starting to pack poultry for the WESTERN CANADA CHRISTMAS MARKETS. As soon as your birds are ready we will buy them. Feed is dear, and there will be nothing gained by holding. Write to-day for our Weekly Poultry Letter if you live west of Toronto and have poultry to sell.

We supply crates and guarantee prices f.o.b. your nearest station. We pay a special price for milk-fed crate-fattened chickens.

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can be cured, not merely of the habit, but of its cause. The Arnott Institute has permanently restored natural speech to thousands—is doing it to-day. Write for full information to:

The Arnott Institute, Berlin, Ont., Can.

CREAM WANTED

We pay the highest price for butterfat and remit for each shipment. We also furnish cans and pay the express charges. Give us a trial.

Silverwoods Creamery, London, Ont.

Gossip.

In the live-stock section, the New National Show will have two carloads of Shorthorns from the United States, one from Ohio and one from Wisconsin. There will be quite an exhibit of poultry from the other side, as well as dogs. The exhibits of live stock are naturally pretty well confined to Ontario. Everything is shaping up at the present time very satisfactorily, and an especially good exhibit of live stock is expected.

THE SALE OF CLYDES AND SHIRES AT ORMSBY GRANGE.

Perhaps never before on any breeding farm in Canada were so many extra quality mares and foals, fillies and stallions, exhibited, as were to be seen at Dr. McEachran's farm, Ormsby Grange, on Friday, November 7th. The day was superb, the stock was in prime condition, and the crowd was there full of admiration, but owing to the tightness of money, due to the closing down on loans by all banks; and largely, too, owing to the shortness of hay and oats in the country, the farmers present actually could not buy. A few sales were made, however, which will illustrate the quality offered. Dumore Forget-me-not, three-year-old Clyde filly, by Hiawatha, out of a Royal Favorite mare, and in foal to Harvester Pride, was sold to James B. Wilson, Lacolle, Que., for \$1,200, a price much under her value, as her equal has seldom, if ever, crossed the ocean. Fyvie Time, a grand, big three-year-old stallion, by Baron Beaulieu, weighing nearly a ton, was sold to A. Langtree, Huntingdon, Que., for a price also much below his value, \$1,000. Lady Edward, a four-year-old mare, with foal at foot, and in foal to Selborne, went to D. A. Lafortune, M.P., St. Laurent, for \$400. This is a beautiful mare. She was first at the Highland Society's Show as a yearling, and took many other prizes. Her foal was withdrawn; it is by Star o' Doone. Macterry Lily (84528), two years old, by Lord Young, a superb filly, selected out of the stud of A. & W. Montgomery, went to Mr. Lafortune for \$450. Sally of Moss Side, by Alderman, one of the most typical present-day show fillies in the lot, a beautiful bay two-year-old, also to Mr. Lafortune, for \$450. The others were withdrawn. Such stock cannot fail to attract buyers, and no doubt many who purpose starting Clydesdale or Shire breeding, or breeders who wish to increase their brood mares, will take advantage of such a collection of high-class Clydes and Shires as are to be seen at Ormsby Grange, where they can select from a large number, and buy at the right prices.

PATRIOTIC.

An Englishman met a friend, and said: "I say, old man; I've got an awfully good idea, don't you know. I'm going to have a music-box put up in my bath-room, so when I'm having my bath, I can have a bit of music, don't you know?"

His friend didn't seem to think much of the idea, and when he met him some time afterward, he asked how the idea of the music-box in the bath-room came off.

"Oh," said his friend, "to tell the truth, it wasn't much of a success. The plagued thing would only play 'God Save the King,' and I had to stand up all the time."

Judge Ben. B. Lindsey, the noted reformer of Denver, was lurching one day—it was very warm—when a politician paused beside the table.

"Judge," said the politician, "I see you're drinking hot coffee. That's a heatin' drink."

"Yes!" said Judge Lindsey.

"Oh, yes. In this weather you want iced drinks, judge—sharp, iced drinks. Did you ever try gin and ginger ale?"

"No," said the judge, smiling, "but I've tried several fellows who have."

LOGICAL.

The lady of a large house one day said to her gardener:

"Thomas I wonder you don't get married. You've got a house, and all you need to complete it is a wife. You know, the first gardener that ever lived had a wife."

"Quite right, missus," said Thomas; "but he didn't keep his job long after he got her."

SYDNEY BASIC SLAG

The Best Fertilizer for the Clay Sands of Ontario.

Mr. T. H. Hill, Jellyby, Leeds County, bought two tons last season for trial and our travelling representative for Eastern Ontario writes us as follows:

"Enclosed please find order for 20 tons of Basic Slag from Mr. T. H. Hill. This is the man who got 2 tons last spring and had such good results that he has decided to place it with his neighbours this season. He has already taken orders for 12 tons and expects to make it 40 tons before the end of the year."

Twenty thousand tons of Basic Slag were used in the Provinces of Nova Scotia, New Brunswick and Quebec last season. Just think that over! The need of Basic Slag is equally great in Ontario, and for \$20 you can get one ton delivered at your nearest station. Give these goods a trial. You will find them the best investment you ever made.

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Made it Productive

Write us about arranging demonstrations, also for our free booklet; it tells you how the above facts were accomplished.

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Ormsby Grange Stock Farm Ormsby Grange, P. Que. Owing to being overstocked I am desirous of disposing of a number of imported fillies and stallions. Clydesdales and Shires at most reasonable prices. They are all personally selected out of A. W. Montgomery's Clyde studs and the Bramhope Shire stud. Send for catalogue.
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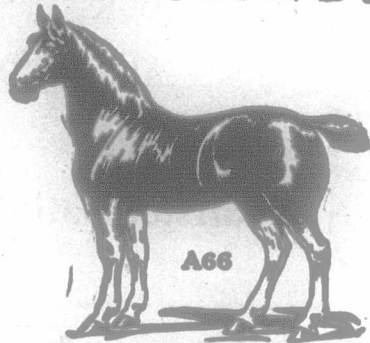
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EQUAL. Removes the scum—disinfects the muscles.
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Knee, Lacerated and Ruptured Tendons,
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nothing that can injure the horse and
heals without leaving scar, blemish or
loss of hair.

Ask your druggist for Mack's \$1,000
Spavin Remedy—if he cannot supply
you, write direct to us. Ask for our
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cause of your horse's lameness, mark on
horse above where lameness occurs and
tell us how it affects his gait, also tell age
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cure it. This service is free.

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a big knee like this, but your horse
may have a bunch or bruise on his
Ankle, Heck, Stifle, Knee or Throat.

ABSORBINE
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will clean it off without laying the
horse up. No blister, no hair
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write at once, when
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diplomaed veterinary doctor. For any
diseases, write and consult him now.

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Is made by a clean and pure process.
Composed of perfect crystals.

ASK FOR IT.

North American Chemical Co., Ltd.
Clinton, Ontario

Can She lay an Egg per Day?

A well-known American poultryman
writing of the advances made in the
poultry industry during recent years,
says, among other things:

"Where once pure-bred fowls were a
rarity, to-day they are in the majority.
No well-regulated utility poultry plant of
to-day deems other than pure-bred fowls
worthy of consideration. Intelligent
minds are bending every energy to pro-
duce hens that will lay two eggs where
once they laid but one.

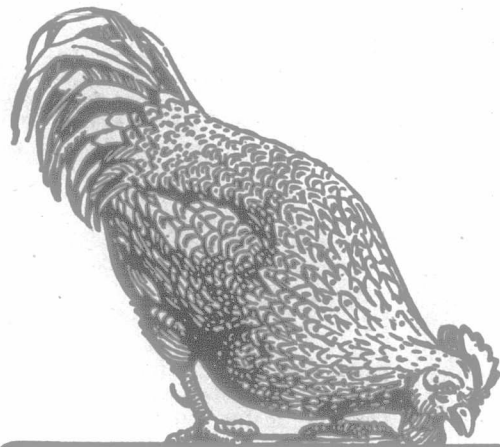
"Flesh fowls of high merit are already
a fact. That which was merely a whim
for fancy feathers has grown into an in-
dustry that surely represents the greatest
good to the greatest number. The fancy
and utility have become inseparable. The
pure-bred fowl of the fancier has become
the pet and solace of the utilitarian.
The mongrel of fifty years ago has been
replaced by the aristocrats of 1912.
Uniformity of type and feather markings
are to-day the sign and seal of uniform-
ity in meat products. Intelligent selection
to produce high-class egg-producers
has also developed uniformity of type
and kind of fowl, as well as uniformity
of color of egg, and its size;
and all this to the final extinction of
mongrelism. And yet, as one studies the
industry in every phase, the realization
comes that the industry is but in its
kindergarten. Realizing what has been
done in the last fifty years, and especial-
ly the last five, it seems almost beyond
comprehension to realize what may be
accomplished in the next fifty with this
great and exceedingly rapid growing in-
dustry. Already the progressive mind in
poultrydom is casting aside the problem
of the 200-egg hen for the hen that will
lay an egg each day, or 365 eggs yearly.

"Twenty-five years ago 100 eggs per
hen was considered good laying; to-day
175 is the low limit for good egg yield,
and many authentic reports of over 200
eggs per hen are in existence. Fifty
years ago any sort of a chick was mar-
ketable; to-day the strife is to produce
the most pounds of flesh in the fewest
weeks and the least feed; the breeders
that follow the precepts of 'aud lang
synne' are much in the minority; the modern
type of poultryman is he who be-
lieves in the most profit for the least
labor and time. Where fifty years ago a
chicken man was on a par with the
'squaw man' of the West, 'a thing of
ridicule,' to-day the giants of this in-
dustry divide honors and attention with
the great men of the world. A new
corps of workers has come into existence,
i. e., the expert poultryman, who derives
a lucrative income from a knowledge of
hens. They are divided into three classes:
The professor of poultry husbandry at
the agricultural colleges, the manager of
large poultry plants, and the itinerant
expert who travels from place to place
as judge, lecturer, general advisor and
conditioner; then there are the assistants
on the poultry plants at the colleges; the
corps of scientific men who are delving
into the mysteries of chicken life for the
betterment of the industry; the expert
workers on utility plants, whose main
work is killing and dressing poultry for
market."

Book Review.

OUR DOMESTIC BIRDS.

John H. Robinson, author of "Prin-
ciples and Practice of Poultry Culture,"
has completed another work entitled,
"Our Domestic Birds." This work is of
an introductory character, leading up to
his former work, "Poultry Culture,"
which is becoming a recognized text-book
in agricultural colleges and schools. This
new book is intended for use in junior
classes, and for beginners in practical
poultry-keeping. The book is profusely
illustrated. It is readable, omitting
technicalities and unnecessary references,
which are replaced by good, clear, direct
information, indicating study and experi-
ence on the part of the writer.
Fowls, geese, ducks, and turkeys, as well
as pigeons and cage-birds, are discussed
so fully that the reader may obtain a
knowledge of their origin, type, char-
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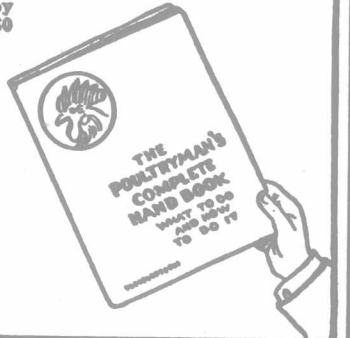
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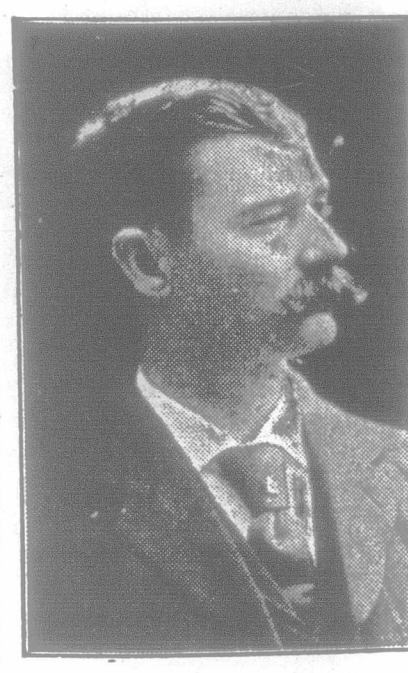
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PERCHERONS



I wish to intimate to the draft horse breeders of Canada that my importation of over 50 head of Percheron stallions, mares, and fillies will arrive at Weston, Ont. about Tuesday, Nov. 11th. I have been successful in buying the best lot I ever imported, nearly all greys, aged from 1 to 6 years. I will exhibit at the Toronto and Guelph shows. Be sure to see them there and don't buy until you do see them, for I have the size and quality you want and the kind the country wants.

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Imp. Stallions CLYDESDALES Fillies Imp. To the Clydesdale men of Canada we wish to say our 1913 importation is home, and we have some of the best show material in this country. More size, more style, more quality, more character and better breeding than ever before. In both stallions and fillies. JOHN A. BOAG & SON, Queensville, Ont. Electric Cars every hour.

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The World's Butter.

The New York Produce Review, in a lengthy article dealing with what they call "Foreign Butter Trade Statistics," states that Canada can no longer be counted as an exporting country. In part, it states that the records of British butter imports for the past ten years indicate that during that period only Siberia, Sweden and Australia have materially increased their surplus available for export. Of these three, Siberia and Sweden can probably be depended upon to continue to show a steady increase. The Australian climate is very uncertain for dairying. During favorable seasons that country's surplus is large (it supplied Great Britain with 44,895 tons during the year ending June 30, 1911), but for two years drought has cut down production heavily. Australia, therefore, as an exporter of butter, is a very uncertain factor, though the prospects are said to be favorable for a large make during the season just opening. New Zealand is blessed with favorable climate for dairying, and the industry is developing quite rapidly. Her total exports of butter and cheese will probably continue to consistently increase. Canada, Germany, Italy, and the United States can no longer be numbered among the butter-exporting countries. France and Holland still have a considerable surplus, though this surplus has tended to decrease in the past ten years. Norway and Argentina have not increased their surplus during that period. The importance of Denmark in buttering the Englishman's bread is clearly indicated. That diminutive country still furnishes almost half the British importations. Its total surplus varies somewhat, according to the favorableness or unfavorableness of the season, and lately heavier exports of cream to Germany have reduced butter production somewhat. But it is a very consistent producer, and the favorable climate and high standard of dairy intelligence prevailing, tend to make its production less susceptible to serious fluctuation than most countries. In the production of the Cheddar type of cheese, Canada still has the largest surplus for export. But the quantity that the Dominion can spare is steadily growing less, while New Zealand is as steadily adding to its exportable production. Holland has lately increased its shipments of part skim Cheddar types, and it is expected that this increase will be continued; and since these cheaper grades are less protected than best grades under an ad valorem duty, we may see some of them on our markets to compete with State skims before the present winter closes.

Soil Fertility Wants.

Did you ever hear a man say, "We don't grow the crops we used to. This land is getting run out." Very often this statement applies only too truly, especially where the land has not been properly worked, and is in need of fertilizer. But people worried about the decline of soil fertility over three hundred years ago. An American contemporary, in pointing out this fact, quotes Vauban, who, over three centuries ago, wrote: "There has been for a long while, and in every part of the world, complaints that the crops are gradually becoming poorer, both in quantity and quality. Farms no longer yield the returns they used to, and still no one seems to investigate carefully the reasons for this decrease, which is growing more serious every year. Some countries, once the center of flourishing agricultural industries, such as Egypt and Sicily, granaries of which supplied food in abundance to the Roman Empire, have become almost barren, unable even to feed their own scanty population."

Pat and Jim were trudging along the dusty road when a big touring car passed them with a whiz like a roar of a gigantic rocket, disappearing in a cloud of dust. "Gorry!" exclaimed Pat, "them chug wagons must cost a hape av cash. The rich in this country is fairly burnin' money."

"Indade, thin," replied Jim, "be the smell av it, it must be that tainted money we do be hearin' so much about."

SAVE-THE-HORSE



THE LAME HORSE is never cured whose owner reads and doubts—BUT FAILS TO ACT—Here is a case in point—And what happened to this subscriber is taking place with thousands. Letter No. 1. Orleans, Vermont, April 26, 1912. Troy Chemical Co., Binghamton, N. Y.—Your ady. has given me courage to try again. I have a valuable pacer. Two years ago he went lame. I tried every remedy, and doctors have blistered three times for spavin and twice hip. The symptoms are—etc., etc. I determined to see what you think. HALE MASON.

Letter No. 2. Orleans, Vt., May 2, 1912.—I received your letter and book yesterday, and believe you are right about its being a bone spavin. I was so encouraged I drove eight miles and bought a bottle of Fred D. Pierce, druggist at Barton, and will closely follow your special instructions. Thanking you for your quick reply to my first letter, I remain, HALE MASON.

Letter No. 3. Orleans, Vt., Oct. 2, 1912.—Perhaps you expected to hear from me before, but I have been waiting to see if any trouble would return after stopping the treatment. I am pleased to say the horse is well. I cannot thank you enough for your interest and the advice you gave. If I had known about it two years ago it would have saved me a lot of money. Yours respectfully, HALE MASON.

Save-The-Horse has stood alone and unique among veterinary remedies for over 17 years. Every bottle of Save-The-Horse is sold with an ironclad contract that has \$60,000 paid-up capital back of it, guaranteeing to permanently cure or refund the money; no matter whether it is Bone or Bog Spavin, Tendon disease or Puffs—nor how aged, serious or complicated the lameness or blemish may be. But write, describe your case, and we will send our BOOK—sample contract, letters from breeders and business men the world over, on every kind of case and advice—all free (to horse owners and managers).

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For the cure of Spavins, Ringbones, Curbs, Splints, Windgalls, Capped Hocks, Strains or Bruises, Thick Neck from Distemper, Ringworm on cattle, and to remove all unnatural enlargements. This preparation, used as a liniment, acts by absorbing rather than blistering. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by Dr. Frederick A. Page & Son, 7 and 9 Yorkshire Road, London, E.C. Mailed to any address upon receipt of price \$1.00.—Canadian agents:

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Against Death by Accident or Disease Specialties of Stallions, In-foal Mares, Track Horses, Transit, etc. Liberal policy issued by a Company operating under Federal Insurance Department's supervision.

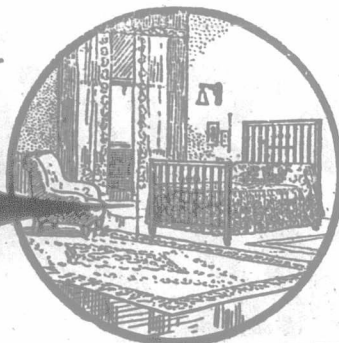
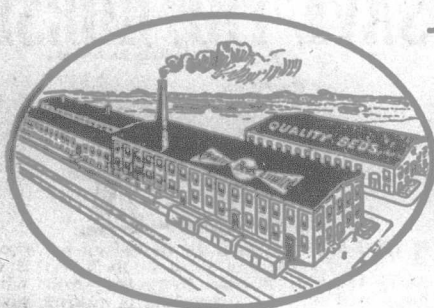
WRITE FOR FREE BOOKLET. The General Animals Insurance Company of Canada Head Office: 71a St. James Street, Montreal, Que.

Notice to Importers C. CHABOUDEZ & SON

205 rue La Fayette, PARIS, FRANCE If you want to buy Percheron Horses and Mares, I will save you time and money and all troubles with papers and shipment. Will meet importers at any landing port. I am acquainted with all breeders and farmers. 30 years experience. Best reference. Correspondence solicited.

DR. BELL'S Veterinary Medical Wonder. FREE to horsemen who will give The Wonder a fair trial. Guaranteed to cure inflammation, Colic, Coughs, Colds, Distemper, Fevers, etc. Agents wanted. Dr. Bell V. S., Kingston, Ont.

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Write to-day for our catalogue and send us a trial order at factory price. You'll find it the best buy you ever made.

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Right Up To The Last Minute

THERE is no complicated "nest" of gears—no hard-to-clean "contraptions" in the bowl—no oil cups or glass lubricators—on the

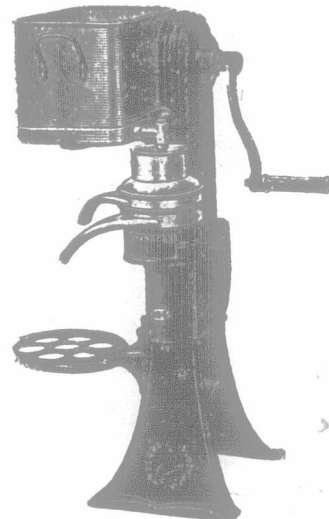
Standard

Cream Separator. There's nothing "obsolete" in the whole machine. It's right up to the last minute. Built of the best materials by the most costly machinery, and rigidly tested.

The few simple working parts can be held in one hand. Every gear and bearing runs in a bath of oil, and machine needs to

be oiled but once in four months. Wide-open bowl and perfectly smooth discs easily cleaned. Supply can about a foot lower than most machines. Crank four inches higher, eliminating back-breaking stooping. All working parts enclosed, keeping out dust and making it impossible for children to get hands or clothes injured.

These are some of the features that go to prove the Standard's up-to-date-ness. Others are told about in our new catalogue, which also shows the new records for close skimming, established by the Standard at Government Dairy Schools. Write for a copy of this new catalogue.



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SPAVIN CURE**

is invaluable. It cures Spavin, Curb, Splint, Ringbone or any other lameness, quickly and safely at small expense. Read what Leo C. Cairns, of Ennisville, Ont., says: "I used your Spavin Cure on a horse that had Ringbone, and it cured him in four weeks time."

Kendall's Spavin Cure is sold at the uniform price of \$1 a bottle, \$4 for \$3. If you cannot get it or our free book at your local druggist's, write us.

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I have just landed a big importation of Clydesdales and Percherons, if you want a big ton stallion with the best of quality come and see me. I can show you the best lot of stallions and fillies you ever saw.

J. D. BULLIET

Holton, Ont.

When writing advertisers, please mention "The Farmer's Advocate."

Gossip.

The Royal Commission appointed by the Saskatchewan Government to investigate co-operation and work out a system of agricultural credits, have made their report. From this report we quote: "The need of our agricultural life is closer organization. The farmer should be a cell in a rural organism. As it is, in his relation to every other industry, he stands as an individual unit. He must accept low and give high prices, because he acts only for himself and by himself. Between himself and his fellow-farmers alone is there unrestricted competition, a competition from which, he can expect only to suffer. But while agriculture is unorganized, every other industry is highly organized. Whereas tradesmen and other dealers invariably possess among themselves understandings and a common policy, farmers have ever occupied too isolated a position and too detached a relation to invite or reward competition on the part of those who seek their trade. They do not act together sufficiently to induce sellers to lower, or buyers to raise prices to secure a large block of business. And in this Province their too exclusive devotion to grain production has fostered this aloofness from each other."

A BIG SALE OF HOLSTEINS.

As per advertisement in another column, the great event of the year in Holstein circles will be the complete dispersion of the big, high-class and high-producing herds of Elias Ruby, and the partnership herd of Jacob Leuzler and C. Bollert, all of Tavistock, Ont., which event will be held in the big, covered rink, at Woodstock, on Wednesday, Dec. 17th. Everyone versed in the Holstein history of this country is familiar with the high-class character of these noted herds, both as individuals and as record-breaking producers. Since the foundation of the herds there have been continuously in use as sires the best producing bred bulls obtainable, and of late years, owing to co-operation among the breeders in that district, sires bred in the leading herds of the United States, and carrying the richest blood of the breed, and official backing that necessitated a long price being paid for them, have been in use. Practically all the females in milk are in the R. O. M. and R. O. P. records, and a number of them are in both records, and coupled with their rich breeding and high-producing ability, is strictly high-class individuality, many of them being high-merit show animals. In next week's issue will be a short resume of the herds from a breeding and producing standpoint, but for full particulars, write Jacob Leuzler, R. R. No. 1, Bright, for catalogue.

THE CEDARDALE SHORTHORNS.

Another visit to the Cedardale Stock Farm of Hon. T. S. Sproule, M.D., of Markdale, Ont., found his large herd of Shorthorn cattle in nice condition, and up to a high standard of individual excellence, many of them carrying an immense wealth of flesh evenly put on. Imported and Canadian-bred, several are daughters of Imp. Claret 3rd, and several are daughters of Imp. Martha. Others represent on blood lines the Miss Ramsdens and Miss Aberdeens, and on their sire's side are the get of such well-bred and noted breeding bulls as Imp. Choice Koral, Imp. Scottish Pride, and Imp. Lord Fyvie, the last named being the sire of the yearlings and two-year-olds, those under a year being sired by the Missie-bred bull, Gay Broadhooks, a son of Imp. Broadhooks Golden Fame. Now at the head of the herd is the Rosebud-bred bull, Spicy Victor 89911, a roan son of Imp. British Victor, dam Spicy Queen, by Imp. Spicy King. This is a low, thick, smooth bull, of exceptional quality, that should breed well with the herd. Several of the breeding females are up to a high standard of show-ring quality, and have been in strong company. There are over a dozen heifers from six months to two years of age, of choice type and quality, that are for sale; also four young bulls from seven to ten months, the latter got by the Broadhooks bull. All of them, under the efficient care of J. W. Johns, are in nice condition.

The Road to Safe Hauls

SAFETY to the horse Soften means safety to the driver.

Where dangerous, slippery roads are to be encountered it is essential to have the horse sure-footed.

Red Tip Calks

are easily adjusted by anyone, without delay. They make the horse sure-footed and dispel the terrors of icy roads.

No more danger of injury to the horse or damage to wagon and harness. No more vexatious delays due to unsharpened horses. With

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your horse is always sharp shod and you can drive any road with

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Exporters of Pedigree live stock of all descriptions. Illustrated catalogues and highest references on application. We are doing a very large business in application. We are doing a very large business in application. We are doing a very large business in application.

Aberdeen-Angus of Show Form and Quality. For this season my offering in young bulls and heifers are toppers, every one. Show-ring form and quality and bred from show-winners. T. B. BROADFOOT, Ferris, Ont. G.T.R. and G.P.R.

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Size	Price doz.	Fifty tags
Cattle	75c.	\$2.00
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No postage or duty to pay. Cattle sizes with name and address and numbers; sheep or hog size, name and numbers. Get your neighbours to order with you and get better rate. Circular and sample mailed free.
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Shorthorns, Cotswolds, Berkshires

In Shorthorns am offering cows and heifers and calves of either sex. In Cotswolds have ram and ewe lambs and breeding ewes for sale. In Berkshires have a nice lot ready to ship.
CHAS. E. BONNYCASTLE,
P. O. and Station, Campbellford, Ontario.

CEDARDALE SHORTHORNS For sale, several fine heifers and good cows of rare value. Scotch-bred and of good individual type. Heifers in calf to our superior stock bull. DR. T. S. SPROULE, Markdale, Ontario

Please mention "The Farmer's Advocate."

Questions and Answers. Miscellaneous.

Well Drainage.

1. I put down a well this summer; it is forty feet deep and one-foot hole, twenty feet of clay, ten feet of dry gravel, and ten feet of quicksand. The caisson is one-inch hemlock. We put the pump in and pumped it down considerably, then the quicksand started to come up. It acts the same every time until it has nearly filled to the gravel. What would you advise me to do, as there is plenty of water?

2. Would a sand-screen be satisfactory?
3. I own a farm, lot 15, con. 10; A owns farm, lot 15, con. 11; B owns farm, lot 16, con. 10; C owns farm, lot 16, con. 11; sideroad between lot 15 and lot 16. My lot is lower ground, and all this water runs on me; also the water from the sideroad and concession. What is the proper course for me to take, as I wish it drained? The farm below me has a large gully, starting at our line.

W. G.

Ans.—1 and 2. The problem of securing water from quicksand stratum is rather baffling. Not long ago I received a query from a private correspondent relating his difficulty as follows:

"My well was dug about ten years ago, 43 feet deep, and curbed with wood put in horizontally; about 5 feet across; no water there worth naming; bored down with post auger 15 feet further, struck water in fine sand, put 6-inch tube 20 feet long in hole, and pumped sand and water out until tube settled 5 feet. Put in 1 1/2-inch sand-point and connected pump; got little water. Put in similar point 2 feet away and connected pump to both. Got nice supply for years, but small stream water failed; took out points and found them corroded and filled, admitting no water. Got new sand-point 8-inch pipe, 8 feet long 320, 7-16 holes covered with No. 55 strainer-cloth, re-covered with perforated copper. Still a failure. Use pumping mill. Can you advise me how to get the water separated from the sand and raised 65 feet to the surface. No doubt as to supply of water."

I took the matter up with a company which has been manufacturing and installing well-points for many years. Their reply is as follows:

"Our own experience is that water cannot be successfully produced from quicksand bed, for the simple reason that sand will run wherever water will run, and the only way we have known successful installation in such a position was where a pipe was run down through the sand to a coarser stratum below the quicksand, and then there would be no difficulty about this point keeping out ordinary coarse sand and gravel, but as above stated, quicksand would go wherever water will."

This would seem to indicate that you are not likely to succeed in getting a satisfactory supply of water unless you can go deeper and strike a coarser layer of sand or gravel. It may be, however, that some ingenious reader of "The Farmer's Advocate" has succeeded in solving the difficulty, if so, I should be personally glad to learn his experience.

3. Undoubtedly, parties living on the higher land should contribute something towards constructing a main through your farm. The Ditches and Watercourses Act would seem to apply, and it says the engineer shall assess the various parties according to their respective interests in the ditch. One's interest is measured in several ways: 1. According to direct benefit. 2. By providing outlets for drainage of lands higher up. 3. By injury that may be done to the low land by causing water to flow on it from the high land.

I would suggest that you first try to come to an agreement with your neighbors, each one agreeing to do a certain proportion of the work and pay a certain proportion towards the tile, if it is a closed ditch. If you can't come to a settlement, then the only way for you to secure the assistance of those above you is to proceed under the Ditches and Watercourses Act. The first step under this Act is to serve upon the owners a legal notice, according to the Act, that a meeting will be held on a certain day, at least twelve clear days after service, to consider the proposed drain. The Act

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We have for sale, Scotch- and English-bred Shorthorns. A few bulls of improved breeding on big milking lines; also other pure Scotch and heifers of both breed lines.
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SHORTHORNS of breeding, style and quality. If in want of an extra choice herd head, carrying the best blood of the breed, or a limited number of right nice yearling heifers, write us; we can supply show Geo. Gier & Son, Waldemar R.R. No. 1, Ont. L. D. Phone

MEADOW LAWN SHORTHORNS OF RICHEST AND MOST FASHIONABLE SCOTCH BREEDING, and of high-class type and condition. I can supply young bulls and heifers—Claret, Roan Ladies, Mildreds, Stamfords, etc. L.-D. Phone F. W. EWING, R. R. No. 1, ELORA, ONTARIO.

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8 head from 10 to 18 months, bred from cows which are from imported dams and sired by choicely bred bulls, prices are not high as I need the space for stabling cattle. Shropshire and Cotswold ewes bred to imported rams.
BLAIRGOWRIE FARM JOHN MILLER, Jr. ASHBURN, ONT.

SHORTHORNS—Records show that cattle bought from the Salem herd won numerous ribbons the past season; we have others. Several young bulls are priced reasonably.
ELORA G. T. R. and C. P. R. J. A. WATT, SALEM, ONT.

Shorthorns and Clydesdales Shorthorn offering for October and November include 7 good young bulls from 9 to 15 month old. A catalogue of our Clydesdales will be mailed on application. W. G. Pettit & Sons, Freeman, Ont. Bell phone Burlington Jct. Sta., G.T.R.

Springhurst Shorthorns Four of the first-prize Shorthorns at the late Guelph Show, including the champion and grand champion fat heifer, were all sired by bulls of my breeding. I have now for sale ten young herd heads of this champion-producing quality. HARRY SMITH, HAY P. O. ONT. Exeter Station. Long-distance Telephone.

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On Friday Nov. 28th at the farm adjoining the town of Brampton, Mr. L. J. C. Bull will sell 88 head of cattle, Registered Holstein and Jersey cows and young bulls, and 55 grade stockers from 1 to 2 years of age, a choice lot, many of them from 800 to 1,000 lbs. in weight.

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Fourteen good young [bulls, from 6 to 12 months old, and a number of females. Would appreciate your enquiry for same

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Here is a herd of breeders and milkers. Only one young bull left ready to go, and he is a good one. We also offer two stock bulls, -72692 and -81845-. Write your wants. Price sells.

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I have a most excellent lot of young rams for sale, mostly sired by imported Connaught Royal. Something very choice in young bulls. House one mile from Lucan Crossing, G. T. Ry.

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A few of the best young bull prospects we ever had. They will please you. Will sell females too. Visit the herd; we think we can suit you. Particulars on application.

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WOODHOLME SHORTHORNS

I have for sale a most attractive offering in young bulls and young females, pure Scotch, breeding unsurpassed, the low thick kind. Write me your wants. **G. M. FORSYTH North Claremont, Ont.**

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Please mention "The Advocate."

says that at this meeting the owners shall endeavor to arrive at an agreement as to what proportion of the drain each should construct. If no agreement is arrived at during the meeting, or within five days thereafter, then the owner requiring the ditch may file with the Clerk of the Township a requisition to have the Township Engineer sent on to make an award. Before proceeding, you had better consult the Ditches and Water-courses Act carefully, a copy of which you should find at the Township Clerk's.

W. H. D.

Questions and Answers. Miscellaneous.

Mammitis or Garget.

Would you please give a cure for cow pox. The udder is badly caked, and milk is stringy and yellow. Cows are sick, and refuse to eat. They also scour badly. If they dry up, will they be all right if they freshen again? N. W.

Ans.—From the symptoms described, it appears that your cows are suffering from contagious mammitis or garget, and not cow pox. Administer a purgative, and follow this with three or four drams saltpetre three times daily for two days. Apply heat to the udder through poultices of bran and linseed meal, woollen cloths, or spent hops. Do this by attaching a bandage over the body, and cut holes in the cloth that the teats may hang through. Warm frequently with hot water, and do not allow the poultice to get cold. Better not poultice at all than attend it indifferently. Bathing with hot water, and afterwards rubbing with camphorated oil, is often beneficial. The affected quarters should be milked out two or three times a day, and the poultice changed at least three times, and the udder should be rubbed well with oil before each fresh one is applied. The contagious character of the disease, and the condition of your cows, suggest that it might be tubercular trouble in the udder. Cow pox, garget, and other diseases relating to the cow's udder, were discussed in "The Farmer's Advocate" under dates of March 27th and April 3rd, 1913. Refer to them for detailed information.

Syphon for Irrigating.

As I am thinking of irrigating a strawberry plantation with water obtained from a nearby stream, I should be very much pleased to have some information, through your columns, regarding the working of a syphon. Would it be possible to raise water six feet in a distance of ten rods by means of a syphon, and how much flow would there be in an hour, provided a five-inch pipe were used; or in case this distance is not sufficient for this elevation, how would twenty or twenty-five rods do? I have considered the merits of a pump and gasoline engine, but provided the syphon could be made to do the work, this method would appeal to me on account of the cheapness of operation. W. J. G.

Ans.—A syphon will not deliver water at a higher level than the starting point. If you have two barrels sitting side by side, one full of water and the other empty, and you sink a piece of rubber tube or hose in the water, thus filling it, and then plug one end of the hose, and draw that end over into the empty barrel, leaving the other end in the water in the full barrel, and then remove the plug, the water will flow through the hose into the empty barrel. In doing so, it rises considerably above the level of the water in the full barrel, but the outlet of the hose must be below the level of the water. The water will continue to run until it is at the same level in the two barrels, when the syphon ceases to work. Applying this principle, you will see that the syphon could not aid you in raising water from a stream to a point higher up. The syphon could be used to carry water from the stream over a knoll to a point in the other valley, lower down than the stream. If your strawberry plantation is higher than the stream, you will have to pump the water, either by windmill, gasoline engine, or hydraulic ram.

W. H. D.

Big Dispersion Sale of 90 Holsteins 90

An event, in which the choicest lot of Holstein Cattle ever sold by Auction in Canada, will be held in the covered rink in the City of Woodstock, Ontario, on

Wednesday, December 17th, 1913,

when a total dispersion of the big high-record herds of Mr. Elias Ruby and Messrs. Jacob Leuzler & C. Ballert will be sold to the highest bidder. 90 head; 78 females, 12 bulls.



Practically all the females in milk are in the R. O. M. and R. O. P. many of them in both records.

R. O. M. four-year-olds and upwards, from 21½ to 27½ lbs. Three-year-olds 16.41 lbs. Two-year-olds 15½ lbs. R. O. P. up to 807 lbs. butter in the year.

Much of the richest producing blood of the breed is represented in the herd, many are high-class show animals, many of the young things are the get of King Lyons Hengerveld, one of the richest bred bulls alive, those not bred to will be bred to, King Lyons Colantha, whose 7 nearest dams have records averaging 28¾ lbs., these are the kind of Cattle we are going to sell.

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Royalton Stock Farm Holsteins
Herd headed by Royalton Korndyke Major, (Imp.) whose dam gave 111.1 lbs milk in one day, 3 months after freshening. We are offering a few young cows (2 years and up) bred to the above bull and due to freshen from now on. One young bull calf 5 months old from above bull. Also four young bulls fit for service, sired by Sir Abbecker Paul De Kol (my former herd bull) and from R. O. P. Cows. E. C. GILBERT, R. R. No. 7 St. Thomas, Ontario

HOLSTEINS FOR SALE

Ten females, all ages, one bull, 3 years old, owned by the David Rife Estate. The above stock have been placed in my hands for sale, and will be sold reasonable to anyone taking the lot. Will not be sold separate. For particulars, apply to

WM. A. RIFE, Hespeler, Ont.
Nine miles south of Guelph.

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Headed by Prince Aaggie Mechthilde. Present offering: Bull calves and bulls fit for service, from Record of Merit dams, with records up to 20 lbs. butter in 7 days. Prices reasonable.

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Ingersoll, Ont.
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Questions and Answers. Miscellaneous.

Hydro for Farm Purposes.

I note with interest the price hydro will cost the farmer per horse power. The question naturally arises: Will it pay the farmer to pay \$50 per horse power, as we know that a two-horse power will only do a part of our work? I admit two horse power may do our light work, but when it comes to sawing wood, you couldn't crowd your work, and it would be nowhere in grinding. You say with a ten-inch plate they ground one bushel of barley in ten minutes fine enough for cattle. This would be too slow for the average farmer. Five times the amount should be run through for the money invested. For lighting, I think it would do; also for a few other small jobs. You do not state how much the motor would cost the farmer. In my humble opinion the gas engine is more suitable up to the present, but, of course, with the advance of gasoline in price, the cost of operating naturally rises, as all gas engines, when in order, are supposed to consume one-tenth of a gallon per horse power per hour. But what I would like to have answered is the difference in a steam horse power and any other mechanical horse powers of 33,000 lbs., one foot of a lift to the minute, which, as I understand, refers to the lift of a cage in a mine. How do the steam engineers claim their surplus power? A steam engineer once told me that my engine, which is a twelve-horse gas engine, with an eight-inch bore, and a twelve-inch stroke, would develop nineteen horse power in steam, but to come back to the question of time, which is an important factor on the farm, I don't see that we can wait on the power that a two-horse motor would develop.

O. W.

Ans.—There is no difference in the standard horse power used in rating steam and gasoline engines. They are both rated in terms of mechanical horse power of 33,000 pounds, lifted one foot high in one minute. The difference in size of cylinder for steam and gasoline engines arises from two or three causes: 1st. The average pressure throughout the power stroke is different in the two kinds of engines; and 2nd, in the steam engine the pressure acts on the piston, during both the forward and the backward strokes, thus the piston receives pressure practically all the time. In a four-cycle gasoline engine, however, the piston just receives pressure once in four strokes. The four-cycle engines are used almost exclusively for stationary purposes. Thus the piston of the gasoline engine receives pressure only one-quarter of the time, while in the steam engine the pressure acts nearly all the time. From this fact alone, if the pressure in the two cases were the same, the steam cylinder could be just one-half the diameter of the gasoline cylinder, provided, of course, that the number and length of strokes were the same in the two. However, the pressure is not the same. In steam, it generally runs in the neighborhood of 100 pounds, although by heavy firing it may be increased. In the steam engine, the work would be 100 pounds working through four strokes, which is the same as 400 pounds working through one stroke. In the gasoline engine, the work would be 300 pounds working through one stroke. Thus, it would appear off-hand that the area of the gasoline cylinder should be 4-3 the area of the steam cylinder for the same horse power. In the argument thus far, we have assumed that the two engines were running at the same speed, and that the strokes were the same length. Now, it is a general impression that a twelve-horse-power steam engine will do more work than a twelve-horse-power gasoline engine. Probably the strongest reason for this impression is that the steam engine will take an over-load better than a gasoline engine, and, consequently, pull itself through a severe trial better than a gasoline. The ability of the steam engine to take an over-load arises from three facts: 1st. By heavy firing the steam pressure can be considerably increased, and, of course, the higher the pressure the greater the power. 2nd. The steam engine may be speeded up by adjusting the governor. 3rd. Steam engines are usually provided with a boiler of several horse power greater

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LAKEVIEW HOLSTEINS

Herd headed by Count Henserveid Fayne De Kol, by Pietertje Henserveid's Count De Kol out of Grace Fayne 2nd. He has 12 daughters already in the Record of Merit and many more to follow. Junior sire, Dutchland Colantha Sir Mema, by Colantha Johanna Lad out of Mona Pauline de Kol (37.18 butter) the dam of one daughter over 30-lbs. and one over 27-lbs; also the dam of the World's champion junior three-year-old for milk production. A few bull calves for sale. E. F. OSLER, Bronte, Ont.

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Herd headed by King Johanna Pontiac Korndyke whose near dams and sisters, 12 in all, average 39.77 lbs. butter in 7 days. His sister, Pontiac Lady Korndyke, has a record of 38.02 lbs. butter in 7 days. 156.92 lbs. in 30 days—world's records when made. We are offering several females bred to this bull also a few bull calves.

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When wanting some right nice Holsteins of any age, workers and bred from workers, also young bulls, write me. One 4-year-old and one yearling, Percheron Stallions for sale, also Buff Orpington, Cockerels and Pullets.
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Tower Farm Oxford Down—16 shearing rams, (1 imported) 3-year-old ewes and ewe lambs; all from imported and prize-winning stock. A quantity fitted for show.

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Brighton Sta. Phone.

PINE GROVE YORKSHIRES

Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction. Joseph Featherston & Son, Streetsville, Ont.

capacity than the engine is rated at. This provides the extra steam required when operating at increased pressure and higher speed.

W. H. D.

Questions and Answers.
Miscellaneous.

Gasoline Engine.

I was thinking of buying a gasoline engine and cutting-box, with blower, for cutting corn and doing custom work. Would a twelve-horse-power engine run a twelve-inch cutting-box and give satisfaction? If not, would a fifteen-horse power? The engine is of the opposed cylinder type. Any information you can give in your paper on this question will be gladly received.

W. M.

Ans.—A twelve-horse power engine will operate a twelve-inch cutting-box, with blower, satisfactorily. It would even run a thirteen-inch. It will also handle a ten-inch or eleven-inch grinder satisfactorily.

W. H. D.

"Washy Driver"

I have a driving mare seven years old. When I drive her four or five miles she starts to physic until she gets weak, more especially when she gets warm. She will work around home all right. Our veterinarian thought it was worms, and treated her accordingly, but found that it did her no good. Leave her off the road she will feed up pretty well, but as soon as you drive her she gets gaunt. She started about a year ago. I put her entirely on dry feed, but with no better results. I never water her when hitching her up. Is there any cure for her, and what is it? I would like to have her cured, as she is afraid of nothing.

J. R.

Ans.—This is known as a "washy driver," an animal predisposed to semi-diarrhea. If very pronounced in this defect, she will always require much care and attention to keep her normal. It is possible her teeth require dressing, and you should have your veterinarian examine them. Purge her with 8 drams aloes and 2 drams ginger. After her bowels become normal again, feed her 1 dram each of gentian, ginger, and sulphate of iron, night and morning. Feed hay of good quality, and grain that would be easily digested, such as ground oats. Feed no bran or roots, and do not water before going on the road or soon after feeding.

Concrete Cistern.

I intend building a concrete cistern, to be filled from roof of house, and to be used for drinking purposes also, if possible. Would build it in ground outside, to be under summer kitchen (to be erected), tank to be 16 x 6 x 6 feet, and six inches thick, concrete mixed five to one, and filterer in same, water to be drawn to regular kitchen by means of small force pump.

1. How many gallons will same hold?
2. Do you consider six inches thick enough?
3. Is a mixture five to one strong enough?
4. Have you any knowledge of a brick filterer?
5. What means of filtering would you take?
6. How would you put in same?

Ans.—1. 3,600 gallons.
2. Yes.
3. Whether five to one is strong enough depends on your material. If it is sand, pure and simple, the proportion you mention would probably not be satisfactory. An ideal mixture is considered to be one of cement, two of sand, and four of gravel. It is considered ideal because the one of cement will a little more than fill the pores in the two of sand, and then this ideal mortar in turn will a little more than fill all the pores in the gravel.

4, 5 and 6. There are mechanical filters made of porous earthenware similar to brick, and so arranged that they can be fastened to a water-tap, and the water thus be filtered as it comes from the tap. It requires considerable pressure for this. A filter, however, would probably be of little use in your case, as there would be practically no solids in the water from the roof secured as indicated. It is doubtful if you would get much satisfaction in using roof water for drinking purposes, as it will have the unpleasant taste peculiar to such water.

W. H. D.

GALT ART METAL CO. LIMITED

The Best Roofing

FARMERS who have used **GALT STEEL SHINGLES** will testify that every claim we make is the plain unvarnished truth.

GALT STEEL SHINGLES have special advantages over any other metal shingle made, owing to their exclusive patented features. The material used is the finest British galvanized steel. The side lock is very secure and rigid. **GALT STEEL SHINGLES** are fitted with nailing flanges at side and top. No other steel shingle can be nailed at more than one place without nailing through the locks.

Write for literature and roofing information which will save you money and put you on the right track. Simply write the one word "Roofing" on a post-card, together with your name and address.

THE GALT ART METAL CO., Limited
150 Stone Road, Galt, Ontario
Cor. Richard and Pine Sts., Winnipeg, Man.

RAW FURS

Are you a trapper? Are you a dealer? For top quotations, square grading, prompt returns, ship to us. No commission. We pay express and mail charges.

WRITE FOR PRICE LIST AND SHIPPING TAGS. MENTION THIS PAPER

References: Greenwich Bank. East River National Bank, New York

BENJAMIN DORMAN, Inc.
RAW FURS, GINSENG, GOLDEN SEAL
147 West Twenty-Fourth Street, New York

Maple Villa Oxford Downs and Yorkshires

This fall I have the best lot of lambs I ever bred. I have plenty of show material, bred from the best stock procurable in England. Order early if you want the best. Ram lambs, shearlings and ewe lambs Yorkshires of all ages.

J. A. CERSWELL, BOND HEAD P.O., ONTARIO
Bradford or Beeton stations. Long-distance 'phone.

Shropshires and Cotswolds In my 1913 importation of 60 head just arrived are show rams and ewes, field rams and ewes of both breeds. I also have 50 home-bred yearling rams and ewes, and a fine lot of ram and ewe lambs. Will be pleased to hear from you if interested in sheep as "No business no harm" is my motto.

JOHN MILLER, Brougham, Ont., Pickering Stn., G.T.R. 7 miles, Clarendon Stn., C.P.R., 3 miles.

SWINE OF ALL BREEDS FOR SALE Yorkshires, Tamworths, Berkshires, Hampshire, Chester Whites, Poland-Chinas, and Barco-Jerseys. I have constantly on hand both sexes of all ages. Show stock a specialty.

JOHN HARVEY, Freilighsburg, Que.

Tamworth Boars Ready for service at \$22.00 and \$25.00 each.

Write: **JOHN W. TODD, CORINTH, ONTARIO**

ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows, together with the stock boar Suddon Torredon, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.

Station on Brantford and Hamilton Radial.

DUROC JERSEY SWINE Twenty-five sows bred for fall farrow; a few boars ready for service; also one Jersey bull, 11 months, and two bulls, 6 months old, out of high-producing dams. Mac Campbell & Sons, Northwood, Ont.

Cloverdale Large English Berkshires No matter what your needs in Berkshires may be, see Lang the live Berkshire man. He is always prepared to furnish anything in Berkshires. Write or come and inspect.

C. J. LANG, Hampton, Ont., Durham Co.

Large White Yorkshires Have a choice lot of sows in pig. Boars ready for service and young pigs of both sexes supplied not akin at reasonable prices. All breeding stock imported, or from imported stock from the best British herds. Write or call H. J. DAVIS, Woodstock, Ont.

Long-distance 'phone. C.P.R. and G.T.R.

Morrison Tamworths and Shorthorns bred from the prize-winning herds of England. Have two choice young bulls for sale 10 months old, out of large deep-milking cows and also some choice cows. Tamworths both sexes.

CHAS. CURRIE, Morrison, Ont.

Gramandyne Yorkshires & Tamworths Co., 656 Parkdale Ave., Ottawa, Ontario, can supply Yorkshires and Tamworths, either sex, any age, bred from prize-winners, none better. Long-Distance 'Phone. 3874 Ottawa.

Woodburn Berkshires are founded on the famous old Sally tribe, noted for big size, length of body and strength of bone. We can supply pairs and trios not akin. Show stock a specialty. Also high-class Cotswolds, ram and ewe lambs, shearlings.

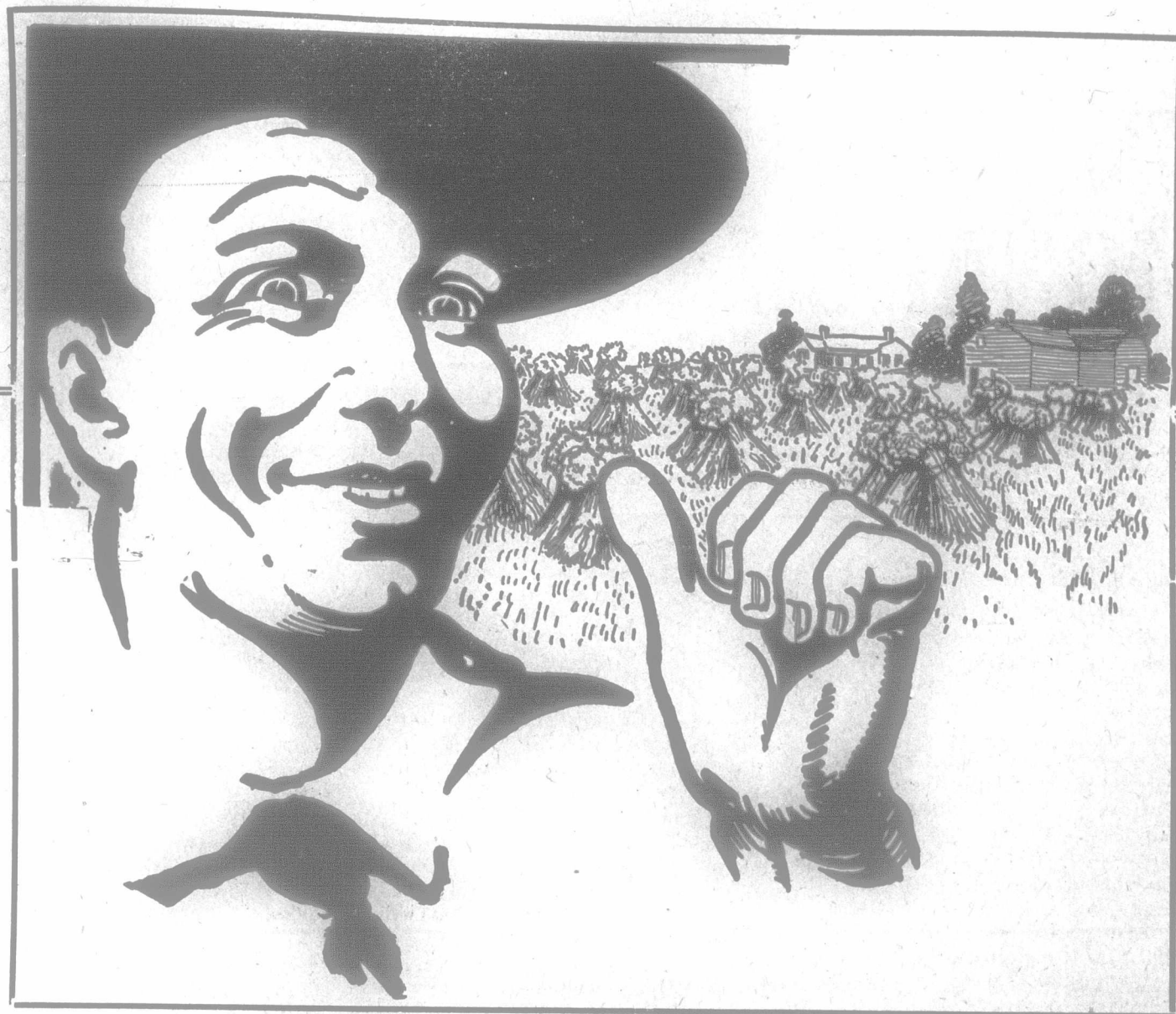
E. BRIEN & SON, RIDGETOWN, ONT.

HAMPSHIRE SWINE Both sexes and all ages, from imported stock. Prices reasonable.

G. A. POWELL, ARVA, ONTARIO
Four miles north of London.

Prize Chester White Swine-Winner High-class in type and quality, bred from winners and champions. Young stock both sexes, any age, reasonable prices.

W. E. Wright & Son, Glanworth P.O., Ont.



I Doubled My Crops

This story could be told by many Canadian farmers who have used a high-grade POTASH fertilizer.

One farmer in Cape Breton, N.S., doubled his crop of potatoes, in fact, has just harvested a yield of 735 bushels to the acre. If he can get such a yield, why can't you?

You surely ought to have plenty of barnyard manure to use. If so, use it in quantities in connection with 400 lbs. Basic Slag and 160 lbs. Sulphate of Potash to the acre; cultivate well and you can get a yield similar to his. That is what he did.

Another farmer in Cowansville, Que., obtained a yield of 1,666 bushels of mangels to the acre by using 150 lbs. Nitrate of Soda, 400 lbs. Acid Phosphate and 150 lbs. Muriate of Potash, increasing his yield 826 bushels over the plot fertilized with only Acid Phosphate and Nitrate of Soda.

IT COST THIS FARMER JUST \$3.45 TO GET 826 BUSHELS MORE OF MANGELS.

If you want to do likewise on your farm, write us and we will tell you how.

POTASH PAYS

Every crop removes from the soil so much Nitrogen, Phosphoric Acid and POTASH. This is the food the plant consumes. If you wish to raise bigger crops, you must put back into the soil the plant-food that the plant takes up in its natural growth. You probably understand this, and very likely you use some sort of fertilizer, but if you are NOT using a fertilizer containing 6% to 10% POTASH, you cannot get bigger yields of better quality. This is because a plant removes from the soil more POTASH than Phosphoric Acid. Ordinarily, low-grade fertilizers contain from 6% to 8% Phosphoric Acid and approximately 2% of POTASH. Certainly this is not more POTASH than Phosphoric Acid. You must increase this percentage to 6% to 10% POTASH. If you want to raise a bumper crop next year, do this. Insist that your dealer provide you with a 6% to 10% POTASH fertilizer. If he cannot do this, and you have to buy a low-grade fertilizer, for every ton of low-grade fertilizer you buy add 200 to 300 lbs. of Muriate or Sulphate of Potash, and this will bring it up to a high-grade fertilizer.

You can mix your own fertilizer at home if you want to. Our agricultural experts will tell you free how to do this. Get in touch with your fertilizer dealer now, so that he will be sure to have POTASH on hand for you when you need it. Send us your dealer's name, and we will send you FREE booklets on how to increase your yield. These booklets, we know, are instructive and are the best on the subject, being written by experts. Write us, telling the kind of crops you raise, giving us the name of your dealer, and we will see that you get a fertilizer high in POTASH.

You will have plenty of time this winter to study this all-important question, and how to proceed another year to get bigger yields of better quality from your farm. Write us TO-DAY.

German Kali Works, Inc., TEMPLE BUILDING, **Toronto, Can.**

Having Muriate and Sulphate of POTASH in store at St. John, N. B., Montreal and Toronto makes it easy for you to get your POTASH from us.

Why Grow Old Before Your Time? Get a "MONARCH" FARM ENGINE

Make every winter day a money-maker—THIS winter! Remember, a MONARCH Engine can do your chores at a big saving, and leave you time to think and plan. Farmers want to make more money. Those who use MONARCHS are going the right way about it.

"MONARCH" Engines are made specially for farm use—that is, they are so designed that they have the very least possible number of ways that a gasoline engine can give trouble.

This means that you or your son or your wife can all operate your "Monarch" Engine easily. It does not demand skilled operators. The "Monarch" stands all kinds of ordinary hard usage in moving from place to place, etc.

We know this is the right way to build an engine for a farm. It means that the "Monarch" runs, rain or shine, on the coldest winter day just as easily as in summer. It is always a "go-er." It does the work.

You cannot buy a better engine for your money. As a man who wants to use a gasoline engine at his home, where he has to depend on the engine itself, and not on skilled engine doctors, etc., the one best engine is the "Monarch."

Monarch Engines Wear Longer

First, it will wear longer—give you more years of service—stand up under wear and tear longer.

We do this by making the main crankshaft bearings very large and wide, and adjustable as well. This means you can "take up" wear at these bearings every year or two, so your "Monarch" will always run sweet and true, like new, with perfect smoothness of action.

To further insure this exact action, we make the crankshaft of high carbon steel, and 50% larger in diameter than the "Monarch" rating theoretically requires. We also make the piston rod in the same way and with very large bearings.

You get a "Monarch" and you will benefit for years to come by the very slow wear, combined with insurance against breakage of shaft or piston rod.

Monarch Engines Save Fuel

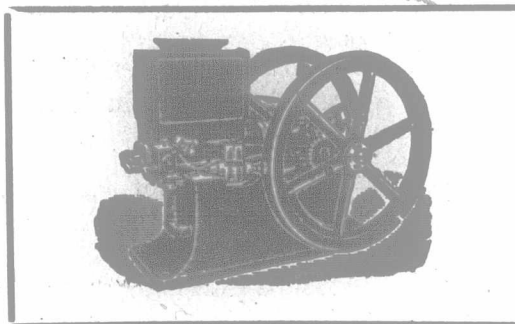
Our second big claim for the "Monarch" is that you will save fuel cost. The fuel bills for an ordinary farm engine can run into high figures in the course of years.

The "Monarch" saves fuel for you from the day you get it, in two ways. First, it has a tank in the base made of one piece of metal, and protected from injury by the foundation casting of the

engine. This tank cannot waste fuel by leakage. Secondly, we use a special carburetor designed for the "Monarch" and found only in the "Monarch."

This carburetor is the key to the big "Monarch" power production. It is as costly and as carefully made as an automobile carburetor in a \$10,000 car. It means that out of each gallon of fuel you get full power from 99% of the fuel, with 1% or less lost as smoke and carbon.

In effect, to do certain work with a farm engine may need 1 gallon of fuel. To do the same work with a "Monarch" and this magnificent carburetor, you will only need ½ gallon of the fuel to ¾ gallon at the most. When you buy a "Monarch" this money-saving goes on hour after hour, day after day, year after year. It mounts up to a big saving in 10 to 12 years. In a continuously used "Monarch," this saving alone can completely pay for the engine.



Monarch Flexibility

Our third claim for the "Monarch" is its flexibility and speed-changing features. This adapts it to all your farm work. Let us explain.

You expect to do different kinds of work with it, and do each kind of work economically. Cream separating will need a different speed and power from the speed and power for pumping, wood sawing, running a chop mill or cutting silage.

The "Monarch" is ideal for this. A 6-horse-power "Monarch" running a cream separator will consume very little more fuel per hour than a 1½ horse-power, size of the "Monarch," doing the same work. This is not true of the average engine. A 6-horse-power size would be wasteful for cream separator work.

Again, in running a fanning mill, it is very necessary that the "shake" of the mill be just right, and the "blower" be

running just right. You can slow down a "Monarch" to run at the proper speed, and while it is still running, readjust the speed to run a little faster or a little slower.

We have put into the "Monarch" every feature that will make it a perfect engine for farm use. Above are practical features in actually running your "Monarch" on your farm. Every part is machined perfectly, and each part is made by an expert workman, who devotes all his time to that part alone.

The "Monarch" has a spark retarder, priming cup, lever locking device to prevent back firing, and other features that make it dependable.

When you get a "Monarch," you get absolutely the limit of benefit conferred by a farm power engine.

The Monarch's Many Uses and Benefits

Will you consider buying a "Monarch" this winter? It will pump water, run the cream separator, run the grindstone, cut and elevate silage, chop straw, grind chop or feed, run the milking machine. It will clean your wheat, barley or oats for market or seed, operate your wood saw, or operate a small circular saw. A 6-h.p. size will do all of these things.

The benefit you will get will be personal. Your health will be saved. You will have more time for farm planning and judgment. You will avoid the mere routine labors that lead nowhere. Your chores will be done faster than ever before.

Why not have a "Monarch," and get the very best farm engine, that will last longest, consume least fuel, give most power, and be easiest run and most adaptable?

We want to sell you a "Monarch," and will make it worth your while to write us to-day. A "Monarch" is within the reach of every farmer in the country. They are quality to farmers who are used to ordinary engines. Scores of customers are astonished at the even running and low fuel cost.

Write us now. Say "I want your red-circle folder, and your offer on 'Monarch' Engines." In the meantime lay out your winter work that you will do with the engine. You will be astonished when you figure out the physical labor and time saved, even on a 50-acre farm. But write us first to-day!

CANADIAN ENGINES, LIMITED, Dunnville, Ont.

For sale in Canada west of Peterboro, Ontario, by

THE FROST & WOOD CO., LIMITED, Smith's Falls, Montreal, St. John, N. B.