

AUGUST 17, 1916

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE  
SUCCEED  
FOUNDED

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

Director Central Fed Farm, 10

VOL. LI.

LONDON, ONTARIO, AUGUST 24, 1916.

No. 1248



**This reservoir is as easy  
to clean as a pan**

**YOU** would never put off cleaning the hot-water reservoir of the Pandora. It is such a simple thing to keep clean.

It is lined with clear white porcelain as hard as glass. *And it can be lifted out* as easily as you would lift a pan from the top of a range. You empty it out and wash and rinse it. The water is always as clear and pure in the reservoir as it is in the kettle.

This is only one of the many conveniences of the Pandora. The oven-door is glass. Think how often you open the door on bake days. You can watch the baking *through* the Pandora oven-door. The wash-boiler can be set the long way of the range, if you wish, leaving two of the hot front holes free for cooking. Wash-day dinners can be just as good as on other days.

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You can learn why Pandora Ranges stay good as new—long after other ranges have to be repaired or replaced. You can see illustrated the many useful ideas to make cooking less tiring. These things are fully explained in an interesting little booklet, "The Magic of the Pandora." You are going to give some thought to the purchase of your range—surely. Then you will need a copy of this booklet. You may have yours by mailing the coupon to the factory. Why not get your copy to-day?

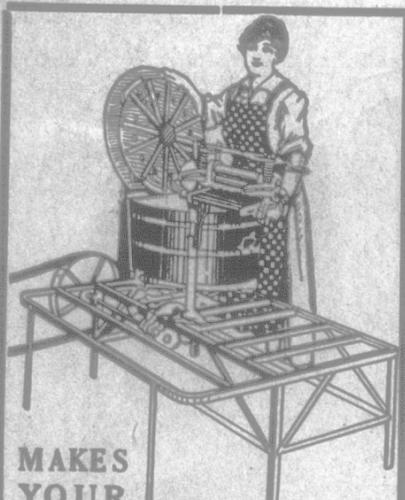
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St. John, N.B. Hamilton Calgary Saskatoon Edmonton

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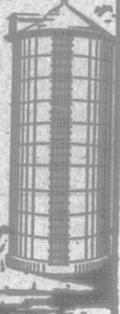
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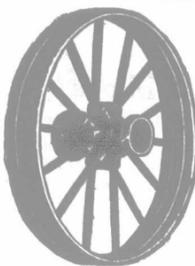
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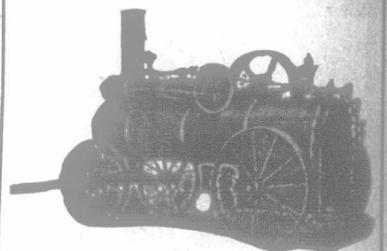
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SEAFORTH ONTARIO

When writing please mention this page.



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Touring Car . . .	495 <sup>00</sup>
Coupelet . . .	695 <sup>00</sup>
Town Car . . .	780 <sup>00</sup>
Sedan . . .	890 <sup>00</sup>

f. o. b. Ford, Ontario

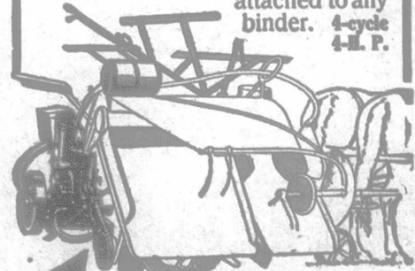
These prices are positively guaranteed against any reduction before August 1st, 1917, but there is no guarantee against an advance in price at any time.

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Ford, Ontario

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Weights Only 167 pounds

Quickly detached for any other farm power work. Delivers full 4 H. P. Speed changed while running. Has patented clutch pulley with sprocket for chain drive to double sprocket on binder. Schbler Carburetor. Also 2-cylinder 6-H. P. up to 20-H. P. heavy duty, light weight specialty farm engines. State size wanted.

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The Original Binder Engine

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Portable Well Drilling Machinery and Well Drilling Tools

The most successful Drilling

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Perfect pipe driving and pipe pulling attachments.

Catalogue and full particulars on application. Local agents wanted.

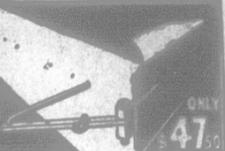
\$6,700 in six months earned with one of our machines.

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Does the work of 50 men in one day—Every farmer needs one—Pays for itself by its first day's work.

Send to-day for particulars.

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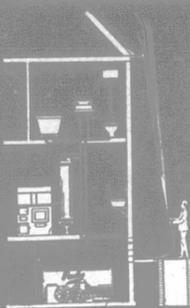
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National Equipment Co. Limited

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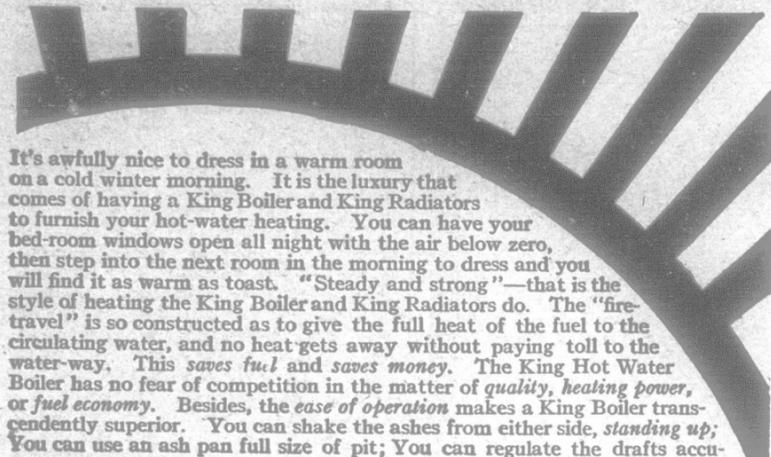
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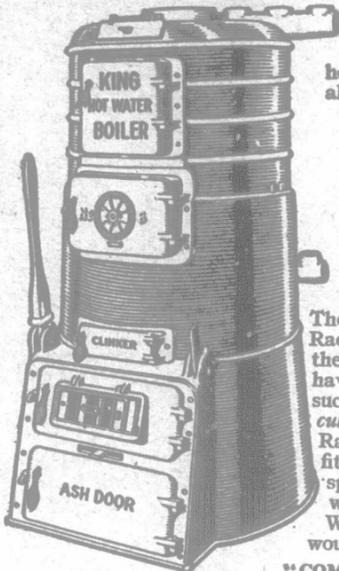
Write for prices.

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It's awfully nice to dress in a warm room on a cold winter morning. It is the luxury that comes of having a King Boiler and King Radiators to furnish your hot-water heating. You can have your bed-room windows open all night with the air below zero, then step into the next room in the morning to dress and you will find it as warm as toast. "Steady and strong"—that is the style of heating the King Boiler and King Radiators do. The "fire-travel" is so constructed as to give the full heat of the fuel to the circulating water, and no heat gets away without paying toll to the water-way. This *saves fuel and saves money.* The King Hot Water Boiler has no fear of competition in the matter of *quality, heating power, or fuel economy.* Besides, the *ease of operation* makes a King Boiler transcendently superior. You can shake the ashes from either side, *standing up*; You can use an ash pan full size of pit; You can regulate the drafts accurately on account of tight fitting doors and joints. Flues are easily cleaned, ample combustion space allows complete burning of gases instead of their going free up the chimney. Simple to erect and economical to instal. We have a King Heating Apparatus for every requirement, from a cottage up to an apartment house. We manufacture everything required for heating—steam or hot water—for buildings of all descriptions.

# King Hot Water Boiler



Heating Apparatus for every requirement, from a cottage up to an apartment house. We manufacture everything required for heating—steam or hot water—for buildings of all descriptions.

IF YOU WANT FACTS REGARDING THE ADVANTAGES OF HOT WATER HEATING AND THE COST, WRITE US. INFORMATION GLADLY SUPPLIED.

# King Radiators



The success of the King Radiators is founded on the same principles that have made the Boiler so successful—the *quick circulation* principle. King Radiators are made to fit any size or shape of space. Let us tell you what a King Hot Water Heating System would cost. Our Illustrated Booklet, "COMFORTABLE HOMES" sent FREE on Request.

**Steel and Radiation, Limited**  
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Get the benefit of the soil that has been storing up fertility for years. Blast out the boulders, blow up the stumps—and you will have a productive field where waste land now exists.

**Use C.X.L. Stumping Powder** the one effective and economical means of clearing your land.

C. X. L. Stumping Powder blows out your stumps, digs your ditches and tree holes and is the quickest and cheapest means of doing excavating work on your farm.

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IF YOU ARE SELLING CREAM or making butter and have no separator or are using an inferior machine, you are wasting cream every day you delay the purchase of a De Laval.

THERE CAN BE ONLY TWO real reasons for putting off buying a De Laval; either you do not really appreciate how great your loss in dollars and cents actually is, or else you do not believe the De Laval Cream Separator will make the savings claimed for it.

IN EITHER CASE THERE IS one conclusive answer: "Let the local De Laval agent set up a machine for you on your own place and SEE FOR YOURSELF what the De Laval will do."

YOU HAVE NOTHING TO RISK, and more than a million other cow owners who have made this test have found they had much to gain.

YOU CAN'T AFFORD TO WAIT till next spring or even for another month. Let the De Laval start saving cream for you RIGHT NOW, and it will earn its cost by spring.

SEE THE NEAREST DE LAVAL agent at ONCE, or if you do not know him, write us direct for any desired information.

**DE LAVAL DAIRY SUPPLY CO., Ltd.**  
 LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA  
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Gurney-Oxford supremacy in the stove world since 1845 is nowhere better shown than in this magnificent range. Its satin-smooth surface, with simple, beautiful mission lines and tasteful nickle trims make it a beauty in any kitchen.

Bakes better, because the oven is a marvel of efficiency with very low fuel cost.



**\$46<sup>50</sup>**

In its new low price, freight paid as far West as Ft. William. Complete with 20" oven, six 9" covers, right hand reservoir, warming closet and patent fuel saver "The Economizer"—100 days trial for satisfaction allowed. Our splendid new, complete Catalogue with prices, should be in your hands before you buy a stove.

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THE oldest line of steel beam plows in the Dominion, made in the old Wilkinson Plow Co's factory, by old Wilkinson Plow Co. experts—every one of them men who know their business. It is the standard line of plows and includes 25 or more styles to choose from. U. S. S. Soft Center Steel Moldboards, highly tempered and guaranteed to clean in any soil. Steel beams, steel landsides and high carbon steel couler. Clevises can be used either stiff or swing. Each plow is fitted especially with its own pair of handles—rock elm, long and heavy and thoroughly braced. The long body makes it a very steady running plow. Shares of all widths—specials for stony or clay land.

**General purpose, light, medium, and heavy, side hill, sod, drill or one horse plows**

The plow shown turns a beautiful furrow, with minimum draft and narrow furrow at finish. Ask for new booklet.

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 411 Symington Avenue, Toronto Canada

Repairs for all Wilkinson Plows

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and wall plates make very handsome, easily cleaned, fire-retarding interiors. Splendid for home, church, school, etc. Fix up one room and see how you like it. Get illustrated price-list from

**Metallic Roofing Co., Limited, Manufacturers, Toronto**

# The Farmer's Advocate and Home Magazine

PERSEVERE  
AND  
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ESTABLISHED  
1866

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LI.

LONDON, ONTARIO, AUGUST 24, 1916.

1248

## EDITORIAL.

The steel ring around the Teuton tightens.

Keep the sow and save her litter. Pork pays well.

A good plan to follow is to buy only when you can pay.

The man who gets ready for next year's crop the fall before generally has a crop next year.

The school trustee who holds office simply to keep down taxes is wronging the rising generation.

When the harvest is in, take a few days off. The farmer and his wife and family earn a short holiday if any one does.

Next week our annual Exhibition Number will be published with special articles and illustrations interesting to all.

Horses will get more hay than oats this year. There is no need, however, to waste the former because it is plentiful.

Harvest time always demonstrates that the earlier-sown grain outclasses late-sown crops, provided the land is at all fit at sowing.

After all, crops are largely what the weather makes them, although the weather can be aided by fertility and judicious cultivation.

Plans should be laid to save all the straw possible under cover this year. It is a short crop and will be scarce before grass comes again next May.

Scarcity of labor and the advance of King Corn have driven the root-crop acreage into a small corner. Stockmen can always use roots to good advantage.

From the essays which the boys wrote for the competition which has been running in these columns some of them are teaching the older men how to farm.

It looks like high prices for feed this winter, but one thing seems certain, prices for live stock will be still higher. If at all possible keep the stock.

Canada will be a country of problems after the war. Just now there is only one question—the winning of the conflict—but everyone must be prepared as best he can be for the big questions which will surely come up after it is all over.

While farmers struggled short-handed to harvest their crop, that they might live and that the nation might be fed, thousands of able-bodied city men enjoyed a vacation at their favorite summer resort and growled to one another about the high cost of living.

There should be more work for the representative in parliament than shaking hands with all party voters, promoters and heelers and being an all-round good fellow to those on the party's patronage list, and there is. What the country wants is men who will do its work.

## Seeing the Fair.

Next week Canada's greatest exhibition will be in full swing, and crowds will pass eagerly through the turnstiles in the morning and reluctantly out through the wide-arched gates late at night. This opens the fall fair season in Eastern Canada. Sometimes people wonder whether or not fairs are worth while. We have always believed that they were, and have supported them and sought to strengthen them through constructive criticism. Outside the efforts made by the fair management the fair is largely what the fair-goer makes it. If he goes for fun and fun only he will carry away with him very little of value. He will fail to see the best part of the fair. If he goes to improve his knowledge of things in general he may or may not have a good time. If he is too busy studying and working while at the fair he'll miss the fun. Every farmer, farmer's wife, son and daughter deserves a holiday or two. We would make it two days at a big fair, and one at the local county fair. It is well to leave home cares at home and go with the idea of having a good time. We do not believe that the trip should be devoid of edification, neither should it be bare of fun. Innocent amusement furnishes a restful change from farm work. No one can map out the rounds of the fair-goer. Some are interested in one thing, some in another. Every farmer should want to see all the live stock and watch the judging of his favorite breeds. He should also be able to learn something from the exhibits of farm crops of all kinds. Farm machinery, motors and special devices should attract him, and then there is interest in the exhibits of manufacturing firms and all the work of manufacture. Natural products of all kinds are educative. These are some of the things a farmer should enjoy and should profit by. The women folk are always anxious to see the work turned out by the hands of other women. They enjoy artistically arranged special exhibits. The products of the dairy and the breeds of poultry are educative and much enjoyed. Products of the orchard and garden bring new varieties as well as new fruits and vegetables before them. And then, after the day or days with the buildings and the stock, the spectacular and mirth-producing performance before the grandstand is always a feature to enjoy and never to miss. We would not advise anyone to miss the fun of the fair, neither would it be wise to miss the really valuable educative features. Have a good time when you go to the fair, and with it plan to learn something which may be of value to you on the farm or in the home.

## Stop Grumbling!

This is no time for grumbling about things over which one has no control. It would be far better to follow the system outlined by the mild old lady who never worried about anything she could not help than to go around with a grouch and a grumble about everything. In the beginning, the season was wet, and, being wet, was naturally late and people grumbled. Then all at once, as if to satisfy, it turned hot and dry—too hot and dry—and people grumbled again. Human nature is hard to please, and the farmer, depending directly upon nature for his crops and consequently all he has, is affected by every turn of the weather. Then haying came on, and there was so much of it that farmers were heard to remark that they were sick and tired of drawing out of the same field for so long, and there was so much hay that it wouldn't be worth anything this winter anyway. Besides, a heavy crop of timothy was hard on the land. Before haying was over, and the weather was fine but too hot, it was evident,

in most sections, that spring grains were going to be short and the grain itself on the light side, and again fault was found with everything. Many believed that there wouldn't be straw enough for bedding, and they were quite sure that the barley would be shoe-pegs and the oats mostly hulls, difficult to grind into good feed. The corn was late and would never mature and turnips came up unevenly and needed rain. Then, behind with hoeing and cultivating, still with several acres of a three-ton-to-the-acre crop of timothy and clover out the hired man left, as hired men often do in a busy time, for pastures greener and farther away, and the farmer was quite sure that he was "up against it" harder than anyone else had ever been. True, farmers have had all kinds of trouble this year, but it doesn't help any to grumble. As Sandy Fraser says in his article this week: "There's plenty ither ken as muckle as yersel aboot hardship an' maybe a wee bit mair." There are lessons to be learned and profits to be made from a year like this has been. No better demonstration of the value of early seeding and underdrainage was ever made than that supplied by natural conditions in 1916. The season has proven again, especially with corn, the necessity for good seed. Moisture and a degree of warmth are necessary to a good crop of hay, and this year Ontario has hay galore but it will be needed. Other feed is comparatively scarce but hay is abundant. Why grumble? The mixed farmer of Ontario always hits it with something. This was his hay year, and if straw is scarce and grain, corn and roots a little shy he has plenty of hay to fill the gap. Mixed farming is sure. With all the hardships, just think of the comfort, abundance to eat and wear, the ravages of the great war not on our fields, plenty and prosperity on every hand—prices for products high and demand keen. After all it is good to be a Canadian farmer in 1916. One man can, in a pinch, do the work ordinarily allotted to two. The Canadian farmer has done it in 1916, and yet for the most part he sees with Sandy that others have had greater trials than his own and he stops grumbling.

## Immigration—There's No Hurry.

All kinds of ideas are expressed with regard to the outlook for immigration after the war is over. These prove one thing—thinking Canadians are beginning to have some conception of the problem immigration is in this young country. There are many difficulties in the settling of a vast new country like Canada, and too often those at the head of affairs become over-anxious to fill up the country and too careless about the class of people they are endeavoring to make its good citizens. It is all very well, in bursts of oratory, to refer to Canada as the melting pot of the nations, but it is a vastly different matter to fuse the heterogeneous mass of people coming from the states of Central Europe, each with its own ideals, its own peculiarities of speech, race and creed, into anything approaching what is generally recognized as the true Canadian with Canadian ideals and the great New World Idea. In the past, governments have been very anxious to induce people to come to Canada. True, this country can give good homes to millions who are ready and willing to work. What Canada most needs is men and women, but they must be of the right kind. There is no use of establishing little colonies of all the different races of Central Europe here and there over our widespread lands. These people, in colonies, speak their own language and follow the customs of their home-land. They are not assimilated into the truly Canadian population, but stand apart. If anyone doubts this let him take a trip through any newly settled part of the great West. We were

## The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE  
DOMINION.

Published weekly by  
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

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

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recently driven through a stretch of country not far distant from Winnipeg where from all one could tell from appearances on both sides of the road he might just as easily have been travelling through the Balkan States of Europe as through a fertile strip of Canadian prairie. All the various people of the states of Central Europe were there, and all their old customs had stuck with them. No Canadian is enthusiastic over the prospect of having within our borders a number of little Bulgarias, Roumanias, Galicias, etc. True, these people look after themselves once they settle here, but they are not "good mixers" and they still maintain native customs, languages, religious practices and stay mainly in colonies. They are difficult to Canadianize, but to avoid jealousies and other troubles they should all be taught one language and that the English language.

The end of the war will bring up new immigration problems. Canada has little right to turn away any immigrant who is up to a high standard of physical and mental fitness, but this much can be done—surely those in charge can avoid campaigns to induce people of races vastly different from our own to come out here in large numbers to settle in colonies. Canadian land is valuable and why so much hurry to give it to people who can scarcely be Canadianized? Canada wants all the men and women the British Isles can spare, and is ready to do all she can to assist them in making homes, but if high ideals of citizenship are to prevail and with them we are to enjoy the observance of law and order such as is only known in a country with high ideals, then there must be a high standard set with regard to immigrants coming to our shores. Canada's policy should be to turn away no fit man who comes voluntarily; to refrain from the use of special campaigns and literature to induce foreigners with ideals vastly different from our own to settle in this country; to get as many as Britain can spare to make their homes here and assist them in every way; to insist upon the use and teaching of the English language. We want no hyphenated Canadians.

Few there are who will have sufficient corn for an extra silo this year, but the dry spell which we have experienced demonstrates very well that a little silage for summer use would be profitable.

## Some Cures for the Rural-school Problem.

BY SINCLAIR LAIRD, DEAN OF THE SCHOOL FOR TEACHERS,  
MACDONALD COLLEGE, QUE.

The improvement of rural schools is a pressing problem, and will be a vital problem for the prosperity of our fair Dominion till it is solved. Efficiency of city schools has progressed so far that it has now become practically standardized. The main danger in the city school is that it may be too uniform and stale. It may be too conservative in retaining useless subjects on its curriculum and may too easily be dominated by entrance requirements for a university course, instead of seeking to prepare the vast majority who never go to a university at all, but enter on their life work straight from school.

In the country, however, there is no such danger. The difficulty is not so pressing as far as the course of study is concerned, though that, too, may be traditional rather than useful. The chief trouble lies in securing efficiency of any sort, for the rural school which in a former generation once possessed a certain efficiency for its purpose has lost that efficiency in face of the changing farm life which marks the twentieth century.

### Factors in the Problem.

#### I. The Social Factor—

The conditions that affect the schools are social and economic in their nature; the rural community has changed; farm practice has been revolutionized, and home industries have vanished in competition with machinery and factories. Two factors then which enter into the problem are: 1, the nature of the rural community which the school is designed to serve, and also, 2, the economic situation on the farm.

#### II. The Economic Situation—

If farming does not pay, then young farmers will leave the farm. If the alleged large bank deposits in the name of farmers are placed there by the unremitting toil of the parents and the misery and labor of the family, then rural life is no longer attractive as a source of livelihood. The struggle in pioneer days was for mere existence, for daily bread and warmth and clothing. The muscles of the pioneer met the resistance of nature's strength. It was a struggle of human brawn against natural forces, a struggle for the survival of the fittest. But modern civilization has transferred the struggle to the sphere of mind and intelligence. It is now a struggle of brains, and success goes to the cleverest and not to the strongest. Business and financial success in the farmer's work depends nowadays on his mental equipment and his education. Farming is no longer a job for unskilled labor, but it is a highly scientific profession. The economic situation then is this;—if farming pays, people will stay on farms and will even go back to the farms; if farming does not and cannot pay, then farmers will desert the farms and go to the towns. This is the point where farming and schooling meet. On the one hand if the farming population decreases, then the school loses its attendance and becomes small and inefficient. If the farming people increase in number, the school grows in size and can be better organized and do better work. On the other hand, if school education benefited boys and enabled them to become better farmers and more successful financially through the efficiency of their scientific agriculture, then the school would help the farmers to remain on their farms and rear another generation of farmers. Thus are agriculture and the rural school indissolubly linked together. Both stand and fall together.

#### III. The Administrative Factor—

The third factor in the problem lies in the provincial administration of education. This, of course, varies with the provinces. But in every case the great evil of excessive decentralization lies like a blight on our rural schools. In other words every province is cursed with the existence of small school districts and small school boards. These tiny districts pay most of the expenses of running the school, by means of local taxation. Only a small part of the educational revenue comes in the shape of government grants. The amount varies in each province, but it is a comparatively small portion of the total expense. This is very far from fair. In fact it is most unjust. Consider the assessable property of the country and the assessable value of city property. The property in the country is farm land, which is very largely the working capital of the farmer. Indeed about five-sevenths of his total working capital is invested in land and barns. It can hardly be said, however, that the city man has five-sevenths of his available capital so placed in the city that education taxes are paid on it. He may own or rent a house and pay taxes therefor directly or indirectly if a tenant, but if not married, except for higher cost of living through taxes, he escapes education taxes altogether, at least in the Province of Quebec. It is abundantly clear, however, that the farmer pays an unfair share of taxes for local purposes simply because his working capital is in a form which makes it assessable property. If a city man has one-seventh of his capital invested in a property he occupies, then he has a farmer at an immense disadvantage, for the latter in proportion pays on five times as much property as the city man if the rate is the same. It is very probable that insufficient attention has been paid to this aspect of the question.

Another unfairness lies in the education tax rates which vary so much in different localities. The education of a boy means the same thing to the province no matter where he lives and the fact that the boy lives in the country should not cause the cost of his education to be greater to his parents or to the local community. Education grants are too small to every school board,

but, in proportion to the city, rural school boards receive a microscopic share of provincial money. It is unfair to expect the local school district to pay three-fourths of the educational expenses of the children. In the case of Scotland, which has one of the best school systems in the world, the education taxes locally are only required to meet about one-third of the total expense. Government grants of various kinds meet the remaining two-thirds of the total expenditure. The cost of education, therefore, is more evenly spread over the whole of the country and does not bear hardly on the rural districts.

The farmer's vote is a very considerable one in every province and the tendency is to organize it to better advantage. Wherever farmers combine into some sort of a coherent trade's union to make its demands heard, and insist on getting the fair and equitable treatment that the country parts require, then the political parties will both be ready to lend a willing ear to this influential portion of the voting community.

We have seen that the difficulties of the present-day rural school have been caused by three main factors: 1, the social conditions of the rural communities; 2, the economic condition of farming as a life work; 3, the administration of education which depends on legislation and politics.

It must be clear, therefore, to any unbiased reader that if the present condition of our rural schools is due mainly to these causes, then the regeneration of them must come from a modification of these same far-reaching conditions. Rural schools can only be re-created by employment of these same large forces working together. Separate action through any one of them may bring some relief, but will never bring complete reform. They must all be employed in harmony.

It must not be thought that the rural school has escaped notice and that no effort has been made to effect an adequate improvement. On the contrary many cures have been suggested and tried. Some nostrums have been advertised very largely and have received a certain popularity for a time before being dropped. Now, they are nearly all good and should not be dropped but continued. The trouble is too deep-seated, however, to be cured by a superficial remedy. Nothing short of a radical, complete surgical operation is any use by itself. But it is interesting to consider the various cures that have been tried.

#### 1—Better Teachers.

Any course of government action that will secure a better kind of teacher must receive our support, and the rural districts would do well to pay for a good teacher—for the best that is to be had, because the country boy deserves the best as well as the city boy. For a time, therefore, it looked as if improvement in the quality of our rural teachers would solve the problem. This improvement has been secured to a large extent, though a great deal remains to be done in this direction everywhere. Provincial Departments of Education are doing good work in this way. Normal colleges are training better teachers as the years pass by and numerous summer sessions, teachers' institutes and short courses in nature study and elementary agriculture are all designed to effect improvement in the supply of rural teachers. But the supply is still less than the demand. The new Normal Schools in the prairie provinces have special classes for training rural teachers and succeed in attracting a large number of men to the courses. Remodelling of the training course for rural teachers in Quebec has already taken place and will go into force in 1917 after due warning has been given to intending students and present untrained teachers. Third class certificates have almost disappeared from certain sections in Ontario and the schools are now staffed almost entirely by Normal trained teachers with the regular second class professional certificates. The result of all these improvements has been to increase the efficiency of the rural schools by raising the standard of qualification for the teachers. But still we have the rural school problem with us as insistent as ever. The reason is that the improvement of the teaching staff is only a partial remedy and can never solve the problem by itself.

#### 2—Improved Course of Study.

Another means of tackling the problem of rural school improvement was by the introduction into the curriculum of subjects that were more in harmony with the needs of the rural community. The first subject, of course, was Nature Study which, however, was very general and related to all the phenomena of nature and was not specially fruitful as regards agriculture. Soon, however, the subject of elementary agriculture was added and, as was to be expected, it took the fancy of public men and educators of all classes. Probably it was introduced with extravagant hopes and with too great suddenness. For all new subjects must creep before they can walk or run. But now that provision for it has been made on the course of study, training colleges prepare students to take it, special short courses are held in summer to equip previous teachers who lacked this special training. School gardens were all the rage at one time and in some cases have since been found lacking and indeed in others have proved a failure. Home gardens will probably prove more satisfactory in the future. Provision has even been made in Ontario and Quebec for graduates in Science and Agriculture to become specialists in High Schools. Directors of Elementary Agriculture have been appointed in nearly every province of the Dominion to supervise this work in schools. Some observers profess to see no possibility of success ahead in this work. But the idea behind it is a very fruitful one and well conceived. It has awakened great interest and enthusiasm and is bound

to prove very helpful in the long run. The motive is excellent, whatever the execution may be; and in the long run experience will improve the execution.

Manual training and domestic work of various kinds are also valuable, but at present tend to be too formal in their nature. Formal models of no practical value in real life have been conceived to teach the use of some particular tool. But it will soon be found that the same hand training can be got by making useful things. It is a pity that instructors from foreign countries were imported to start the movement, for they copied their home system faithfully. It will rest with native Canadians to devise a really practical course of training, which will contain any real article capable of being made with the simple tools of everyday life, and only these ought to be furnished in the school equipment. The making of a whiffle-tree is more valuable to a farm boy than the carving with a knife of an oval bread board, which will never be so useful even if it is made with beautiful inlaid work.

Sewing and knitting will be more useful and practical for school purposes than cooking, and besides they require no particular school apparatus. The sewing should, however, be confined to real garments and not be wasted on tiny useless models. The knitting likewise should be devoted to goods that will afterwards be worn by the pupils or the members of their families. There is some hope that sewing and knitting will become the manual training subjects for the girls, while wood-work occupies the attention of the boys.

All these can be accomplished even in the present rural schools, but will not solve the rural problem either. A better form of organization and management will be necessary and that can only come from the union of school districts and the consolidation of schools.

**3—The School Boards and Trustees.**

Here, say some critics, is the crux of the situation and attempts have been made to enlighten the trustees. Teachers' conventions have at times held special meetings for their benefit and a section of the convention is devoted to their interests. School inspectors devote some attention to them. But in hundreds of cases, the small boards of three members are hard to move in any progressive direction. They are by nature timid and conservative towards any new movement, especially if it is to cost anything. Their districts are too small for the best choice to be made. Frequently a parent is a member till his children are all educated. By the time their school days are ended, he knows the ropes and becomes an efficient member. Then he either retires in favor of another parent or remains on the board with the sole purpose of keeping down his own school taxes. The improvement of the trustee is not an infallible cure for rural school troubles.

**4—Better Departmental Administration.**

Legislative enactments have done much to improve school conditions. Compulsory education prevails in every province except Quebec. The school term is being gradually standardized and extended to about ten months. Even teachers' salaries are increased by grants in aid, and poor municipalities are coaxed and backward ones forced to increase the taxation to at least a minimum basis. Proper grading and more useful subjects are introduced as rapidly as possible. Control of buildings, condemnation of bad school-houses, proper hygiene and sanitary conditions and, in some provinces, even medical inspection, are being forced on school boards. All this usurpation of power by the central authorities is good even though it lessens the power of trustees, provided it does not destroy all local endeavor for improvements. Of course all this can only be done by means of money grants, and central control depends upon the financial aid given to support the demands for alterations. The man who pays the piper has a right to call the tune, and herein lies a fundamental truth which must be utilized to secure more efficient schools. Let the farmers insist on better schools, let them hand the responsibility over to the provincial experts, and let the provinces pay for the privilege. Only in this way will ideal schools be forthcoming. If it were not for the disastrous results of party politics, most educational experts would gladly transform the teaching profession and the schools into a civil service. If a government department can manage successfully a navy, a post office or a savings bank, it can also run a school system. At present our departments of education are like human gods in a cage which we must all fall down and worship.

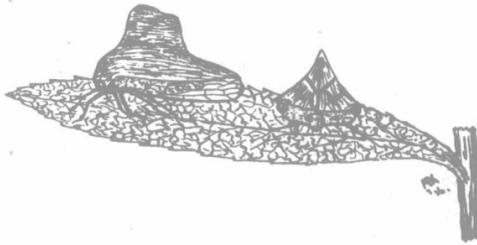
**5—Consolidation of Schools.**

The last expedient to be tried is the consolidation of schools and the transportation of the pupils of the tiny schools, which were abandoned, to the new union school at public expense. This movement which came last should have come first, for it is the only means whereby efficient rural schools can be secured. There is really no hope of permanent improvement in any other way. Jealousy, greed and conservatism must give way before much can be accomplished. We require to get the consent and co-operation of the farming community. This can best be secured by enlightenment. The best hopes we have are the results that can be secured by interesting farmers in combining to organize their demands and by using the agricultural journals to spread all such propaganda. The most hopeful sign of the present day is the strong leadership displayed by the prominent farm journals not only in agricultural pursuits, but also in the improvement of rural school conditions with which rural prosperity is so much bound up.

**Nature's Diary.**

A. B. KLUGH, M.A.

Among the many queer forms of insect life, none are more quaint than the Tree-hoppers. They are insect elves and pixies. It is the curious modification of the prothorax which gives these insects their strange and grotesque form. The prothorax is much prolonged, so that it covers the rest of the body, and is shaped into various humps, crests and spines. An idea of the peculiar appearance of one species, which is common on the Virginia Creeper, may be obtained from our illustration. In another species found on the Climbing Bittersweet, the prothorax is extended forward into a long, thorn-like projection which gives the insect the appearance of having a cap shaped like that of a pierot on its head. While the forms of these insects strike us as grotesque and comical they serve a useful purpose in the economy of the insect's life—that of protection; since they give it the appearance of a thorn or other protuberance on the stem of the plant it frequents.



**A Tree-hopper (*Telamona monticola*).**  
Side and front views.

Of these insects the species of the greatest economic importance is the Buffalo Tree-hopper. Its name is derived from its supposed similarity in form to the male Bison, the prothorax being greatly enlarged towards the head and projecting at the side into two strong horns. This species sometimes causes considerable damage in orchards, particularly to young trees and nursery stock. The injury is produced by the cutting of the small limbs by the female with her sharp ovipositor, in which process she makes large holes through the bark. These holes are in the form of two nearly parallel or slightly curved slits, and in them the eggs are laid in compound clusters. The wounds are made in such a way as to cause a certain cessation of growth between the two rows of eggs, which prevents the eggs being crushed by the too rapid growth of the twig. Each female lays from one hundred to two hundred eggs, and the young hatch out the following spring. They moult two or three times before becoming full-grown, and feed upon the juices of the tender twigs and leaves by inserting their beaks and pumping up the sap.

fly about in search of other aquatic haunts. They are predatory in their habits, feeding upon other water animals, and with their strong, sharp beak they can pierce the skin of one's finger.

The Huckleberries and the earlier Blueberries are now ripe, much to the gratification of the bears and also of a good many members of the human race. These two names, Huckleberry and Blueberry, are often applied indiscriminately to various species. Really the term Huckleberry should be reserved for the species of *Gaylussacia*, which have round, black, bloomless, sweet, berry-like drupes, containing ten very hard seed-like nutlets, and the name Blueberry applied to species of *Vaccinium*, which have berries, usually covered with a whitish bloom, containing numerous small seeds.

The first species of Blueberry which we find in fruit is a low bush between a foot and eighteen inches in height, which grows on hillsides, or in little pockets in the rocks of our northern country, and known as *Vaccinium pennsylvanicum*. A very closely allied species which ripens its fruit at about the same time is *V. canadense*, which differs from the preceding only in having the leaves and branchlets downy instead of smooth, and having entire instead of slightly toothed leaves. It grows in the same habitats as the former, and the fruit of the two species is identical.

In that wonderful region which lies over the Great Divide—our Pacific Coast—that berry of the contradictory name, the Red Bluberries, is now ripe. This attractive bright red fruit is decidedly acid at low altitudes, but as one goes higher up the mountains it becomes sweeter and of better flavor. I noticed this particularly in a climb of Mt. Benson on Vancouver Island; at the base the Red Bluberries were as acid as red currants, but as I ascended I found that they became more palatable, till near the summit, at the greatest altitude which the species reaches in that region, they were really good. Thinking that perhaps it was my taste and not the quality of the fruit which had changed, I tested them again on the down trip and found that they became sourer and sourer as I descended.

**THE HORSE.**

**Ophelia—The Mare with Descendants Valued at \$2,500,000.**

The New York Herald published some time ago an article by Alexander Gemmell on the great Hackney mare Ophelia. All horsemen should read it as it shows the possibilities from breeding of the right kind. We reproduce most of it, as did the Live Stock Journal, as Mr. Gemmell penned it:

I think I am correct in stating that Ophelia was bred by a farmer named William Deighton, of North Duffield, Selby, near Market Weighton, in Yorkshire, and was foaled in 1834. She is registered in the Stud Book as by Danegelt or Denmark, his sire, but she was undoubtedly by the latter horse, and was out of Jennie Bother'em by Triffit's Fire-away.

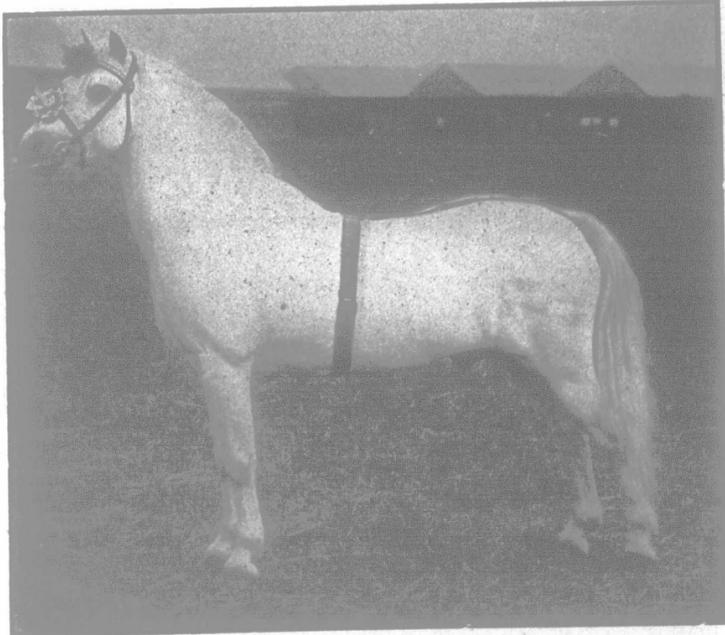
Market Weighton is in the centre of the Yorkshire Wolds. What delightful memories this little village recalls, and all apropos of the Hackney, for there it was that the Yorkshire Hackney was evolved by the Ramsdales, father and son, old Bob and Philip, more than 100 years ago. And close by, Rickell and Crompton, whose names are magic to the line breeder, continued the foundation laid by them, and to-day their blood is at the back of all the best-bred Hackneys.

I never go to Market Weighton but I picture old Bob sitting in his house when more than eighty years of age and hearing the sound of Performer's hoofs coming down the village street on market-day, and the rattle not being rhythmic to his ear he buttoned on his gaiters, went outside, and said: 'Hey, lad, that ain't 'way t'ould horse goes; gimme 'im.'

And there and then he mounted the horse and rode him up and down the street at a three-minute gait to the delight of all the Tykes.

And then across the street from old Bob's house stands Londesborough Arms, which still contains pictures of all the great old Hackneys, and in the tap-room of which Mr. Burdett-Coutts bought and paid for Hackneys to Yorkshire farmers something like \$500,000.

Near this little town, Matchless of Londesborough was bred by the late Mr. Nat Brough, and when an old horse he fetched \$12,500 in America; and only two miles out on the Newbald Road the great Forest King was bred by the late Mr. Charles Hutchison, at Sancton Grange, and he was by His Majesty, a son of



**A Welsh Mountain Pony Stallion.**

On the surface of our ponds and slow-flowing streams we find little bugs known as Water-boatmen. They are mottled and of an oval shape, and swim with the back upwards, not with the ventral surface upwards as is the case with the Back-swimmers which are common in the same locations. They can descend below the surface and remain for a long time, since they carry down with them a film of air held by the fine hairs which cover the body. When cold weather comes on the Water-boatmen swim to the bottom and bury themselves in the mud where they remain until spring. Active as these insects are in the water they are slow and clumsy on land, and if the pools they inhabit dry up they

Matchless, from a Fireaway mare, Forest Queen, that Mr. Hutchins drove for many years to church and market. Old Jennie Bother'em, and Forest Queen were not show mares, but, especially the first named, could go one-two-three-four like a shot from a gun, and stay all day.

But to come back to Ophelia. John Wreghitt, acting for the Earl of Londesborough, "spotted" her as a youngster and bought her for a small sum. He got her up for show, and twice won the female championship at the London Hackney Show—which debarred her from further competition—and she was then only a young mare.

The first time I ever saw Ophelia was at his lordship's Londesborough Stud Farm, near Market Weighton. I was driving along the road, and she was running in the field. When she heard the rattle of our trap she raised her head, pricked up her ears and stood at attention, a living picture I shall never forget. She had a perfect head and neck, full of character, going back with beautiful symmetry into splendidly sloped shoulders that only Denmark could hand down from his great sire, Sir Charles—the grandest horse and best goer that Yorkshire had then produced.

We got out of our trap, my friend and I, and walked over to the hedge, where we stood looking at her, spellbound, for I recognized that we were in the presence of the finest Hackney mare I had ever seen. She looked 16 hands high, so majestic was her bearing, although as a matter of fact her height was only 15 hands and a quarter of an inch. She was a long, low mare to the ground, with a back as level as a billiard table, and her tail set right on the end of it, with no sign of a droop in her quarters. And when she walked away from us up went her tail as if it had been set up. She walked one-two-three-four, and as my old stud groom, John Hodgson—the greatest Scotchman that ever lived as to Hackneys—used to say, "a dying horseman would turn in his bed to hear her walk." She stood on a set of legs made of whipcord and steel, every thew and sinew standing out clean and distinct, and her feet were like ivory, so dense and close was the texture. If you had put a hood over her neck you would have said her back was too long, but she was wonderfully ribbed up, and her last rib was, I think, the deepest I ever saw on a horse of anything like her size.

Ophelia has never been reproduced in any one of her descendants, although there are many beautiful specimens among them, with many of her characteristics. When set alight, her action was perfect. She lived in the air, and only came down to earth to kiss it. As old Sowerby, the vet. who bred Gentleman John used to say, "she could go as high as wild geese can fly."

The first thing that struck me when I saw Ophelia for the first time was the beautiful balance of her lines and proportions, and I took off my hat to her as my mistress instructor in the balance of a horse. And I want to say right here that until a man knows what balance means he does not know a horse.

In 1912 I stayed with "Tom" Smith, owner of the grandson, Admiral Crichton, and we drove over in the morning with the late William Foster to Frank Batchelor's place for his dispersal sale. There I saw Ophelia for the last time. She was out in the meadow, and the moment we rattled our hats up went her head and tail, and she trotted away with the same fascinating force and elegance as when I had first seen her as a three-year-old, a quarter of a century before.

Recognizing her potential value as a brood mare, Lord Londesborough had lost no time in making Ophelia the chief matron of his stud, and she remained at this stud until August 16, 1898, when the Londesborough stud was dispersed, owing to his lordship's being no longer able to take an interest through falling health and increasing years.

This was probably the most memorable sale of Hackneys ever held in England, as it certainly contained the finest and greatest collection of stallions and mares ever brought together in any stud or, for that matter, in any combination of studs. Well do I remember the old Yorkshire auctioneer, Mr. Clark, with flowing white beard, and one coat sleeve hanging loose, for he had only one arm, standing in the rostrum and stating in his introductory remarks that he believed no one in his audience would ever live to see such a grand collection of Hackneys again. And all the principal breeders and owners in England were standing there with approval.

When Ophelia herself walked jauntily into the ring, as she always did, there were thunders of applause, and still louder grew the tumult when, after going great guns, with flag topmast, she was knocked down to Frank Batchelor, than whom there was no better judge of Hackneys.

Then up came her sons, the stallions Mathias by Grand Fashion II, Sir Augustus by Grand Fashion II, and Polonius by Wreghitt's Wildfire, and they were sold respectively to Mr. William Scott, of Carlisle, Mr. S. R. Carnley, and Mr. Burdett-Coutts. I was second last bidder for Mathias, and well it was in the interest of the breed that I did not get him, for I was then buying Hackneys to alter for show geldings.

Still there was another son to come forward, and almost the last horse in the sale. This was a chestnut gelding that had been registered as a stallion, by name Fortinbras, but was then a gelding five years old by Wildfire, and thus a full brother to Polonius. He was sold to me, Mr. Burdett-Coutts being the runner-up. That horse I broke to harness. I showed him as the Ophelia gelding, and was never beaten with him. I sold him to Mr.—now Sir—Alfred Goodson, who

named him Heathfield Squire. He was the only horse that ever beat Forest King, and he did so on his merits on the day, as the going was too heavy for the latter and the ring too big. I never saw a horse that could go with such force and pace in heavy going. Heathfield Squire probably won more blues and championships in harness than any other horse that ever lived.

The only filly Ophelia foaled while at Londesborough was Miss Terry by Garton Duke of Connaught, a mare that afterwards achieved championship honors at the leading shows, and was acquired by the late Frank Batchelor, who bred her to Royal Danegelt, and produced the London winning stallion Admiral Crichton, whom many think the most beautiful stallion living to-day. I purchased this stallion at Mr. Batchelor's sale, and gave \$6,000 for him. Champion Miss Terry is now a matron in the stud of my friend Mr. Ernest Kerr, of Harviestoun Castle, Dollar, Scotland.

Besides the animals mentioned, Ophelia, prior to August 16, 1898, had produced the stallion Rosenkrantz by champion Rufus, sold to the Argentine Republic, and Lord Hamlet by Lord Derby II, who spent many years in the Island of Islay, close by Lagavulin.

At her new home, Hopwood, she produced to Royal Danegelt Hopwood Viceroy, champion stallion of the London Hackney Show, and this honor was achieved after the horse had been exported to Argentina, and he was brought back to win it and afterward re-exported. Now that the English Stud Book is open to American breeders, I hope one day to see a stallion bred in America sent across and achieve similar honors.

Ophelia also produced there Royal Ophelian, winner at the London Hackney Show, by Royal Danegelt; also Ophelia's Daughter Grace, winner in London and other leading shows, and Hopwood Goldwave, also by Royal Danegelt.

The only animal direct from Ophelia ever exhibited in harness was Heathfield Squire, and undoubtedly it was this horse's great performances that called the attention to breeders to the value of the blood for show-harness purposes through her sons, Mathias and Polonius. The first animal by Polonius to be exhibited in harness was the famous mare Lady Lathom. I brought her out at the Glasgow Show, and she was unbeaten before being exported to the Continent.

It is difficult to estimate the value of the stock this great mare Ophelia produced. If one is to reckon the values obtained for even only the tops among her sons and grandsons and her daughters and granddaughters, two and a half million dollars would not be far off the mark, as I calculate it.

An incident in connection with the memorable Londesborough sale is this: Previous to advertising the sale Mr. Robert Whitworth, who had taken the Londesborough Stud Farm, was negotiating for taking over the whole stock of Hackneys for a lump sum. There was only \$2,500 difference between the price asked and the price offered, but the parties did not agree, and consequently the sale was held, and I think the stud realized exactly double the price offered. Afterwards Mr. Whitworth had to give \$10,000 for Polonius alone to Mr. Burdett Coutts, who obtained him at the sale for a little under \$4,000, and it was the cheapest horse Mr. Whitworth ever bought, for he brought him in a profit, after deducting all expenses, from stud fees of \$100,000.

## LIVE STOCK.

### Our Scottish Letter.

EDITOR "THE FARMER'S ADVOCATE":

July has in the latter half of the month belied its beginning. We have now had a fortnight of great summer weather. The sun has asserted himself, and the heat on several days has been oppressive. The season will be a late one, but should this weather continue for another fortnight great leeway will be made up, and we may yet see heavy cereal crops with an abundance of fodder. The sun has done a great deal for the root crops, especially potatoes, which love the sun, and the other roots are getting away all right. The chief difficulty in many districts is undoubtedly labor, and yet it is surprising how the work is being got done. One great trouble in connection with the wet weather was the abundance of weeds. Whatever else fails the weed crop never. The splendid sun heat of the past week withers up the weeds better than anything, and altogether the outlook for agriculture is much brighter to-day than it was a month or even a fortnight ago. There is a heavy hay crop almost everywhere, and it is now being very well got.

In England the crops generally are no better than one would like to see them. This is particularly true of the area south of Crewe and north of London. In Cheshire the cereal crops are reported to be the heaviest known for many years. There will be a very heavy supply of fodder—a great matter in a cheese-dairying county like Cheshire. The hay crop has been water-logged, and is a month late in being saved down south. It will not be such a wholesome crop as that of 1915, which although short was of excellent quality. The moisture in the crop this year will not admit of its being cured so effectively as in a year when the harvest was earlier. It is a significant

fact that it would be impossible to "put up" hay in Scotland and Ireland in the fashion which is popular in England. The hay stack in Scotland and Ireland must be built in one day. It is bad farming to be interrupted in building your hay stack. If the Scots or Irish farmer were to stack his hay in the damp condition in which it is harvested in England it would degenerate into "muck." In England the only effect is that the hay ferments a little, and as a matter of fact seems to be rendered more palatable to stock. In a season like the present a farmer in Scotland and Ireland must be very careful how he stacks his hay. It contains so much moisture that even when dry on the outside the inside may be too damp and there may be heating. It is a curious fact that Irish hay cannot be compressed by the baler so firmly as Scottish hay, and the difference is equal to 5s. per ton on the price. If Irish hay is selling at £5 15s. per ton, Scots or English hay of equal quality will make £6 per ton solely because it will compress so much better.

Stock markets are still ruling very high. Meat and milk are selling dear to the consumer. To such an extent was this the case that representatives of trade bodies have got a special committee appointed by the Government to inquire into the causes of the advance in food prices to the consumer. The members of this committee seemed to have entered on this inquiry obsessed with the idea that the greatly enhanced cost (said to be 61 per cent. since the War began) was due to some malign effort on the part of producers to exploit the consumers. The representatives of various farmers' organizations asked to be heard, and the result seems to have been the imparting of a good deal of useful information to the representatives of the working classes. It is certain that farmers and food producers generally are doing very well, and that prices have reached a level unheard of for many years before the War. But the cost of production has increased enormously, and this is especially true in connection with milk. The advance in price to the consumer is in this case out of all proportion to the increase in price which has come to the dairy farmer. All kinds of feeding stuffs have advanced in price; in the case of some the advance has been as high as 75 per cent. In general it has run from 20 per cent. up to 50 per cent. Milk as supplied by the producer to the distributor has not advanced in anything like an equal ratio. Large profits are undoubtedly clinging to the middleman's fingers. In London especially the price of milk to the consumer is out of all proportion to the cost to the middleman. In the majority of cases the milk producer got no advance on his prices until May, 1915, and from the outbreak of War in August, 1914, to that date many dairy farmers were producing milk at a loss. Feeding stuffs and labor advanced in price very rapidly, but the farmer used to work out his contracts on the 1914 basis. The meat producer has not been so badly hit, or rather he has all along done better. The prices of store stock last autumn were in proportion to the prices of fat stock, fairly reasonable, and feeders in spite of enhanced costs of production have for the past year been making large profits.

Pigs are at a premium, and there can be no doubt that no class of stock have left more profit to their owners than pigs. More interest is being taken in pigs than has been the case for many years, and efforts are being made to preserve certain old breeds or varieties from extinction. We never had any special breed of pigs in Scotland, whereas in England the principal breeds are easily distinguished. Apart from them there are certain old local varieties possessing characteristics of their own which are well worth preserving. Notable among these are the Lincoln curly-coated variety, the Gloucester Old Spots, and the Cumberland pig. This last variety is famed as the foundation of a special brand of bacon which enjoys a wide vogue. There can be no doubt that Cumberland farmers have had an eye to the style and type of pig which produced the bacon, but they also knew how to cure the bacon when they got it, and one is not quite sure which of the two agents, the type of the pig or the method of curing, should be credited with the popularity of the bacon. Anyhow a movement has been inaugurated to establish herd books alike for the Gloucester Old Spots and the Cumberland pig. The Lincoln curly-coated variety arrived at the dignity of a pedigree register some years ago.

In the stock-breeding world there is considerable activity. Various sales of well-bred Shorthorns have recently taken place and good averages have been recorded. A. W. Hickling, Adbolton, Nottingham, is giving up his farm. He has made a name for himself as a breeder of Hackneys and Shorthorns. His Shorthorn herd was dispersed the other week, and the splendid average of £141 8s. was made for 43 head. William Duthie, Tarves, was a buyer, and as usual carried off the best things. When Mr. Duthie begins to bid for an animal he almost invariably buys. He bids to buy, and is a good friend at an auction sale. A joint sale of Shorthorns was held this week at Crewe, when 51 head made an average of £85 12s. 10d. The whole herd, owned by Mrs. Dixon, Gunthorpe, Oakham, was dispersed. Her lot of thirteen made the splendid average of £124 10s. 11d. Drafts were presented from the herds of Mr. Kellock, Highfield, Audlem, Cheshire, (who owns the first-prize bull at the Royal this year, Jack Tar) and R. Cornelius, Bankfields, Eastham, Cheshire. Mr. Kellock sold chiefly young heifers, and his 23 head made an average of £60 12s. 1d. Mr. Cornelius has frequently exhibited very good things. His

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sixteen head made an average of £88 7s. 11d. The highest price made at this joint sale was 320 guineas for the young bull Bapton Fairy King. A Princess Royal yearling heifer made 300 guineas, and a cow made 180 guineas. A considerable number of the animals purchased and the best of the heifers came to Scotland. George B. Shields, Dolphinstone, Tranent, is founding a herd in East Lothian, where unfortunately A. J. Ballour's herd at Whittingshame is to be dispersed on 31st August. Mr. Shields was the purchaser of the 300-guinea Princess Royal heifer. Large exports of Aberdeen-Angus cattle have recently been made to The Argentine. The "blacks" are catching on there. A young herd in Banffshire, that of J. F. Cumming, at Keirermony, gave a good account of itself at the recent Aberdeen show. The champion Shorthorn at that event was the Cluny Castle heifer Windsor Belle 23rd. She had been purchased before the show by Robert Copeland, Milton, Ardlethen, for John Miller, Jr., Ashburn, Ont. She is a beautiful roan and well balanced in all her points. No breed is making more headway in Scotland and England than the British Holstein-Friesian. At the dispersion sale of the Blackmore herd of the late Mr. Marriage in Essex, 116 head made the fine average of £56 2s. 5d. There is to be another dispersion sale at Cradlehall, Inverness, on the 10th August, and it will be interesting to see how the Dutch cattle sell so far north. Ayrshires are holding their own, and are being rapidly improved and consolidated as a commercial variety. The herd of East Boreland of Glenluce, the property of J. C. Cuninghame, of Dunragit, contains 74 head. Their milk records in 1915 for 60 weeks work out at an average of 759 gallons at 3.55 per cent. butter-fat per cow. This is an exceedingly good return, and shows what can be done in grading up herds along commercial lines.

In spite of the War and the strenuous stage upon which it has entered we are having some shows. During the month there have been quite successful events at Edinburgh, Lanark, Stranraer and Aberdeen. The feature of the Lanark event was a very fine show of Black-face sheep. Some of the best ram-breeding flocks in Scotland are in the Lanark area, and indeed at no show can a better representation of the breed be seen than at Lanark. The Edinburgh show was the best and most ambitious of the four. The champion Shorthorn was W. T. Malcolm's great dark roan bull which was second to Mr. Kellock's white Jack Tar at the Royal. The Clydesdales were, however, the best feature at Edinburgh. Indeed, the display of the breed has rarely been excelled in the metropolis of Scotland. The champion male was Messrs. A. & W. Montgomery's seven-year-old big bay horse Signet 16816. This is the sort of horse to show in order that men may understand the essential points of a Clydesdale, and how he differs from a Shire. He is a horse that wears. Signet is as fresh as a three-year-old. The leading three-year-old was Mr. Dunlop's famous Dunure Kaleidoscope 18335, which is travelling in East Lothian this season on very high terms. He is a great horse, and won the championship at the Royal last year, and the Cawdor Cup this year at the Spring Stallion Show. Second to Dunure Kaleidoscope stood a remarkably good, broad-boned horse named Hiawatha Again 18765. This is a fine specimen of a Clydesdale draft stallion. He is the Dundee and Carse o' Gowrie premium horse this year, and has already been hired for 1517 by the Insh and Upper Garioch Society in Aberdeenshire. He is owned by his breeder Mrs. Kinloch, Ardoch, Dumbarton. William Dunlop had first prizes for two-year-old and yearling colts with his unbeaten Dunure Independence and Dunure Ernest respectively. This last is a particularly well-balanced, true colt. He was second at the Spring Stallion Show and first at the Royal. No horse can surpass him in breeding, and he shows it in his singularly well-balanced appearance. He was bred by J. Ernest Kerr, of Harviestoun, and was got by Dunure Footprint out of Harviestoun Phyllis, grandam Chester Princess. His sire, dam, and second dam all won the Cawdor Cup, and were extraordinarily good animals. The champion female was Mr. Dunlop's Dunure Chosen 37306 own sister to Dunure Footprint and an unbeaten mare. Another own sister, Black Silk, owned by S. P. Sleigh, was first both at Edinburgh and Aberdeen in the brood mare class. Three daughters of Dunure Footprint were first in the three-year-old, two-year-old and yearling classes. These were G. A. Ferguson's Rosebud Wm. Ritchie's Balcairn Lady Alice, and J. P. Sleigh's Gaya. This is a remarkable record, and these animals were again all first at Aberdeen. There also the champion stallion was J. P. Sleigh's great black three-year-old horse Kismet, which stood second to D. Kaleidoscope at the stallion show. This is a great horse. He has developed magnificently and is another son of Dunure Footprint.

A notable decision has been come to by the Council of the Clydesdale Horse Society. They have voted a sum not exceeding £500 to inaugurate an investigation into the causes of, and if possible to find a remedy for joint-ill in foals. This strange disease is the cause of many deaths among foals. No matter how careful some owners may be they have no luck in breeding Clydesdales, having lost their foals every year. The disease seems to begin at the navel, and has generally been supposed to be due to blood poisoning—contracted before the umbilical cord is healed, yet the problem was that it showed itself no matter how spotless might be the surroundings in which the mare foaled. A fresh theory has been propounded that the disease is due to some poison in the blood before

the animal is foaled. On this theory a number of veterinary surgeons have adopted the plan of administering an anti-toxin serum to the mare before foaling and also to the foal. Whatever may be the scientific reason, the fact is undoubted that several breeders who never had any luck with foals have this year, following the use of this anti-toxin serum, had all their foals alive. This, in the case of one breeder, is an unprecedented experience. All, however, are not agreed on the subject, and there is a sharp difference of opinion among veterinary surgeons as to the value of the serum treatment. In order to set the matter at rest, if that be possible, the Clydesdale Horse Society has inaugurated this movement, and it is to be hoped that it may issue in something useful.

Flockmasters throughout the United Kingdom are in a state of suppressed excitement over the commandeering of the whole wool clip of 1916 for army purposes at a maximum price of the average for 1914 clip plus 35 per cent. There can be no doubt that this price is not fair value. The flockmasters plead for 1915 price as the basis, and it is not easy to see why it was not taken. The breeders of Cheviot sheep have been most unfairly hit of all. This variety of wool leads for clothing purposes, and the arrangement which the Government has made means that growers of Cheviot wool will require to take 5d. per lb. less for their clip of 1916 than they got for the clip of 1915. This is not fair or equitable, and naturally there is a good deal of feeling on the subject.

SCOTLAND YET.

### Infectious Sore Mouth in Young Pigs.

An outbreak of sore mouth in young pigs is sometimes noticed without appreciable cause. It is sometimes called infectious stomatitis, as the stomach is often involved. It is due to a specific germ.

**Causes.**—The disease is seen almost exclusively in pigs under two months old. The principal predisposing factor in the development of that disease is filth. Dirty quarters, filthy feed troughs, mud-holes, accumulation of manure in the lots, poorly ventilated pens or sleeping quarters, allowing hogs to burrow in manure heaps or stacks, and feeding decomposing food and filthy slops, are the conditions that predispose and render hogs readily susceptible to infection. Some claim that the virus of the disease (a germ known as necrosis bacillus) is found in the intestines of all hogs, but in animals well cared for and in good health it cannot multiply sufficiently to cause trouble. The disease may rapidly spread through a whole litter by the teats of the sow becoming infected and distributing the germs among all nursing her. The germ does not seem able to get a hold on a normal, healthy membrane. It is necessary for some abrasion to be present in order that the germs may be able to get the necessary start. Abrasions may be caused by eruption of the teeth, by injury from sharp-pointed objects, or by inflammation of the mucous membrane of the mouth.

**Symptoms.**—At first the symptoms are much the same as those of an ordinary sore mouth, but are much more severe. The patient refuses to nurse or eat. It is dull and listless, and there is an increase in temperature. If the mouth be carefully examined at this time it will show a number of inflamed patches, especially on the lips and gums. In the early stages of the disease the spots are of a deep red color, quite dark, and the gums are seen to be considerably swollen. In severe cases the swelling of the snout and lips may be sufficient to close up the nostrils and cause the patient to breathe through the mouth. At a later stage the spots become

ulcers, the margins of which are much inflamed and thickened, while the centres are a yellowish white. Later the centre becomes depressed and presents an ulcer which is very slow to heal. The gums may slough sufficiently to involve some of the teeth and the ulcers in the lips or snout may be very deep. Pain is well marked, and the least movement of the jaws causes intense suffering. The patient is unable to eat, hence rapidly loses flesh and strength. The sloughing ulcers cause a disagreeable odor. The course of the disease is usually rapid, lasting from 3 to 10 days, and a considerable percentage of the affected die.

**Treatment.**—In the prevention of the disease there are two important lines to be followed. First, the prevention of the appearance of the disease in the herd, and second, the prevention of its spread should it appear. As a precaution against its appearance the quarters in which the pigs are kept should be cleaned out regularly, and should be sprayed with a disinfectant, as a 5 per cent. solution of carbolic acid or one of the coal tar disinfectants, at intervals of at most three weeks. When the disease appears in a herd the affected ones should be at once moved from the others, or a better plan is to remove the healthy ones to quarters known to be non-infected. It is also well to remove the mother from the rest of the herd, as pigs of other litters may suckle the infected teats and develop the disease.

**Curative Treatment** must be well attended to in order to get results. The mouth should be irrigated with some strong, non-irritant disinfectant, as a solution made of 1 oz. of potassium permanganate to a gallon of water, or a solution of boracic acid 1 oz. to a quart of water. The ulcers should be touched with the point of a pencil of the nitrate of silver, or with a mixture of equal parts butter of antimony and tincture of myrrh carefully applied with a feather. This treatment should be repeated twice or three times daily for several days. Where large numbers are affected and it is not convenient to apply this treatment, a simpler treatment can be given by making a bucket full of one of the above solutions, or a 4-per-cent. solution of one of the coal-tar disinfectants, and dipping each pig head foremost into it. In this manner the ulcerated surfaces are brought in direct contact with the disinfectant. Some claim to get good results by putting a teaspoonful of the flowers of sulphur into each pig's mouth twice daily.

On account of the severe nature of the disease, and the fact that most of the pigs that recover from an acute attack do not thrive but become stunted, it is well to carefully consider whether it would not be wise to destroy the badly affected cases. Cases that recover should be given tonics, as a teaspoonful of equal parts of gentian, ginger, nux vomica and bicarbonate of soda to 8 or 10 pigs twice daily, and carefully fed and cared for for a few weeks. **WHFR.**

## THE FARM.

### The Hessian Fly.

Every year there is a considerable amount of damage done to the wheat crop by the Hessian fly. Some years the loss is quite serious, and it is advisable to take every precaution to keep this tiny pest in subjection. There are two broods hatched in the fall-wheat area of Canada. In addition to the injury done to the fall wheat during the autumn there is considerable loss from attacks of the summer brood which appears in May and June. The Hessian fly is a two-winged insect resembling a mosquito in appearance. These adults lay their eggs on the young blades of new-sown fall wheat in late August or early September. From these eggs minute grubs hatch and make their way down the



A Good Road—One Place Where the Horse is Not Driven Off by the Gas Wagon.

stem to the base of the plant where they feed upon the sap of the plant. By winter they have entered the pupal stage, and become what is commonly known as "flaxseeds".

In May the mature fly emerges from these "flaxseeds" and lays eggs, on the blades of the wheat plant, for another brood. When the grubs hatch they work their way down the stalks and embed themselves in one of the lower joints. The joint becomes weakened and the straw crinkles down, consequently the kernels do not fill properly. The grubs enter the pupal stage, and frequently remain in the stubble until in August when the fly emerges and proceeds to lay eggs on the young wheat plants.

The remedies are founded chiefly on the time the eggs are laid. Delaying sowing fall wheat so that the egg-laying flies will have disappeared before the young plants have made sufficient growth to be in a proper condition for the flies to lay eggs upon them is recommended. This means not sowing until after the middle of September. Weather conditions are believed to influence the time the fly emerges. Some years seeding could safely be done earlier than others, but there is little danger of attacks of the fly after September 15, and if the soil is in good tilth wheat will then get sufficient growth before winter. Sowing a strip along side of the main field quite early will attract a large number of flies and the grubs which hatch can later be destroyed. It is advisable to follow a rotation of crops. Wheat after wheat usually suffers most. In well prepared soil the crop makes rapid growth and vigorous plants are produced which have a better chance of recovering from an attack than a spindly stand. Refuse from a threshing machine often contains many "flaxseeds" or pupæ and should be destroyed. Plowing the wheat stubble immediately after harvest will also prevent many flies from emerging to infest new sown fields. Every precaution should be taken to avoid loss of the wheat crop.

### A Corn Tillage Contrast.

The season of 1916 on the farm has been about the most baffling in the memory of the oldest inhabitant. A protracted deluge of cold rain at sowing and planting time was soon followed by a like period of drought ending with extreme heat in July and early August. Water-logged places in field and garden were left bare, with one good result that miles of tile drains were hurried in as an insurance against similar setbacks in the future. In one case under observation by "The Farmer's Advocate" two modes of dealing with soil under such conditions were contrasted with a sweet corn crop. Both plots of clay loam, only a few rods apart, had been equally well manured and then plowed down the previous fall, the orthodox recommendation for garden crops. Both were very lightly top-dressed with some spare stable manure in the spring. One plot was surface-worked with a disc harrow and planted with sweet corn on May 24. The seed germinated and grew rather slowly and developed fair ears fit for table use by August 15. But the stalks and ears were not equal to those of a good corn season. The other plot intended for a later succession suffered more from the wet and became so sodden and stiff that it could not be worked up with the disc harrow. As a result, it was plowed to about the same depth that it had been the fall before and then harrowed into a tilth fit for planting the sweet corn, which was done on June 13, some twenty days after the other plot. This mode brought to the surface the manure buried and mellowed down during the long winter and spring, and the better growth of the plants was so remarkable as to

attract the notice of the casual observer. Though apparently not in as fine condition for planting as the other plot, the fertility was at the surface just where required by the rootlets of the corn, the stalks and leaves of which became of a more luxuriant color and about a foot higher by the middle of August than the earlier plot with also every promise of a heavier ear yield, though, of course, not as far advanced to maturity. In case of the second plot the weather was not so much more favorable, so that the greater growth was mainly attributed to the difference in tillage, emphasizing a point that has frequently been emphasized in regard to crops that draw their nutriment from near the surface.

### No Complaints.

EDITOR "THE FARMER'S ADVOCATE":

The ither nicht as I wis sittin' out on the back porch takin' my smoke as usual aifter my day's wark wis done, wha comes along but auld Dan McGregor, a neebor o' mine, an' a friend o' forty year's standing or mair. "Weel Sandy," says he, "ye're lookin' unco' sober the nicht. What's the auld wumman been haulin' ye over the coals for the noo? Or maybe yer liver is troublin' ye again?" "The auld wumman is no tae blame this time," I said, an' ma liver is a'richt sae far as I ken, but ma hired mon has quit, an' I hae been tryin' tae feenish up the hayin' by masel', an' it's no' a job that is calculated tae bring ye tae the close o' the day in a peaceful frame o' mind, I can tell ye that. Did ye ever try tae pitch a load o' dry rakin's on a windy day wi' a short-handled fork an' wi' nobody on the wagon?" "No," says Dan, "but I can imagine ye'd hae some picnic. How cam' ye wi' the short-handled fork?" "I didna' notice it till I got tae the field an' I hadna' time tae gae back for anither one," I replied. "I couldna' pit on mair nor twa or three forkfuls when I wad hae tae climb up an' tramp it, or the wind wad tak' it an' spread it a' ower the field again. I had a mind tae gang tae the hoose an' get the auld wumman, but I thocht she'd maybe fall aff the load, an' na' tellin' but she'd break her neck or somethin', an' I'd be as bad aff as ever. Sae I stuck tae it, an' finally I got the last o' it on tae the wagon an' intae the barn, but I'm no' sorry that the hayin' is feenished up for this year, believe me. This independent farmin' is gettin' tae be a wee bit too much like wark for an' auld chap like me," says I.

"Weel Sandy," says Dan, takin' oot his pipe an' lightin' it for company's sake, "I ken ye're up against it in a way, but ye're no' the first wha had tae watch the hired mon tak' his way tae "some far country" juist at the busiest time o' the year. It's a way they have, an' besides, this is war-time, so ye're no' supposed tae dae ony kickin' about the shortage o' men. Juist keep yer head cool an' yer feet warm, as they used tae say, an' dae what ye can to-day an' what's left forget it till to-morrow, an' ye'll come oot a'richt in the end."

"Na doot," says I, "but what about certain things that one man alane canna' manage. Lifting milk cans o' a couple o' hundred pounds weight intae a wagon, for instance. I mind o' one chap that used tae dae this. He's dead the noo." "Hoot mon," says Dan, "there's reason in a' things. Pit yer cans in the wagon first an' then pit the milk in them, or hae a milk-stand on a level wi' the floor o' yer rig. Ye can save yersel' a lot o' hard wark by a wee bit o' guid management. At the same time it's surprisin' what a mon can accomplish, all by himsel', in the shape o' plain hard wark, when he keeps at it, cool an' steady, frae mornin' till nicht.

I've done my share in ma day, even gin I say it masel'. Talk about yer makin' hay wi'oot help. Mony's the load I've pitched on an' then aff again wi'oot help or encouragement, except when the auld wumman wad come tae the field wi' a smack o' bread an' cheese-tae keep me gaein' till dark. I mind one year I forked ilka load o' hay I had over the top beam in the barn. When it wad get full in front I wad get up an' fork it back. There was no word o' hay-loaders an' horse-forks in those days. Na doot I could hae got help gin I had looked around for it, but I was in for savin' money at that time, an' I had a pretty guid conceit o' masel' as weel. I cam' pretty near gettin' it taken oot o' me one time though. Through a bit o' ma ain carelessness I pit ma little finger oot o' joint. I managed tae pit it back again, but wi' ma hand a' swelled up, "hoo in world," says I, "am I gaein' tae dae the milkin' the noo?" I had twelve coos tae milk at the time, an' no one on the place that kenned onything aboot milkin' but masel'. There wis naething tae dae but milk them the best I could, so I went at it. For the next couple o' weeks I spent the best part o' ma time on the milking stool, but I finally got tae where I could use ma two hands again an' ma troubles were over. I heard ma auld feyther say once that one mon could dae maist onything that twa men could dae, gin he was in a pinch. An' there seems tae be somethin' in it. Ye mind that big stone dyke alongside the road on auld Peter Stewart's place? Weel, Peter built that fence himsel' an' ye ken there's some pretty guid-sized stanes in it. When he got a stane he couldna' lift he wad tak' a piece o' plank he had an' lean it up against the wall an' roll the stane up on that. He must hae built aboot half a mile o' fence in that way. An' in the winter-time I hae seen him cuttin' down trees an' sawin' them up intae logs wi' the cross-cut saw an' then loadin' them on tae the sleigh a' by himsel'. He got at last so he could cut the trees doon wi' his cross-cut, but it wisna sae quick as the axe."

"Sae ye see Sandy," says Dan, knockin' the ashes oot o' his pipe an' puttin' it awa', "Ye're not the only chap in the world that has had tae earn the richt tae live on a farm wi'oot help frae outsiders."

"That's richt Dan," I replied, "ye'll no' hear me kickin' again aboot pittin' in a few loads o' hay alone. It reminds me o' what I heard a mon sayin' wha had been tae the Klondike in the year o' ninety-eight. He said that when they were crossin' the White Pass it didn't matter what kind o' a scrape ye got intae wi' yer sleighs or yer dogs or yer horses, gin ye wad juist look around ye'd see someone in a far worse fix than yersel'. So it seems it's the same wi' farmin'. There's plenty ithers ken as muckle as yersel' aboot hardship, an' maybe a wee bit mair."

"Aye," says Dan, "ye're richt. There's no' mony farmers but get their turn on the short end o' the whiffle-tree; but gin they're the backbone o' the country, as they tell them around election time that they are, I believe it's because o' this one thing mair than onything else, that they've learned tae expect hardship an' tae mak' the best o' it when it came. An' I'm gaein' tae say this, that ony able-bodied mon that sells his farm an' gae's oot o' business these times because o' the scarcity o' hired help has no' got the richt stuff in him an' is no friend o' his country. Let him dae his share, either here or in France gin he wants tae pass for a mon." "Weel," I said as Dan wis startin' for home, "that's a pretty hard crack for some chaps I ken; but they say that all is fair in war-time, sae I guess we'll let them tak' it," says I.

SANDY FRASER.

## Canada's Young Farmers and Future Leaders.

### A Little Bird's Wit.

EDITOR "THE FARMER'S ADVOCATE":

I have been reading with pleasure some of the letters in the new "Young Farmer's" department of our "Advocate." There is no place quite so interesting to live as on the farm when one has his eyes and ears open. It's like a big picture book before us. Every day and every season also, there is plenty of music too if the ear is trained to hear. The teacher in our section school has given us a good many hints about being on the lookout for new plants and insects, and especially to study the ways of birds and small wild animals. So the other day when near the big water tank behind the barn where the cattle drink morning and evening I noticed a hen trying to reach down for a drink but the water was too low for her. So she gave it up, but a more risky pullet, perhaps more thirsty, toppled in and got a ducking. In the same way one was drowned the day before. The little grey birds fluttering about seemed to have more sense than the bigger barnyard fowls. The water was running into the drinking tank through a small iron pipe from a higher tank supplied by the windmill. The pipe empties about a foot above the top of surface of the tank and extends over the side eight or ten inches. What did the wee bird do? Instead of jumping in like the pullet it flew on to the small pipe and hopped out to the end and bending its head over sipped at

leisure from the stream as it trickled through the opening at the end. Shrewd little bird, I thought.

JAMIE.

### Competitions Create Interest.

Experiences! Well I'm sure any boy who has lived on the farm all his life has seen many different experiences. I have at any rate. Most of my experiences have been lessons learned not money propositions, although I have always earned my own spending money and more, I must say that the experiences I made the least out of were what I call my most paying experiences, because it was by them I learned my most important lessons. Ever since I can remember I have helped my father and brothers and have always taken a deep interest, but not as much as when something was allotted to me for my special care. When my brother showed apples at the fair he used to get me to help him and I presume he thought I would make a lawyer by the number of questions I put to him, such as "Why don't you pick out the largest ones?" and "What are you rubbing them for when they are not dirty?" I soon found out the whys and wherefores, and ever since I have been sending in exhibits got up by myself.

There was one competition which I especially want to tell you about. It was confined to sons and daughters of members of the agricultural society. The competitors had to be under eighteen years of age. Each

exhibit consisted of a sheaf composed of a sufficient number of plants to make a compact bundle of approximately eight inches in diameter. The plants were to be selected by hand from standing crop on our own farms and were to show full length of straw (roots not included.) In placing the awards the judges considered the following points, (a) type, uniformity, compactness and productiveness of head; (b) character of straw; (c) quality of grain in head. We also had to tell the name of the variety of grain exhibited and the sheaves were to become the property of the society. There were four prizes given for five kinds of grain, spring wheat, fall wheat, oats, white, any variety, barley and rye. The prizes were \$2.00, \$1.50, \$1.00 and 50 cents. This competition caused great excitement among the young farmers, but it was no easy task to get what the competition called for, especially the first year it was announced, as most of the grain was cut before the prize lists were sent out. As soon as I saw the announcement I searched all the bays in the barn for the best grain I could get. Of course I could not get the full length of straw, but still I got the longest straw I could find and sorted it out into a sheaf regardless of the other points except the size. I proudly took my sheaves down to the fair. There was a very good showing of sheaves, and as I watched the boys bringing in their sheaves I thought sure I had them all beaten because mine were the longest. The next day when the doors were opened, in I rushed, expecting to see red tickets on most of my sheaves. But no, on the sheaves I didn't expect to see get a prize

were the red tickets. I noticed a judge standing back watching us so I asked him the reason. He wanted to know if I had seen what the points were given for. Of course I confessed I had not followed them all and told him I would be more careful next time and so I was. Last year I carried off the first prize on rye and oats, and second on wheat. We did not grow either of the other grains last year so I couldn't enter them.

The apple and weed-naming contests were nearly as interesting as the sheaf competition and one had to be well versed on the many different kinds. The contestant who had the greatest number rightly named won the prize. There were thirty kinds of apples and nearly as many pressed weeds, and all the farmers' sons and daughters could enter without paying any fee. A District Representative mixed up the varieties and kept track as each boy or girl tried their luck. I tried in both and was fortunate enough to get first in weed naming. There is always a keen competition for these prizes and as a result great interest is taken in the selections and cultivation of the seeds sown. The young farmer learns how to intelligently adapt himself to all the new problems which confront him and I'm sure there was no prouder moment in my life than when I carried off the red or blue ribbon. It is not the money value alone, but the increased interest you obtain by entering in these competitions. I think every boy should persuade his father to let him enter competitions at the fall fairs.

Northumberland Co., Ont. HAROLD JAMIESON.

**A Pig Fed Cheaply.**

EDITOR "THE FARMER'S ADVOCATE":

To begin with I must say that I agree with George Harman, that there is money in pigs, though I do not say that there is more money in pigs than in cows.

Hitherto I have paid little attention to "The Farmer's Advocate," although my father has taken it longer than I can remember, and I might say I am in my sixteenth year, and now I have become interested in your new Department. I thought I would tell you of a little investment I made sometime ago.

About the first of October 1915, one of my father's sows had a litter of eight or nine pigs, but before we could rescue them she had killed all but one. My father didn't know what to do with it so I asked him to give it to me. He consented to do so. Somehow the sow took kindly to it after a short time and I left it with her for about seven weeks. I then weaned it and fed it on the following feed till the latter part of March when I sold it.

46 lbs. shorts.....	\$ .65
130 lbs. oat chop.....	1.40
100 lbs. middlings.....	1.35
Total cost of feed.....	\$3.40

I sold my pig for \$12.00 thus making net gain of \$12.00 minus \$3.40 equals \$8.60. I think this is a fair gain. I have now bought two bags of potatoes at \$1.75 per bag. My potatoes are doing fine.

Perth Co., Ont. LLOYD S. JOHNSON.

**A Year with Hens.**

EDITOR "THE FARMER'S ADVOCATE":

In the year 1911-12 my younger brother and I kept chickens on a small scale in the back yard, and the month of August 1913 found us with seventeen four-months-old Barred Plymouth Rock pullets of the Ontario Agricultural College laying strain. At this time the attention of the junior partner was more occupied with the wonders of miniature electric motors than with the feeding of the chickens, so an offer for his share in the seventeen was accepted without much dicker and I started in the business alone.

I had a good, airy, double-boarded chicken house, 8 feet by 10 feet with a 6 foot by 3 foot window in one side, two smaller windows in front, and an opening about two feet square covered with factory cotton in the door. A quantity of straw held to the top of the house by wire netting helped to keep the floor from becoming too damp.

My system of feeding was comparatively simple. Crushed oats, mangolds, water, grit and oyster shell were kept before the hens at all times. In the morning and at night I fed in the litter a grain ration, consisting of two parts of wheat to one of cracked corn, but, on cold winter days I always tried to have for them instead of the grain at night, a hot mash consisting of table-scraps dried off with bran. Once a month in winter I bought five cents' worth of liver, boiled it, and gave them a little at noon each day, while it lasted. The water it was boiled in, with bran made an excellent mash for the night feed.

I gathered the first egg on October 13, and from then on the production steadily increased. In December I was getting from five to eight eggs every day. In January I traded two pullets to a neighbor for a rooster of the same strain and the fifteen left gave from six to ten eggs daily all January and February. In March and April I gathered from nine to fourteen eggs every day. These results were better than I could have obtained from a larger flock as I was able to give the fifteen hens all my attention.

For all my winter eggs I found ready sale among the neighbors, selling in all fifty-four and a half dozen. In March the sale of eggs for hatching began and a glance at the receipts for the year will show that this brought in more than twice the revenue that any other sales did. The O. A. C. bred-to-lay Barred Rock has

a reputation for laying that is well known in the province, so I found no difficulty in selling most of the eggs at \$1.50 per setting of fifteen. Two customers took over one hundred eggs each, so I gave them a cheaper rate. The fact that I was able to dispose of them without advertising cut down expenses so that the only cost of selling them was the price of the boxes in which eggs were shipped to customers out of town. Besides selling eggs for hatching I set 74 in an incubator and from these hatched 51 chicks which I put with clucking hens. Of these I raised thirty-nine, of which only eleven were pullets. However, I disposed of the cockerels in July at 50 cents each, and that made a fair profit. About the middle of June I sold my hens and rooster and after July I had the whole yard for the pullets. I sold my six best hens at \$1.25 each and the remainder at \$1.00 each. For my rooster I got \$1.50. The expenses and receipts are as follows.

RECEIPTS.

Sale of winter eggs.....	\$17.67
Sale of eggs for hatching.....	38.94
Six hens at \$1.25.....	7.50
Nine hens at \$1.00.....	9.00
Twenty-eight cockerels at 50c.....	14.00
Rooster.....	1.50
	\$88.61

EXPENSES

For brother's share.....	\$ 6.00
Mangolds 4 bushels.....	.50
Grit 20 lbs.....	.20
Oyster shell 20 lbs.....	.10
Roup preventative.....	.25
Lice powder.....	.35
Meat (liver).....	.25
Wheat 840 lbs.....	12.75
Cracked corn 200 lbs.....	2.95
Crushed oats 300 lbs.....	4.25
Chick feed.....	.55
Boxes for shipping eggs.....	1.30
	\$29.45

Receipts.....	\$88.61
Expenses.....	29.45
Gain.....	\$59.16

In August 1913, one year from when I started I had made \$59.16 profit and still had eleven pullets to start the fall with. This made a profit of nearly four dollars per hen, but of course it must be remembered that a larger gain per hen can be made from a flock of fifteen than from a hundred, and that the sale of setting eggs brought in much greater returns than if they had been sold for ordinary purposes.

Halton Co., Ont. FRED B. HUTT.

[Note.—This excellent essay was forwarded after the date of entry into the competition expired so could not be considered for the special prizes, but we are publishing it and intend to pay for it at a liberal rate. Fred certainly deserves credit for his success with his hens.—EDITOR.]

**How I Grew Prizewinning Turnips.**

EDITOR "THE FARMER'S ADVOCATE":

During the last few years several of the counties of Nova Scotia have awarded prizes for the best acre of turnips grown by a boy between fifteen and twenty years of age. The prizes offered in these contests are quite liberal, being seventy-five, fifty, thirty and twenty dollars, respectively. This money, however, must be used either for purchasing pure-bred live stock, for underdrainage, for an agricultural education, or in some other way approved of by the committee.

As I had previously won a first prize in the contest, I decided to try again, and went about it in the following way:

Soon after the hay had been hauled from the field selected for the plot, the ground was ploughed, harrowed, and then crushed by means of a heavy plank scraper, and left until spring. As soon as the ground was fit to be worked in the spring, it was harrowed. After this, thirty loads of barn-yard manure were spread on and ploughed in. The plank crusher was next used to grind the lumps, after which the ground was harrowed, then ploughed and crushed, and again harrowed. By this time the soil was in good condition, and after receiving a small amount of Acid Phosphate and Nitrate of Soda, and being rolled, was ready to be drilled. The drills were made and the seed sown on June 18th. As soon as the plants were big enough, they were cultivated, and thinned to about one foot apart in the row. Throughout the summer either the cultivator or the hoes—sometimes both were put to work as soon as the ground began to dry after a rain, in order to keep the surface loose, and so prevent evaporation of moisture from the soil.

Shortly before harvesting, the field was judged,—not only for yield, but also for quality, uniformity, vigor of growth, freedom from disease, stand of crop, cultivation, etc.

In spite of this being a poor year for turnips, the average yield being about two hundred bushels below that of the previous year, I was awarded first prize.

Later, at the Maritime Winter Fair, I won first prize (five dollars) for the best six turnips exhibited by the prize winners from all the counties.

In accordance with the rules of the contest, I kept an account of the cost of raising, which I give below:

Ploughing, 11 hours at 40c.....	\$ 4.40
Harrowing, 8 hours at 40c.....	3.20
Work done with crusher, 3 hours at 40c.....	1.20
Hauling manure, 15 loads at 30c.....	4.50
Spreading manure, 1 day at \$1.50.....	1.50
Rolling and sowing fertilizer, 25c.....	.25
Drilling and sowing, 3 hours at 40c. and 2 hours at 15 cents.....	1.50
Cultivating, 7 hours at 30c.....	2.10
Thinning, almost 3 days at \$1.50.....	4.50
Hoeing, 2 days at \$1.50.....	3.00
Pulling turnips, 4 days at \$1.50.....	6.00
Carting, 1 day at \$3.00.....	3.00
One-half value of 30 loads of manure at \$1, (\$30).....	15.00
Two-and-one-half pounds Rennies Perfection seed.....	1.00
One half value of six cwt. Acid Phosphate at 85c., (\$5.10).....	2.55
One-half value of 1½ cwt. Nitrate of Soda, at \$2.00, (\$3.00).....	1.50

Total cost of raising 975 bushels,—cost per bushel, about 5.6 cents.....\$55.10

Only one-half the value of manure was charged to the crop of turnips, the remaining half being left in the soil.

So, besides having nearly a thousand bushels of turnips at small expense, and eighty dollars, the soil was left in good condition for the next crop.

N.S. JOHN A. SEMPLE.

**Producing Pork at \$6.60 Per Cwt.**

EDITOR "THE FARMER'S ADVOCATE":

I beg to give you our experience with a bunch of hogs during the winter of 1915-16. We had two litters, one of ten—a Tamworth-Berkshire cross—and the other of eleven from Yorkshire get. We prefer Berkshire sows, as they are of a quiet nature and are easily kept, and when bred to a Tamworth boar produce good, thrifty pigs.

After the young pigs were born the old sows were allowed to ramble through the pasture field and orchard, being fed twice daily with mixed barley and oat chop, which was well moistened. They had access to a creek at all times for drink and wallow. At the end of eight weeks the little ones were weaned and put into a pen, fed mangels once a day and mixed chop twice. For some time we had three pens framed into one, allowing all the young pigs to run from pen to pen; this we think gave them plenty of exercise, as we had not a crippled pig in the lot. When the pigs were about four months old we separated them, putting seven in one pen and fourteen in the other two pens. The lot of fourteen, I may here remark, did fully as well as the lot of seven. We fed them oat and barley chop twice a day and mangels first thing in the morning or at noon. They always had all the pure water they wanted to drink, generally before the chop was fed, and the chop was just slightly moistened. I think that much better than giving pigs sloppy feed.

The accompanying figures show cost, receipts and profits. I am valuing the young pigs at \$3.00 each, but they did not cost us that much:

COST.

21 pigs at \$3.00 each.....	\$ 63.00
210 bushels barley at 60 cents.....	126.00
130 bushels oats at 40 cents.....	52.00
200 bushels mangels at 10 cents.....	20.00
Chopping 140 bags at 5 cents.....	7.00
Labor going to mill 14 trips at 50 cents.....	7.00
	\$275.00

The by-products paid for labor of feeding.

RECEIPTS.

Returns at 6 months and 11 days—21 hogs at 198½ lbs. each, 4,170 lbs at 10 cents.....	\$417.00
Total cost.....	275.00
Profit.....	\$142.00

This was \$6.76 per hog profit, or 94 cents per bushel for oats and barley; or \$1.00 per bushel for barley and 85 cents for oats. Cost of production \$6.60 per cwt.

Durham Co., Ont. W. G. BICKLE.

**Competition Winners Announced.**

It is with pleasure that we publish the winners of the competition announced in these columns in the issue of June 22, articles for which were to be mailed to this office on or before July 22. The last of the essays are published in this issue, and the competition has been a decided success, for beginning with the issue of July 6, in which three essays were published, there have been from three to five published each week up to and including this issue. In all 37 essays were sent in and the writers should be congratulated, for every one was considered of sufficient value to publish, and all have appeared. This is a great start for the new department. Competitors among the older men never saw all their essays published. We wish to compliment the boys and young men who entered. The essays were brim full of facts and figures from practical experience, and all those not receiving prizes will be paid for liberally. One boy failed to mail his essay until July 28, so it could

not be considered for the special prizes. However, it will be paid for at a good rate. One or two exceeded the 800-word limit. Most of the writers did not use up 800 words. It is always well to say what you have to say in as few words as possible. It never pays to pad out with generalities, but some of the essays were a little too short. Details are important. A few forgot that we asked for an account of their most valuable experience last year, and wandered off a bit toward generalization. On the whole the essays were above par. Watch this de-

partment through the fall and winter for announcements of other competitions. You have shown now that you can write and write well. Keep it up. This is your department, and the more use of it you make the better it will be. Give us accounts at any time of any practical farm experience you may have. All published will be paid for as soon as used. The judges had a difficult task deciding the winners, and many excellent essays had to be left out of the special prize money. The contest was close, there being eight or ten essays any one of which might

have been in the special prizes. In fact, two were so close for third money that two prizes were awarded of the same amount, third place being a tie.

#### The Winners.

1. H. Stuart Clarry, Locust Hill.....\$10
2. Percy Moore, Pembroke..... 8
3. Ernie Crawford, Oro Station..... 5
3. John A. Semple, Tatamagouche, N. S..... 5

## Automobiles, Farm Machinery and Farm Motors.

### Changes in 1917 Models.

August is the month when the great majority of automobile firms make their announcements for the coming season. No doubt you have read a great many advertisements outlining the new features that will be attached to the 1917 cars. Sometimes the details are conflicting and it is hard to follow the trend of engineering events. As it is always interesting to be able to discuss motor cars intelligently, we shall give you a general impression of the changes announced for next year in order that your mind may be at ease should you decide to trade your present car for one of later design. All the innovations that have been instituted tend towards greater simplicity in motor construction and finer lines in body conformation. For instance, it will now be rather difficult to find a new model with air pressure gas feed, and it will rapidly become hard to locate one with a gravity system installed. Of course, there are some cheap cars that will continue to use the old system of gas transfer from storage to cylinders by means of pressure or gravity, but the unmistakable current is towards the vacuum method. Water pumps will be found on more machines, as the thermosiphon system, while simple, is not as dependable. There is a marked tendency towards cellular radiators, valve-in-head motors, single unit electrical systems and better lubrication. All these changes will have the effect of minimizing troubles and magnifying comfort.

The most noticeable feature of the new cars is added luxury of color and fittings. Many makes are placing double cowls along the front seat. This means that there is a stream-line effect from the base of the windshield to the end of the car instead of a part of the front seat projecting upwards about five or six inches. Then, too, there are lights being placed in the tonneau, and lamps supported from the frames of the fenders rather than from the basic frame of the machine. A few models are adopting the tilted windshield, the idea being to throw the air over the top of the car instead of to force it to the sides. Instrument boards of walnut and mahogany will become more noticeable, and sensible curtains for opening and closing with the doors, are going to be more readily procurable. Thief proof switch locks have been arranged in nearly all the good automobiles, and cantilever springs shackled at both ends and swivelled in the centre, are coming into their own, as this form of suspension gives riding-absolute freedom from short jerks and bumpy side plays. Back seats are being designed to give plenty of room for three people without crowding and minus any crushing of the clothing. All low tops are being raised slightly, and bows that in some cases were directly above the heads of passengers are being placed forward. Such changes provide added head room, and prevent the minor accidents which sometimes occur when during fast driving the people in the rear seat are thrown upward through the impact of dust holes or high culverts. Many models of fenders have been in existence, the flat, half crown and full crown, but, as time goes by, the full crown fender will be used universally, because of its attractive appearance and real value in keeping the mud and dirt from the body of the car. Then, too, there is going to be a standardization in the lighting system. Single bulbs used for dim and strong illumination will give way to the double bulb arrangement, which is much more effectual and more easily manipulated. Projecting door hinges will soon be a thing of the past, and handles on the robe rails are finding an appreciative public. Corrugated running boards with foot scrapers have gained a permanent place in public favor, and so too have tire carriers that are adopted with equal facility to one or two casings. You may think that these trifles do not show a great advancement in automobile engineering, but you must remember that the tendency in trade is to standardize a product in order that it may be handled with the utmost ease both by the factory which produced it and by the consumer who must operate it. In the bicycle business prices did not strike a sensible level until manufacturers were able to pass the period of experimenting. Having brought their output down to exact science, they were able to place their goods before the public at a mere varnish of profit, because the probabilities of loss had been cut down to a negligible point. History is repeating itself in the automobile trade, and the time is not far distant when we will find all cars reaching a uniform plan. The buyer will then have to decide which maker has the best reputation, and which firm can be most

thoroughly depended upon to give the service and courtesy demanded by motorists. AUTO.

### Buying Small Tractors for Ontario Farms.

EDITOR "THE FARMER'S ADVOCATE":

In the gasoline tractor business there is a feature which appeals irresistibly to many a farmer, and the tractor salesman uses it for all it is worth, and a great deal more. It is the element of credit, which, on the lines we have it in this Canada of ours, is perhaps the farmer's greatest curse, though he often mistakes it for a blessing.

An 8-16 tractor—that is, 8 h.p. on the drawbar, 16 h.p. on the belt—with a self-steering service, can be bought for, in round figures, \$1,000, with \$500 cash, or on a squeeze \$400, and the balance in two or three equal annual payments, according to the standing of the purchaser. The salesman argues and the purchaser reasons, for he is inoculated with the virus of wanting a tractor anyhow, that \$500 is little more than the price of a good team. Also, the salesman advances that appeal-to-reason argument that, unlike horses, a tractor eats only when it is working, which the open-mouthed purchaser swallows, bait, hook, and tackle. He has the first necessary five hundred, if but little more, and he needs a tractor in the worst way; then why longer tarry?—the man who hesitates is lost! Thus too many of us reason when we allow the wish to be father of the thought. Never mind about those other "equal annual payments," it's time enough to cross the bridge when we come to it! Let to-morrow take care of to-morrow! What's the use to anticipate sorrow?—and so on and so forth. By the time those payments fall due, will not that small tractor, with its giant capacity for getting things done, have paid for itself, and left a margin in the bank besides? Why sure it will—you bet yeh!

But will it? The answer is that it may, and again it may not. As I said in my former article, experience proves that it depends a good deal upon the operator whether a gas-tractor, large or small, will give satisfaction or not. There are many practical farmers, keen business men, operating on a large scale, who could afford to hire expert mechanics to run their tractors, who testify that the tractor is not as profitable as horses, for any kind of farm work, and who have proved the faith that is in them by scrapping their tractors or selling them for what they could get, and going back to horses.

George Lane, of Calgary, one of the largest operators in North America, who was not behind the door when business acumen was given out, has gone into this tractor business most thoroughly, and has demonstrated that he can plough large fields with horse power for less than one-third the cost that he can plough with any kind of motor, either steam or gasoline. His figures were given in the "Breeder's Gazette" and I believe have never been refuted. R. A. Wright, of Drinkwater, Saskatchewan, testified on the subject in the same journal as follows:

"I came from Carrol, Iowa, to Drinkwater six years ago and am farming 3,000 acres of excellent land. I purchased a steam plowing outfit and also a gasoline one—of the best makes and on a cash basis. From my knowledge of machinery I was able to make any ordinary repairs without expense or loss of time. After giving these tractors a fair trial, extending over four years and keeping close track of expenses, I have been compelled to discard both outfits and purchase horses instead. The enormous expense of running those tractors was more than I could stand. I can plough with teams for less than one-half the cost, and do more satisfactory work."

I have no desire to injure any legitimate business that is done on square lines. My aim in writing these articles is to present the "con" side of the tractor argument, and cause brother farmers who may be contemplating the purchase of small tractors to do some careful thinking before making the plunge. The fall is approaching and we are to have tractor demonstrations in various parts of Ontario, to which hundreds of farmers will be drawn, many of them, lured on by clever, seductive advertising, "half inclined" to buy small tractors. Letters and articles have appeared in our farm press from time to time during the past couple of years, boosting the small tractor and telling of the wonders it can perform. It is impossible to distinguish between the genuine straight-from-the-farmer letter and the letter coined

by the tractor manufacturer as advertising matter and passed on by a farmer, and editors have to take them largely at their face value and publish them in good faith as farm news. The point we should remember when reading letters or articles giving experiences with small tractors is that the small tractor has only been on the market a very brief time. It is, as the farmer-tractor salesman referred to in my last article, frankly stated, very much in the evolutionary stage at the present time—practically speaking, an experiment—and emphatic statements from any quarter as to its real merits from an economical standpoint, as compared with horses, over a term of years, must be taken with a good deal of caution and a large sprinkling of salt.

The trouble with this small tractor business is that it is made to appeal to the small farmer, who is not financially able to stand loss as his stronger brother was who was carried away a few years ago on the crest of the big-tractor wave which swept over the West. In those days it was generally believed by business men who were in the farming business that on large grain-growing farms either steam or gasoline tractors were more economical than horses. This belief has been found to be a pure fallacy, and that is why tractors are being left in fence corners all over the Northwest—not only in Canada but in the United States as well.

I said I have no desire to injure a legitimate business that is being done on square lines. These articles are penned because, in view of the failure of the tractor on large farms, I do not consider the manufacturers are giving the small farmers a square deal in cajoling them into buying and foisting upon them a similar machine, built on smaller lines, which is admittedly only a half-baked experiment. The proper place for such experiments is in the laboratories and workshops, and on farms owned by or otherwise at the expense of the manufacturers.

This country has been held up so long in broad daylight by farm machinery makers that if the Government were alive to and interested in the true interests of the farmers of Canada they would swat a few of their eighteen or twenty superfluous and absurd royal commissions now in existence and appoint a permanent expert commission on the lines of the railway commission, to hold constant enquiry on and thoroughly investigate the practical merits, and correct the shortcomings of all the farm machinery that is placed on the market. Until a machine were absolutely proven a practical economical success in tests lasting sufficiently long to place the question beyond doubt, it should not be allowed to go on sale. Machinery skimmed in material and parts too light to stand up to the work they were intended for, would then be strengthened by order of the commission. Square bolts would not be allowed to go in round holes, to the farmer's loss of time and money in busy times, and hundreds of other necessary reforms would be effected.

"Too paternal!" did I hear some one say? My dear sir, not one whit more paternal than compelling the farmer to pack his apples honestly, with inspectors at his elbow, that the interests of the consumers shall be protected. Wherein is the difference?

These things are coming! Let politicians and protected interests take note. The farmer is going to take a hand in the government of this country in the near future. When in Winnipeg recently I called upon that great co-operative success, the Grain Growers' Grain Company, and with Mr. White inspected their offices and ware-rooms. I was amazed as we went from capacious office to office, on the main floor of the Grain Exchange, to see the big staff of employees busily working under the most up-to-date conditions, and all working as if their hearts were in the thing. I had heard and read much of the growing strength of this lusty youngster, yet the reality was about six times as large and modern as I expected to find it. And it's growing every day. Listen! This concern, which is purely co-operative, started business in September, 1906, with a paid-up capital of \$5,000. Their paid-up capital to-day is \$867,000. In their first year they handled 2,340,000 bushels of grain. In 1915 they handled 18,821,402 bushels. Their first year's profits were \$790. Their profits in 1915 were \$226,963. Their annual report of 1915 showed that they had 16,773 shareholders, which, however, is only part of the farmers who ship their grain to and do their business with the company, for it is not necessary to be a member to cooperate. Their reserve fund is \$340,000.

The point about the Grain Growers of the West is that every one is a booster of co-operation, and a

swatter of monopoly and unfair privilege. They are doing big things and will do things still bigger, until the privileged interests either sit up or lie down forever. In Ontario we have the United Farmers' Co-operative Co., Limited, which is doing well also, and if some of our Ontario farmers would shake off their show-me and show-me-again and now-show-me-once-more-to-make-sure conservatism and individualism and get in the co-operating game, and do away with party politics, farmers' co-operation would soon be a power for the good of the whole industry, and we should quickly have the privileged interests hiking for the tall timbers, each with a grafter or weak-kneed politician on his back.

But I am digressing. I started out to write on "buying" small tractors, and here I am writing on party politics, which is a "sell."

The weather is warm, writing is an effort, and as editors and readers alike don't like articles too long, we will pursue our thoughts in another issue.

In our next we will do a little meditating on the subject of buying other things as well as tractors on credit, and try to show why credit, as we have it in this country, is the farmer's curse because it is on a wrong basis. There is a more excellent way, which we will presently look into.

Northumberland Co., Ont. W. L. MARTIN.

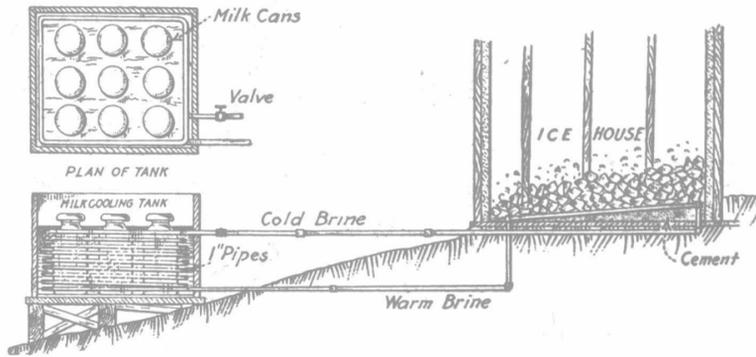
## THE DAIRY.

### Milk-cooling Arrangement.

A while ago when I was called upon to fix the pump in a well on a farm, I saw the farmer lugging ice from the ice house to a tank to cool the milk. He told me that he would save more than half of his ice if he could get the ice out of the ice house and into the cooling tank without opening his cooling box every night and morning, and that it would be necessary for him to build a larger ice house to provide the necessary supply as his dairy was getting larger all the time. I told him that I would think of some way of getting around the trouble

of carrying the ice and spending the money for a larger house. Here is the plan which I devised and put into operation.

The next fall when the ice was all out of the ice house I laid 3-inch headers tapped every 4 inches for 1-inch pipe. I put one of these headers at each end of the house on the floor, making one about 6 inches higher than the other. From both headers I connected pipes to coils in the milk tank which were made as large as possible, as the pipe ran all around the tank. It was arranged in such a way that the cold water needed in the milk cooler would circulate through the pipes



Ice House and Cooling Tank.

to the tank and through the cooling coil under the ice house floor. The circulation was good, but the cooling would have been better if brine had been used. After the pipes were put under a cement floor, the ends of the headers extending out so that connections could be made, the pipes were so protected with cement that the ice could be piled on top of them and the door sealed up and whenever cold circulation was wanted it was only necessary to open up the gate valve in the circulation pipe. It is best to use cold brine, as it

chills more thoroughly and is more effective in cooling the water in the coils in the tank, where the milk cans were set. In opening the gate valve the flow through the coils begins, and cools water in the milk cooling tank. Of course, such a scheme can only be successful when the ice house is higher than the milk cooling tank.

If the conditions are not found this way, the ice house floor must be elevated. If a greater cooling effect is wanted it can be secured by packing a little salt with the ice, but here care must be used as it is possible to freeze up the whole thing and "bust" something. The accompanying illustration shows a plan

of the ice house floor with the header cooling coil and a plan of the cooling tank for the milk coil. This plan shows the pipes running around all sides of the cooling tank. They are arranged in the form of a square, spiral coil.—Hank, in Metal Worker, Plumber and Steam Fitter.

[Note: We have never seen this method of cooling in use, but we pass the idea on to our readers for what it is worth. The principle of the cooling system looks as if it should work. On many dairy farms the ice house and milk house are close together and could be

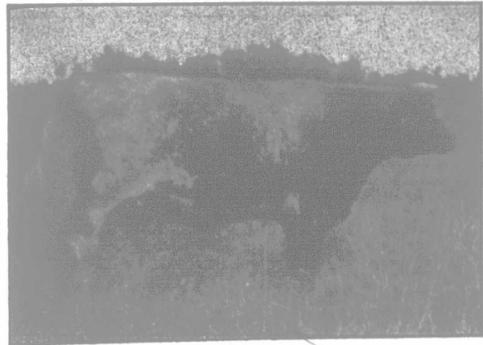
connected by means of pipes. The floor of the ice house would have to be raised above the top of the cooling tank so that the cold water or brine would flow by gravity to the milk cooling tank. After passing through the coils in the tank the material will become heated several degrees and will naturally rise and flow back to the headers in the ice house. If this system works satisfactorily it will not only be a saving of time over the old method of putting ice in the water, but it will also economize on ice.—EDITOR.]

## The R.O.P. Puts the "Dual" in the Dual-Purpose Shorthorn.

In this day of specialization, when certain breeds of stock are bred and selected exclusively for milk and butter-fat production, and other breeds just as intensively bred for beef production, it is quite natural for stockmen to wonder if the dual-purpose ideal is a feasible one. Can dairy and beef qualities be combined in the one breed and in the one animal? As the breeds have come to be known in Canada there is a strong line of demarcation between the two types, and the average breeder fails to see the possibility of a dual-purpose animal. There are three or four breeds that are noted for their beef type, which has coupled with it the deep, low-set, thick body with straight top and underline, and a well-sprung rib thickly covered with high quality flesh. The udder is only of secondary consideration. Then there is the other extreme, a high-strung, thin, wedge-shaped animal showing great capacity and good constitution, with prominent hook bones, thin quarters and well-developed udder, the ideal of the dairy specialist. Each class has a big place to fill in supplying the needs of the human race. Taking the breeds as a whole the one quality has been intensified at the expense of the other, until at the present time it is doubtful if there is a real dual-purpose breed in Canada, although there are strains or families of breeds that point that way. It is possible to select individuals of the most highly developed beef breeds, and in time, by careful selection and breeding, secure animals that would be profitable producers at the pail, and at the same time produce offspring that would dress out a choice carcass of beef. The same is true of the dairy breeds. A fairly good beef animal could be produced in a few generations. The time required would depend a good deal on the blood used in originating the breed and in the line of breeding followed. While the special-purpose animal has a large place to fill there is also room for a dual-purpose animal. There are thousands of farmers who do not care to carry all their eggs in one basket. These will keep a considerable herd, but they do not wish to maintain too many milk cows. They prefer a breed that will give a profitable amount of milk in a lactation period, and will produce a calf that can be raised and fattened at a fair profit. Not all are so situated as to specialize entirely in one line. There is a growing demand for the dual-purpose animal. But, where is the breed that will produce it?

On studying the history of the breeds it is found that the Shorthorn, owing to its origin and subsequent line of selection and breeding, is qualified to fill the bill to better advantage than any other. The Shorthorn is largely known in Canada as an ideal beef animal, but this type is due to selection to that end and following one strain. In England there are dairy Shorthorns. They supply the bulk of the milk consumed in the large cities. True, they do not possess the smooth, blocky form that is seen in the Canadian show-ring, but they carry good form, a fair quantity of flesh and show every indication of being producers at the pail. This same type of animal was common in Canada 40 years ago. Many can still recall the type of Shorthorn cows, that graced our stables and pastures, with their broad

backs and deep, level quarters which fleshed up to excellent beef when dry, but after dropping a lousy calf after their own stamp, would produce five or six thousand pounds of milk in each lactation period. These old-fashioned dairy matrons are scarce to-day. Breeders kept the beef type before them. The showing catered to this type, and in 40 years the dual-purpose Shorthorn has largely passed. In Canada Shorthorn cattle are a beef breed second to none. Judging from the exhibits at the fairs they are the most popular beef breed. The lactal qualities have been sacrificed to the block. True, there are individuals of the breed, descendants of the old type of Shorthorns, scattered here and there through the country. They give a large flow of rich milk and yet retain a fair amount of flesh. When bred to bulls of the proper strain the offspring possess the dual-purpose characteristics.



Jean Lassie.

Champion of two-year-old class in R. O. P. test. Owned by S. A. Moore, Caledonia, Ont.

The demand for the dual-purpose animal can best be met from the Shorthorn breed. No radical change in methods of breeding and feeding need be made, nor yet is it necessary to introduce foreign blood. There is a strain of Shorthorns that has been essentially dual-purpose from the time the breed originated. This strain is still distinct in England, but in Canada it has become overshadowed by the strictly beef type. Selection and careful breeding for a few years will again bring the dairy Shorthorn to the front.

The origin of the Shorthorn is veiled in obscurity, but it is assumed that the breed is descended from cattle brought over to England by the Romans and Normans and crossed on native English cattle. Later bulls were imported from Holland which exerted a marked influence on the type and conformation of the breed. The breed first became known as Shorthorn in the north-eastern part of England. The first development and improvement took place in the valley of the Tees, a portion of the country noted for its luxuriant crops. From there the breed spread over Great Britain, and in fact over a large part of the civilized world.

There were several prominent and successful breeders who bred systematically and did a good deal in setting the breed type as it is known to-day. Colling Bros. and the Booth family, of England, emphasized the beef type. Easy feeding, thick-fleshed animals with plenty of quality and a strong constitution were sought. Amos Cruickshank, of Scotland, gradually developed a type of Shorthorn known as "Scotch," which is broad and thick of back, with a deep, compact body, carrying thick flesh of choice quality. This type is an early maturing and easy keeping sort. These breeders met with success, and established large herds which have had much to do in setting the standard of the beef type. While these breeders were perfecting a certain type Thomas Bates was breeding the same breed of cattle, but was selecting along slightly different lines. His aim was to develop a class of cattle having a combination of dairy and beef qualities. In this he succeeded to a large degree. His strain had a good deal of quality, were large animals and possessed great dairy capacity. Thus, there are two distinct strains in the one breed of cattle. The one selected and bred for beef has reached the acme of perfection and competes favorably with animals of all other beef breeds in the show-ring. The other strain has maintained the original size, and while it may not fatten quite so easily as the other class, nor yet show the beef conformation to as high a degree, they are noted for their heavy milk yield. They are dual-purpose animals.

In general conformation both strains of Shorthorns adhere to the beef type with the one tending toward milk production sufficiently to be known as a general-purpose animal. Cows frequently exceed 1,500 pounds in weight, and many mature bulls weigh well over the ton. The color is distinctive of the breed. Red, red and white, pure white, or roan are the recognized colors. Black should not occur in pure-bred animals. There is no breed that has done so much to improve this country's beef stock. Shorthorn bulls mated with grade cows have produced choice animals with superior killing qualities. Even in the highly specialized beef strain a large number of females are capable of producing a fair quantity of milk. The combination of milk and meat in the one breed has done much to make the breed popular. The demand is now arising for a heavier milking Shorthorn than the general public is acquainted with.

The heaviest milkers of the breed usually trace back to the Bates' strain. Individuals of this family are scattered throughout this country and are quite common in England. It is a matter of breeding these cows to a bull whose ancestors trace back to the milking Shorthorn. If this mating can be secured it is only a matter of time until the dairy qualities will be improved. In the United States there is an American Dairy Shorthorn Association organized for the purpose of conducting tests, recording records, and stimulating an interest in the dual-purpose breed. In Canada nothing was done by the Shorthorn Breeders' Association towards improving the milking qualities of the breed previous to 1913, except offering a few special prizes at some of the leading exhibitions. This resulted in a number of worthy dual-purpose cattle being exhibited, but it was difficult to take

a cow in full flow of milk and present her in the showing so that she would compare favorably with her heavy-fleshed sister. The show-ring proved an unsatisfactory means of encouraging the breeding of Shorthorns with milking qualities. It catered to form, while it was capacity to perform that many breeders were then and are to-day demanding. When the demand arose for milkers claims were made that certain cows gave so many pounds of milk in a year, but purchasers all appeared to be "from Missouri." They wanted to be shown records of what the cows had done during one or two lactation periods. Lacking this information the development of a dual-purpose or milking Shorthorn strain made slow progress in Canada. The breeders of dairy cattle were boosting their breeds through the testing work. Consequently, in 1913 the Shorthorn Association asked the Dominion Department of Agriculture to conduct yearly Record of Performance tests for Shorthorns in the same manner as they were conducted for the dairy breeds. A standard was adopted which, while not so high as for the strictly dairy breeds, was governed by the same rules and regulations. Bulls were admitted for registration after having four daughters in the Record of Performance, each from a different dam. All cows qualifying must equal or exceed both the records specified below:

	Lbs. Milk	Lbs. Butter-fat
Two-year-old class.....	4,000	140
Three-year-old class.....	4,500	157.5
Four-year-old class.....	5,000	175
Mature class.....	5,500	192.5

A cow does not have to be a particularly heavy producer in order to qualify, but, the standard set is above the average milk production for the Dominion, and a cow giving this much pays her way besides giving her owner a calf that will be in demand when a two-year-old. Stockmen pay long prices for steers or heifers of the right quality for feeders. The breeder who has a herd of strictly beef Shorthorns and has a ready demand for bulls and heifers might make a mistake to run the risk of reducing the beef qualities by introducing blood from a milking strain. The beef breeds are needed. However, the average stockman must "steer" the majority of his bull calves. It is this man who will benefit by keeping stock that pay their way at the pail and at the same time produce offspring that look creditable in a feeder's stable. The stocker is worth more per pound to-day than the finished bullock was ten years ago.

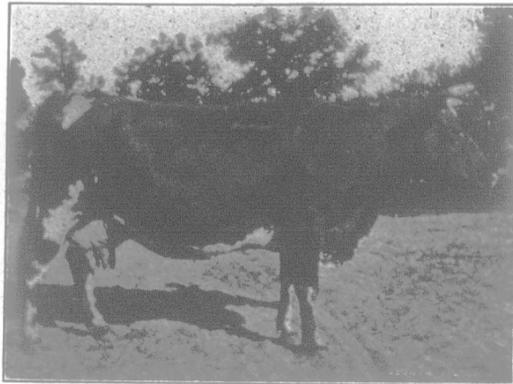
Since the yearly test was commenced in 1913 a number of heavy producers have been discovered in Canadian Shorthorn herds. Up to March 1 of this year 10 two-year-old heifers which have qualified produced on an average 6,032 pounds of milk testing 4.2 per cent. butter-fat, the highest individual record being 8,939 pounds of milk. Eighteen three-year-olds averaged 6,562 pounds of milk testing 3.99 per cent. fat. Six four-year-old cows averaged 7,133 pounds of milk testing 3.85 per cent. fat, and 31 mature cows made an average of 8,725 pounds of milk testing 3.9 per cent. Seven in the latter class gave between 10,000 and 13,535 pounds of milk, and one test went as high as 4.57 per cent. fat. These figures show that the dairy Shorthorn is capable of producing a large flow of milk above the average in quality. In the R. O. P. test there are 125 cows.

In the mature class Coquette 2nd is champion with a record of 17,723 pounds of milk and 63½ pounds of butter-fat. The four-year-old class is headed by Iford Waterloo Baroness with 10,410 pounds of milk and 381 pounds of fat. In the three-year-old class Barbara leads with 11,208 pounds of milk and 437 pounds of fat to her credit. As a two-year-old Jean Lassie gave 8,939 pounds of milk and 371 pounds of fat. Her record has not as yet been broken by any Shorthorn of that age entered in the test. These records may be exceeded at any time, as heavy producers are being brought to the front by the semi-official test.

Breeders who have Shorthorns of the milking strain and who are building up a herd of dairy Shorthorns cannot afford to neglect entering all their cows in the test. The cost is not great; the results are far-reaching. There is a demand for sires to head the milking herds, but breeders insist on knowing the producing qualities of the bulls' ancestors. The result of a test is the most authentic method of determining the value of an animal for dairy purposes. Appearances count for a good deal, but the conformation of the cow, the size of udder and length of milk veins do not indicate accurately what that animal will produce in each lactation period.

Breeders should be careful not to intensify milk production to the extent of injuring the typical Shorthorn conformation of their animals. It is possible to select and breed so exclusively for milk that in a few years the beef qualities will be bred out, and the animals will possess strictly dairy type and conformation instead of that type looked for in the dual-purpose. This must be guarded against. The dairy breeds meet the demands of those specializing in dairying. What is wanted are animals with large frames, good conformation, large, well-formed udders yielding good milk but not in excessive quantities. They should be able to produce offspring that will give a good account of themselves at the pail, but at the same time will carry a fair amount of flesh and will fatten when dry. Cows of this stamp will meet the present demand for dual-purpose animals. It is possi-

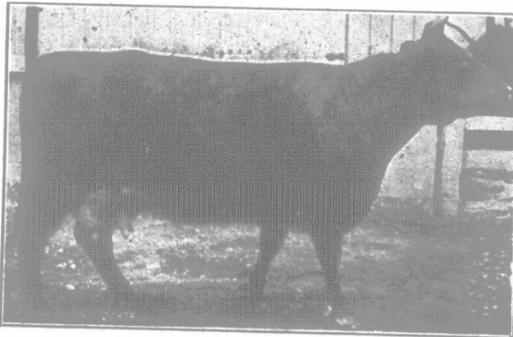
ble to have cows come up to the standard in milk production necessary to qualify in the R. O. P. or even exceed it and yet not lose Shorthorn form. There is a danger of cows giving excessive quantities of milk producing offspring that are Shorthorns in name and color only. Perfect dairy type and beef form are difficult to combine in the one animal. The followers of the dairy type of Shorthorn are increasing in numbers. The yearly test has proven



Coquette 2nd.

Champion of the mature class in the R. O. P. test. Owned by Edward Knight, Vanessa, Ont.

that there are heavy milkers among the breed and has given an impetus to breeding for dairy qualities. There is a big place for the beef type of Shorthorn to fill, but the demand that has arisen for the dairy Shorthorn will be met. Where will cows and bulls be found to meet the demand for foundation stock? This is the question bothering many breeders. The answer is found in the reports of the Record of Performance test.



Iford Waterloo Baroness.

Champion of the four-year-old class in the R. O. P. test. Owned by the Ontario Agricultural College, Guelph, Ont.

## HORTICULTURE.

### Some Garden Pests.

EDITOR "THE FARMER'S ADVOCATE":

In some sections of Western Ontario this season the ways of insects have been as anomalous almost as the weather. The May Beetle or June Bug, rampant during recent years seems to have taken a holiday. Few of the mature beetles were flying about to meddle with foliage, and I only detected two or three of the grubs doing any injury in the soil. I saw nothing hurt but a couple of strawberry plants. The root maggot let the cabbage and cauliflower alone, drowned out perhaps, and the striped cucumber beetle was also conspicuously absent. For at least ten years it has been particularly destructive to the first leaves of the squash, almost destroying some of them every season in spite of hydrated lime, hellebore, Paris green, etc. This year I did not see one hereabout. Slugs were most voracious, however, eating the early bean and sweet corn leaves until choked off. Lately the cabbage worm has been particularly hungry in some sections but not in others. Hellebore and hydrated lime have been used upon these, but "slug shot" appears to be quicker in action and more effectual where the late plants are attacked. In several cases the leaves of many fine plants are being riddled, and the head itself while forming almost destroyed. Table carrot foliage has been stripped badly in a few cases by a worm about two inches long, striped showily with green, yellow and black, but he is easily picked off and crushed. In garden plantations and farm plots the big green tomato worm, three to four inches long, has been very troublesome, eating both fruit and foliage, which he hugs and closely resembles. Most people just pick him off and stamp him under foot, but others nip his head between the thumb and finger. In some of the Southern-state plantations, where a worm of this type is most destructive, little negro boys are kept going up and down the rows of tobacco picking him off. If the "darky" happens to miss one, the overseer who follows inspecting the rows makes him bite off its head with his teeth, observing with rather

grim humor, "That makes 'em powerful careful for de rest ob de day."

Mention should be made of the notable absence this year of "The Army Worm," which, after creating a veritable panic, disappeared from the scene as rapidly as he came. The reception given him in the trenches by the Ontario district representatives and others was evidently too hot for this foe of the field crops. ALPHA.

### How Cranberries Grow.

EDITOR "THE FARMER'S ADVOCATE":

A bog is a most interesting one when cranberries grow there. It is such a one that I shall describe. It is a novel thing to see these necessary berries grow and a delightful experience to help harvest a crop.

The bog-water is dark or black looking and of an acid nature, caused by the decay of vegetation. The scarlet maple, cedars, blueberries and different kinds of vines are plentiful in the vicinity of this bog, and the cranberries are growing in their native haunts.

The cranberry plant is of a wiry, creeping nature, the vines ramifying over the turf and mosses. Its small leaves are dark evergreen, shaped like an ellipse, shiny on top and white below. The flower is small and rose-colored, shaped like a wheel, and has four lobes in the corolla. Early botanists thought they could see the likeness of a crane's head and neck in the curved shape of the slender pedicel just as the bud is ready to burst, and this observation gave us the name that our plant bears, crane berry, but since we always resort to the "Principle of Ease" in pronunciation we have cranberry. The fruit of this vine is either round, oblong or bell-like and runs the whole gamut of colors. Berries begin to ripen the last of August and continue till October.

The location must be on black peat soil with a muck bottom with lots of pure sand, free from clay, weed seeds and organic impurities, and running streams with good drainage to a depth of 1½ feet beneath the surface.

Open ditches have first to be dug and the bog drained. Then the bog-turf is dug out and removed, and 4 to 5 inches of pure sand spread evenly over the bed. The sand is used because there is no more successful medium for rooting plants as every florist knows well. Besides it keeps the peat soil cool and prevents the springing up of the crop of muck-weeds that otherwise would appear. The cranberry cuttings are set in rows 2 feet apart and 18 inches apart in the rows.

The cuttings are obtained by propagation. It is necessary to keep all free from weeds for two seasons. After that time the vines will be on the job and cover the ground. A requisite in a good cutting is wiry wood texture with green-brown leaves. Poor plants are often deceptive and appear most vigorous and green with lots of foliage, but avoid these.

Planting is done in spring or autumn provided you can control perfectly the flooding of your beds.

The ditches or sluices for drainage must have gates that can be opened and closed at will, so as to control the flooding. In winter, flooding keeps out the frost, and at other times it will destroy insect pests and fungi so that it becomes essential to have a pond or lake as a supply tank to furnish the water for repeated flooding of the beds if one would succeed with cranberries. Plenty of moisture aids the ripening of the fruit.

Land that is suitable or can be made suitable for cranberry growing is very valuable for it has been made to yield from \$250 to \$300 worth of fruit to the acre. Plants yield well often from 50 to 350 bushels per acre. The average yield when the beds are at their best is 100 bushels per acre.

The cranberries are gathered with a device known as the cranberry gatherer, which is an implement made like a rake and so designed that it catches below the berries as they hang on the stalks, and gathers them into a pocket attached to the rake-head. The gathering is done when all is dry and the berries ripe. The vines are picked clean. As soon as picked they are placed in well-ventilated crates in store rooms or cool cellars with a temperature of 35 F. The cleaning and sorting is done on long tray-like tables tapering at one end. The fruit is emptied on these and pickers standing on each side of the table pick out all the litter, bruised and defective berries, working the good ones down to the outlet. The dark-colored berries are most prized. My farmer friends said they often kept the fruit, spread out on shallow, hanging trays in the cellar, in perfect condition till April.

A good worker can gather from three to 4 bushels a day. The fruit is usually shipped in barrels that hold 100 quarts, though the crate, here too, has become the popular container and is used very largely. Three crates would fill a barrel.

Cranberries as a fruit are especially associated with Thanksgiving and Christmas. It is more than a passing whim that the youngsters clamor for "cranberry" with their turkey or fowl. Then they are used for tarts, jellies, sauces, preserves and drinks. They are a good blood purifier and a preventive of scurvy so that cranberries are stocked in all sea-stores.

The Indians, to whom we are indebted for a knowledge of the value of many simple remedies made poultices out of the berries to apply to wounds made by poisoned arrows and for erysipelas. It would be worth trying if the need arises.

New Jersey and Massachusetts are now the only great cranberry-producing states. Michigan grows a few and Wisconsin used to, but her bogs have been destroyed by forest-fires, and she is not producing anything like the former yields.

Welland Co., Ont.

F. M. CHRISTIANSON.

### Insects and Fungous Diseases in British Columbia.

EDITOR "THE FARMER'S ADVOCATE":

Among the very interesting addresses given to the fruit growers of British Columbia at their recent convention, was one delivered by Mr. Treherne, Assistant Entomologist for the province. He said that in 1901 their association had a membership of 15. For the first six years not more than twenty studied the subject and they used it as a hobby. In 1911 they branched out and began to deal with the subject as it affected economic problems. Now the society has over 100 members and more than sixty per cent. are active. To young men interested in agriculture there is no better field than the study of this subject. More and more the growers of fruits and grains are being forced to look to the entomologists to help them in the difficulties of new and strange pests and blights that every year sees added to the list of enemies. Because of its names and terms it is a study that requires a man well educated and one trained in the study of ancient languages, but that is not an insurmountable difficulty. In the newer provinces these men have discovered that quite a number of these pests will go back to the wild lands from which they came and will be forced there because they cannot survive under conditions that cultivation imposes upon them. Yet we may be sure that when they leave, there are those pests from the older sections which cultivation has produced, that will come to us and which are now receiving careful study and classification in order that they may be treated where they are now found.

The Russians have the credit of being foremost in the study of entomology, along with that of course is found that wonderful control of pests which only thorough knowledge of their ways and natures gives.

The society in British Columbia holds two public meetings each year. The meeting in the winter is for the purpose of transacting business and discussing the subject among those who understand the technical terms. The other meeting is held in connection with the Fruit Growers' Convention, and the subject is approached from the standpoint of the growers and in terms that any one can understand. It is due to the members of this society that the recent outbreak of "fire blight" has been put under control so easily, and from them to-day comes the warning of the pests we may expect in the very near future, and how we can best prepare to meet them when they arrive.

On the second day of the convention we had a very interesting address from the Provincial Plant Pathologist, Mr. Eastham. He advanced the opinion that the irrigated lands, were, comparatively speaking, free from parasitic troubles up to the present. The worst trouble that has attacked the growers in the fruit and vegetable line has been the fire blight. It is almost entirely a dry-land disease and to the expert men who first studied this disease and organized the districts for treating it, the credit must be given for its control. But now we have a new and perhaps more serious disease facing us, that is powdery mildew of the apple. It is quite serious already. It is thought to be considerably more difficult to treat in dry-land districts. It is a fungus which under ordinary conditions is easily killed. It attacks the apples as it does the gooseberry. The Mildew fungus grows over the surface of the fruit, but it starts on the buds in the spring. It is not a disease that can be attacked by a winter spray for it lies dormant inside the plant and dormant season sprays cannot reach it. To cure, cut off the affected parts as far as possible. Lime sulphur, where used for scab will help some. Iron sulphate is too tedious to make though it is good for this trouble. Tonic sulphur a new spray, largely in the experimental stage yet, but highly spoken of by Mr. Eastham, is giving some irregular results, but he looks for better when it is more systematically used. For mildew he recommended spraying when the petals were still on the trees and then repeat in a month. Tonic sulphur is a very finely divided sulphur and must be applied when there is clear sunshine.

He claimed peach leaf curl to be essentially a controllable disease, but it must be taken at the proper time. It discolors and later puckers the leaves. When the first leaves are unfolding is the time of infection. It is then that the spores are carried by the rain, which is the reason why so many people think it is a damp weather trouble and caused by a moist atmosphere. It is not caused by damp weather, but rains make it easy for the spores to spread. To cure, use 1 to 10 of lime sulphur applied as the buds are swelling. If the buds have swollen before the orchardist gets at them he is too late.

Peach twig borer: the name describes it. To cure, wait till the blossoms are out, then spray with lime sulphur. Many wait till this time and hope to combine the attack on the peach leaf curl and the borer which has been the cause, no doubt, for the impression that peach leaf curl is hard to control.

Peach mildew is the same as the apple mildew. It finds its way on to the fruit and makes a splendid footing for other more serious troubles. To cure, treat the same as for apple mildew or combine for peach worm, using two pounds of lead with each barrel of spray.

A new disease is now appearing on apple, peach and plums known as silver leaf. It shows up at first on scattered limbs, on individual trees. It is caused by frost wounds becoming infected, but strange to say the fungus works where the disease is not. It shows up on the leaves, but it is working in the limbs. One must attack it through the sap. At Naramata and Summerland 8 lbs. of sulphate of iron is dug into the

soil about the tree roots toward the end of May and the orchardists are reporting good results. Three trees, the year after treatment, showed absolutely no signs of trouble and bore heavily. The next year they were in bearing again and still showing no signs of a return of the disease, so that even if it gives the grower only two years additional life and crop, 25 cents spent on a tree is a good investment. The trees he referred to were apricots.

B. C. WALTER M. WRIGHT.

### New Director for Vineland Experiment Station.

E. F. Palmer, B. S. A., has been selected by the Minister of Agriculture to succeed F. M. Clement, B. S. A., Director of the Horticultural Experiment Station at Vineland who is leaving to take a position as Professor of Horticulture in the new University of British Columbia. Mr. Palmer is the son of one of the most prominent fruit growers of British Columbia and before coming East seven or eight years ago had considerable experience in the growing of tender fruits and also co-operative marketing. He came East to take a course at the Ontario Agricultural College, and upon completing it entered the Department of Agriculture as Assistant Director of the Fruit Branch. In this work he has been brought in touch with the fruit growers of Ontario and conditions here, particularly in the Niagara District. He has written a number of bulletins on different kinds of fruit and also edited the revised edition of "Fruits of Ontario," which was issued a short time ago. Much valuable and interesting work has been inaugurated at this station during the last few years and Mr. Palmer is qualified to carry it to a successful issue along with other matters to be initiated by himself as Director of the Station.

## POULTRY.

### He Got the Duck Fever.

EDITOR "THE FARMER'S ADVOCATE":

Many object to keeping ducks. They say that there may be money in them but that nobody can get it out, which is nonsense, of course, as any number of people have made a good return on their outlay of money and time by keeping ducks. But it is not a "now-and-again" job. It is a steady every-day one with no days off for the first two or three weeks. I have tried pure-breds, mixed breeds and scrubs and I would vote for the pure-breds every time. Why? Because it does not cost any more to feed them, they lay on fat better and bring a great deal more if sold alive for breeding. My pure-breds laid more eggs too, but that may not always happen.

I never used an incubator; but set the eggs under hens. I never encouraged my ducks to set, that is until about the end of the season. Ducks as mothers have not been unqualified successes with me anyway. Hens are much better.

As soon as the youngsters are hatched I bring them into the house and put them into a box or basket with wool for warmth. Be sure and put a cloth over the wool for young ducks are of a very investigating turn of mind, and they will be liable to get the wool, if they have a chance, into their mouths, very much to the detriment of their comfort to say nothing of their lives.

Bread, softened a little with milk or water, forms their chief feed for a couple of weeks. Be careful and do not overfeed during this time. You will be a better judge of how much they need than they will be themselves. Ducks know many things and they can learn many more, but never expect them to learn the correct amount of feed they should eat. If you are inclined yourself to go to one extreme or the other in feeding your stock, in the case of ducks incline a little to the side of scant feeding. They will stand a better chance. When their appetites get a little too hearty for a bread diet they get a ration of mashed mixed grains. This is never hastily stirred up with water; but is made like bread that you would not be anxious for your family to eat. Quite a quantity can be made at a time as it keeps well and when wanted for use soak the desired

amount in a little water; but do not have it soft like a poultice.

Ducks do not seem to know the first thing about "Fletcherizing" so see to it that they have a dish of fresh water served with their meals. They will appreciate a like attention at other times too. If you do not want to go to the expense or trouble of buying proper drink dishes you will find that tins in which finnan haddie comes answer the purpose very well indeed, while your birds are small.

My duck coops are not artistic but they serve. They are like a box without bottom and woven wire top. They are usually about four feet square, as that size is not heavy to move, and with a dozen birds to a coop of course they must have fresh feeding grounds at least twice a day. I should imagine green feed of some sort to be a necessity to young ducks. I never tried to make mine do without it. Notwithstanding the old adage about rain being good for young ducks it is not. Never let your birds get very wet. Of course rain does not affect old ducks, that is a shower will not hurt them at all, but continued dampness is not good for them.

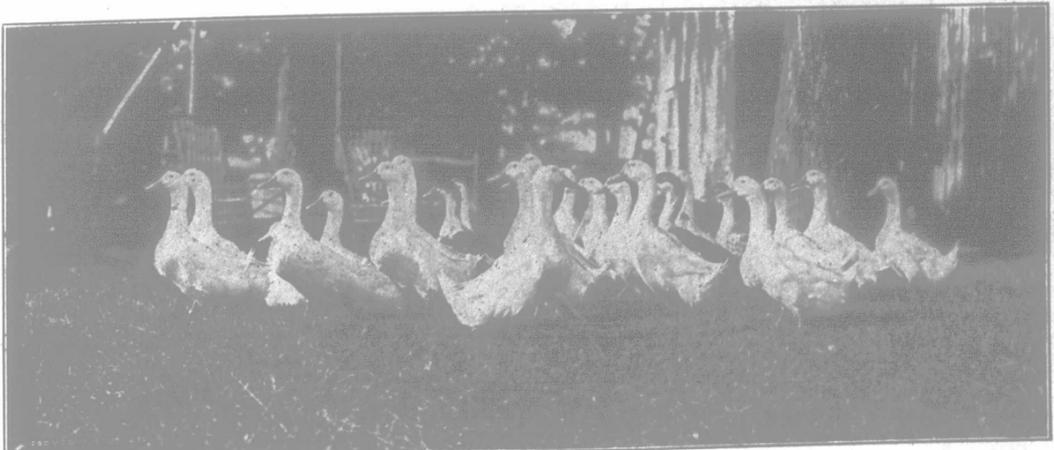
If at any time the duck-raising fever should attack you, be glad of it and remember these three things,—perfect cleanliness, keep them dry and don't overfeed. Cumberland Co., N. S. N. C. B.

### Preparing Birds for Exhibition.

The fall fair season is close at hand, and it is time the show birds were picked from the main flock so that they can be given a few weeks' special care and attention. Too often at local fairs the birds are not in show condition. They look as if they had been selected on the morning of the fair. At that, they may win if the competition is not too strong and if no exhibitor spends time fitting his birds. But is that the true show spirit? Is it not much better to carefully select the birds and have them in the pink of condition? The poultry exhibit at the fall fairs will never show much improvement until local exhibitors commence fitting their birds.

Three or four weeks before the show the flock should be carefully gone over and only those free from any disqualifications put in the exhibition pen. Watch for side sprigs, stubs, poorly shaped combs, white in red faces, off color feathers and poorly colored legs. It frequently happens that a breeder fails to see weak points in his own birds, and it is advisable to have another breeder examine the flock and discuss the good and bad points about the birds. If some are a trifle light in weight they should be put in a pen by themselves and given extra feed. Shorts and a little cornmeal mixed in milk are used by some in addition to the whole grain. Others feed liberally on bread and sweet milk and find that the birds gain rapidly.

In making up the pens select females as nearly alike as possible in size, shape and in fact every point. Lack of uniformity gives the pen a poor appearance. It is as necessary to train the birds for the show as it is the live stock. Have the birds pose for inspection. This can be done by frequently handling the birds so they will become tame. The frightened bird seldom shows to best advantage. If the birds are confined in exhibition coops for a few days previous to the fair they become accustomed to close quarters and do not notice the change so much as they do when taken direct from a large pen to the show. The most difficult task is to wash the birds so as not to injure the feathers. Rain water heated to 98 or 100 degrees and plenty of soap should be used. The legs will require vigorous scrubbing with a brush to loosen the dirt, and a toothpick may be necessary to dislodge dirt from under the scales, and so eliminate considerable of the discoloration. Next take a small brush and work kerosene oil up under scales to kill any mites which might be lodging there. The bird may then be set in deep soap-suds and the dirt worked out from among the feathers. This has a tendency to take the oil and luster out of the feathers and they do not lie properly. If the water used for rinsing is allowed to pelt down among the feathers it has a tendency to straighten them out. After being washed the birds must be dried thoroughly either by the sun or else over a heated pan and then placed in a clean coop or pen. Just before the fair steam can be used to make the feathers spread to their natural form



Ducks Should Be Sold at 10 Weeks Old.

An ordinary tea kettle may be used for supplying steam. Hold the bird in one arm and with the free hand pass the wings one at a time through the steam coming from the kettle spout. The feathers can then easily be straightened out or fluffed up as required, by passing the hand through them. Whether a poultryman is showing at a large exhibition or only at the local township fair he should fit and train his birds.

## FARM BULLETIN.

### Crops and Prices Fair in York County, Ontario.

EDITOR "THE FARMER'S ADVOCATE"

At the time of writing, August 11, the fall wheat has all been harvested. A small acreage but a good crop. The barley is all cut and a good length of straw, but the grain is not plump. Oats are being cut, and considering the drouth will be an average crop; some of the late-sown oats in the low, wet fields are very short, and cutting them with the binder will be almost impossible. A number of fields of

buckwheat have been sown on the low fields, but owing to the dry weather many of them never came up.

It has been good weather for making hay, but not for growing crops. Some of the best hay crops have been harvested in this country for many years. Some fields have been reported to go four tons per acre. Hay was made fast this year with a blazing sun above and the dry, hot ground underneath, and the hay tedder was put into use again. Although the price is dull at present no doubt it will be better before spring, as straw for feed will be scarce. The second crop clover will be short and is in full bloom now, with good prospects of seed. Alsike has been a fair crop, and some first-class seed has been threshed. It has been reported to be selling around \$10.00 per bushel.

The hoed crops are poor this year, the long, wet spell in the spring held the farmers back from getting their roots and corn in, and now the seven weeks of dry weather have made the ground in such a condition that it is almost impossible for the roots to grow, and to hoe and scuffle, but the rain which is falling to-day no doubt will help the turnips and corn yet. More corn is being planted each year and will be a fair crop for those who keep their cultivators at work.

The small fruits are very scarce, and vegetables are drying up in the hard ground. High prices are asked for all fruits. Potatoes are small and high prices may be expected next winter for those who will have any to sell.

Hired men are scarce on account of the war. Many are enlisting now to go when their times are in. The call of the West will hardly be heard in this district as there seems to be plenty of work to do here. Many farmers are alone now on large farms, and yet they talk of conscription for the war.

There is a scarcity of beef cattle, and good beef ringers can hardly be bought at any price. Pork is one of the main stand-bys of the farmers of York County, and high prices have made the business firm. Sheep are scarce and dear. There has been a large decrease in the past few years, but why so when the prices of wool and mutton are so high? What better business is there on the farm when they can be pastured and wintered so cheaply, and what better weed destroyer could you get? The horse market is dull, but no doubt they will command higher prices after the war.

York Co., Ont.

R. E. RATCLIFF.

## Recent Developments in Agricultural Meteorology.

EDITOR "THE FARMER'S ADVOCATE":

Two classes of the community are especially dependent upon the weather: those who plough the land and those who plough the sea. Both the farmer and the mariner become weather-wise with experience, and acquire considerable skill in foretelling the approach of weather changes by observing signs of the sky, the wind and the habits of animals. Highly organized meteorological offices exist in every civilized country; but, as a rule, these have paid more attention to weather changes as affecting mariners by the issue of coastal warnings, storm signals and weather forecasts than they have to the influence of meteorology upon agriculture.

### Agricultural Weather Forecasts.

Agricultural meteorology has not, however, been neglected, and statistical records of precipitation, temperature and sunshine, as well as of other meteorological phenomena, have been collected and published for long series of years in most of the older countries of the world. In Great Britain the meteorological office has for many years issued daily telegraphic weather forecasts to farmers during the hay harvest. The substantial accuracy of these forecasts has been verified in a large percentage of cases, and a material saving has been effected by economy of labor in hay making. In the United States, also, warnings are issued by the Weather Bureau at Washington twice daily to more than 2,000 principal distributing points, whence they are further disseminated by telegraph, telephone, mail, and by the newspaper press.

### Correlation of the Weather With the Yields of Field Crops.

In another direction, statistics of meteorological phenomena have been utilized to illustrate the correlation of the weather with the yields from certain of the principal field crops. In 1905, Dr. W. N. Shaw, F. R. S., Secretary of the British Meteorological Council, read before the Royal Statistical Society a notable paper on "Seasons in the British Isles from 1878." In this paper he tabulated for a long series of years, and for a particular district of England, a great variety of meteorological data, correlating these data with the yields of wheat, barley, oats and a few other crops. One of the most interesting and important deductions from the statistics he then presented was the influence of the autumn rainfall upon the yield of wheat in the ensuing year, wheat in England being a fall-sown crop. It was shown that a heavy yield of wheat in any particular year was almost invariably preceded by a dry autumn, the rule being so constant as to warrant the anticipation of an under-average yield whenever a wet autumn prevented the preparation of a proper seed-bed for the sowing of wheat. A somewhat similar conclusion was arrived at along different lines, as the result of the continuous wheat growing at the Rothamsted Experimental Station. In the "Book of the Rothamsted Experiments," by W. A. D. Hall, F. R. S., then Director, the effect of a wet autumn and winter upon the ensuing wheat crop was thus explained: "If the wheat be sown in October or early November, it spends the next three or four months almost wholly in developing its system of roots. Should the weather be wet, and the soil in a saturated condition, the root system will be restricted, both because of the deficient aeration and because the roots need not extend far to obtain the water necessary for growth."

In 1907 the line of inquiry suggested by Dr. Shaw was taken up by Mr. R. H. Hooker, F. R. S., Met., Soc., Head of the Statistics Branch of the Board of Agriculture, in a paper which he read before the Royal Statistical Society on "Correlation of the Weather and Crops." In this paper the author's conclusions were arrived at by the application of mathematical formulae to meteorological statistics. The particular method adopted was the calculation of the correlation coefficients between the yields of the crops and the meteorological data of various periods, the assumption being that the maximum coefficient indicated the period of greatest influence. The results obtained for wheat were in striking corroboration

of those of Dr. Shaw. The coefficient for the period at and just before the sowing time indicated that absence of rain in September and October was more important for a good wheat crop than rain or temperature at any other period of the year. A variety of other interesting points was brought out in this paper by the same method. It was shown that a factor of considerable importance was the condition of the seed as harvested in the previous year. But it does not follow, writes Mr. Hooker, that the period which is most critical for the quantity of a crop is also the most critical as far as regards total value (quantity plus quality). In the case of wheat, therefore, the condition of the seed is a very important factor, perhaps second only to the weather at the time of sowing and during winter. Temperature conditions were shown to affect the bulk and condition of the seed differently, and the deduction is that cool weather is a desideratum for a heavy yield, but that for good condition the preceding summer should have been warm. These considerations suggest an explanation of the phenomenon that a good crop is often succeeded by a poor one. For barley the chief requisite was shown to be a cool, dry summer; for oats also a cool summer; but this crop requires rain in the spring. For both barley and oats the spring and summer are of preponderant importance, the seed-time being relatively unimportant. For turnips and Swedes rainy weather during the sowing season is required, and for mangolds a cold spell from the beginning of March until the end of June. Cool weather is desirable for condition in potato seed, and this fact supplies a theoretical reason besides exhaustion of the stock for the practice of importing seed from the cooler climate of Scotland for the potato-growing districts of England. The same practice is strongly recommended by potato experts in Canada. W. T. Macoun, the Dominion Horticulturist, is insistent upon the importance of obtaining fresh supplies of potato seed from the cooler climate of the Maritime Provinces for planting in the Eastern and other parts of Ontario.

### Agricultural Meteorology in Russia and Italy.

During recent years large sums have been devoted to the improvement of agriculture in the Russian Empire, both in the direction of education and of experimental research. In this connection, important efforts have been directed toward ascertaining the influence of the weather upon crops, and the possibilities of controlling the factors which enter into success or failure. In 1896 a Meteorological Bureau of the Scientific Committee of the Russian Department of Agriculture was established for promotion of the following objects: 1, the organization of local agricultural meteorological stations; 2, determination of the relations between the growth and yield of plants and meteorological factors; 3, the creation of Russian agricultural districts corresponding with climatic conditions; and 4, the study of atmospheric phenomena causing serious damage to agriculture. Translations of monographs and other meteorological studies by the chief of the Russian Meteorological Bureau (Prof. P. Broounoff) and other meteorological experts have lately been published in the Bulletin of Foreign Agricultural Intelligence, issued by the Canadian Commissioner of the International Agricultural Institute. From these we learn that the main principle governing the work of the Russian Bureau is that for each crop there is a "critical period" during which, for the proper development of the plant, it is essential that the weather should correspond to the actual needs of the plant. Consequently the idea is that if these "critical periods" can be accurately determined, as well as the average probability of the particular weather required falling within a given period, then the farmer can so adjust his practice that the two periods shall coincide. This he may effect in different ways as, for instance, an alteration in the date of seeding, the use of forcing

manures, and the adoption of improved varieties. Some progress has already been made towards the determination of critical periods, for which, of course, observations extending over a series of seasons are requisite. The crop to which most thorough attention has hitherto been devoted is oats, and for this crop it is stated that there exists a particular period which is critical in respect to precipitation. During this period an abundant rainfall produces a good yield, and its absence determines a poor one. The critical period for oats, during which an ample precipitation ensures a good yield, is, in Russia, about ten days before heading. Professor Broounoff writes that the physiological explanation of the phenomenon is easy. The plant needs more moisture at the period when it develops a great number of new vegetative organs. The absence of moisture means weak organs which do not afterwards acquire vigor. To the phase of heading succeeds that of inflorescence when too much rain is injurious.

Apparently the work in Russia has not proceeded far enough to warrant similar conclusions in respect to wheat; but Dr. Girolamo Azzi has applied the Russian principles to conditions in Northern Italy. There, in the Province of Bologna, he writes, the critical period for wheat, in respect to rain, falls within the twenty days which precede heading. If during the ten days immediately preceding the phase of heading the total rainfall be not less than 30 mm.; or, if this period be dry, yet during the preceding ten days 60 mm. have fallen the probability of good yields is very great, even if no more rain should fall until harvest. Another critical period in Italy relates to the high winds and heavy rains that cause lodging. New varieties of wheat possessing greater elasticity of stem, and consequently greater powers of resistance against lodging, have been introduced, and it is recommended that they be sown at such times that the critical period shall not fall within the time that is meteorologically unfavorable.

### Agricultural Meteorology in Canada.

Weather records extending over many years have been kept and published by the Dominion Meteorological Service at Toronto, under the direction of Sir Frederick Stupart, and in the Canada Year Book of 1913 and 1914 average temperatures and precipitation at a large number of selected stations in all parts of Canada, and based upon many years' observations of the Dominion Meteorological Service were tabulated for purposes of reference. For many years, also, careful meteorological records have been kept at the Dominion Experimental Farms and Stations, and since 1908 have been published in the reports from the farms which appear in the Census and Statistics Monthly. These records embrace mean, maximum and minimum temperatures, precipitation, and the possible and actual hours of sunshine. Inspired by the Russian example, an Agricultural Section of the Dominion Meteorological Service was established in 1914, under the charge of R. W. Mills, B. S. A., the intention being to co-operate in the scheme outlined conjointly by the International Meteorological Committee and the International Institute of Agriculture. During the year 1915 this Section co-operated with the Dominion Experimental Farms in a field experiment on spring wheat in relation to the weather or meteorological environment. Observers at fourteen stations recorded crop notes on a printed form adopted from Russian and United States models. The questions called for information, including: 1, general field conditions and farming methods; 2, dates in the important stages in the life of the wheat from sowing to reaping, and the general condition of the plants at the time of these stages; 3, average height of the plants on the plot every seven days; 4, the damaging effect of adverse weather on plants and soil at any time throughout the season, and losses due to meteorological and other factors, and 5, final yield and quality. After threshing, the completed forms were returned to the meteorological office for careful correlation of the weather and crop data.

In regard to several of the results described above

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as having been obtained by mathematical and statistical processes, farmers have themselves arrived at similar conclusions from their practical experience. None the less the demonstrations of scientific observers have always an interest and a value as corroborating and explaining rationally—correcting if need be—processes that have been adopted empirically. Valuable as may be the recent Russian developments in the field of agricultural meteorology, it will be apparent from the references already made to the English statistical studies of the weather and crop yields that the existence even of "critical periods" in plant growth, as determined by meteorological conditions, has not been altogether ignored. It would hardly be safe to assume that the results of meteorological observations in Russia and Italy could be applied without local confirmation in Canada where conditions are, in many respects, wholly different. It does not follow that the so-called "critical periods" are the same in Canada as in Russia or Italy. In certain seasons and localities Canadian crops are, to a considerable extent, independent of rainfall, the melting snows leaving large supplies of moisture in the ground. Untimely frosts are, too, a meteorological factor to be reckoned with in grain-growing on the Western prairies, a disadvantage which farmers have already learned largely to overcome by early sowing and the adoption of early-ripening varieties, such as the Marquis and other wheats.

Doubtless, however, the Russian investigations, as has been officially recognized, have an important bearing upon conditions in Canada, the United States, Argentina and other countries upon which, as in Russia, increasing dependence is likely to be placed for the world's wheat supplies. There can, therefore, be no doubt as to the desirableness of more extended local meteorological observations in Canada for scientific ascertainment of the influence of the weather upon agricultural crops; and it is satisfactory to note that a good start in this direction has been made.

**The Tree Toad Knew.**

BY PFETER MCARTHUR.

When we were going to bed in the tent there was some argument as to the chances of rain. It was so stifling hot, and had been all day, that everyone hoped for rain and was ready to stretch the point a little about the signs. No dew is looked upon by many as one of the sure signs of rain, but everything was damp and there was no comfort for us in that sign. Then someone remembered that on the previous night the dew had been very heavy—almost like a shower and there are many who think that the surest sign of all. But there was not a cloud in the sky and not a flicker of lightning, so we turned in without any real hope of the comfort of a shower. Just as I was dropping off to sleep a boy asked in tones of some alarm?

"What noise is that?" Rousing up to listen I heard a grating sound, repeated at short intervals, that reminded me of some one starting to wind an old fashioned Waterbury watch, of the kind that a man had to start winding right after supper if he expected to get through by bedtime. The strange sound would start for a few seconds and then stop for a few seconds. Of course it was a tree toad, and when I heard it I wakened up enough to assure my questioners that at last we had a sure sign of rain. When a tree toad made a noise like that rain was not many hours away so we could be fairly sure of rain before morning. In my heart I know that sign is probably no better than any other, but when I was a

boy it was infallible and the beliefs of boyhood are hard to shake. Having issued this ultimatum on the weather I rolled over to see if the other side was cooler to lie on—and went to sleep.

\* \* \* \*

The next thing I remember was a wild dream in which I thought an automobile about the size of a city block was tearing across the farm without paying attention to trees, buildings, fences or anything else. I was going to make a few remarks to the reckless chauffeur when I wakened up, and realized that a glorious thunderstorm was spanning the sky from the southwest to the north-west. The lightning was almost continuous, but was still too far away for the thunder to be especially terrifying. While making up my mind what to do I had a chance to enjoy the cool breeze that was flowing towards the storm. As it was after four o'clock in the morning all nature seemed to be watching the storm also. The roosters were crowing, and although it is too late in the year for the bird concert that usually happens at dawn I could hear many bird cries, though most of them were unfamiliar. Cows were bawling expectantly and sheep could be heard bleating in the distance. Perhaps it was because I was all alone in my human wakefulness that these things were all so noticeable. And here I am just on the point of missing the most noticeable of all. Down in the Government drain which had been dry for weeks a bull frog seemed in danger of tearing his lungs loose in an attempt to welcome the storm. Presently the indications were clear that the storm was coming straight over us, and was going to be a big spill. I had heard that the tent was showing signs of leaking so I decided that the best place for everyone was under the roof. There was much grumbling and protesting while the change was being made, but by the time we had reached surer shelter the storm came with a rush and a spill and a roar, and I guess we were as glad to be out of it as everything in nature was to be in it. The only objection to it was that it didn't last long enough. It will take many rains like this to satisfy the long-thirsty earth. And all of this recalls something written many years ago after a similar spell of dry weather, which I shall venture to quote:

"Last night we marked the twinkling stars,  
This morn no dew revived the grass,  
And oft across the parching fields  
We see the dusty eddies pass;  
The eager hawk forgets to swing  
And scream across the burning sky,  
And from the oak's slow dying crest  
Sends forth a strange and plaintive cry.

The geese on unaccustomed wings  
Flap wildly in ungainly flight,  
The peacock's fierce, defiant scream  
Scatters the fowls in wild affright.  
The crows are barking in the woods,  
The maple leaves their silver show,  
The cattle sniff the coming storm,  
Then toss their heads and softly low.

And now along the hazy west  
The swiftly building clouds uprear;  
High overhead the winds are loud,  
The thunder rolls and grumbles near;  
The housewife trims the leaky eaves,  
The farmer frets of lodging grain,  
Till all the world rejoicing drinks  
The long-denied, long-prayed-for rain.

**East Middlesex Notes.**

EDITOR "THE FARMER'S ADVOCATE":

The deluge has turned to drouth, and almost all the crops are suffering as a consequence. Mangels and corn are about the only crops that appear to be holding their own, the former are doing well, but some fields of the latter are rather thin. There probably never was a better crop of hay saved in as good condition as this year's crop, but the spring grain crop will be below the average, especially for straw. Cutting has now (Aug. 12) commenced, but shaving would be a better term for all that was late sown on wet land, and wet land was generally the cause for late sowing. This emphasizes the value of drainage if grain is to be grown, but it is a question whether it pays to grow so much grain in this part of Ontario. Some are already dispensing with the threshing machine and claim better results, but so far as we know this system is only practiced by those who graze cattle mostly in summer and "run them over" winter. The dairymen and winter feeders who require large quantities of grain always attempt to grow what they need, and buy when they run short. Yet it is a still more common practice when the feed runs short to sell the animals rather than buy the feed. Consequently a year like the present one usually results in comparatively low prices for feeders. We hear of some already anxious to sell because they are short of feed. Fall wheat did well where it had a fair chance, and it was harvested in good condition. The dry weather did not come in time to shrink the kernels unduly, and the straw was straight, clean and long. The drouth cut short the yield of small fruits and cherries, and the prospects for fall fruits are none too good. Consequently the demand for honey is keen, and the yield good and of excellent quality. We think the yield is not quite equal to the record of three years ago, but the flavor is milder. It is selling at ten to fourteen cents per pound (extracted honey) net in ten-pound lots at the apiary, and many families are laying in a stock for winter, some take as high as one hundred pounds, but the average is about forty. But about half either do not buy any or else depend on getting it as needed from time to time.

Middlesex Co., Ont. J. H. BURNS.

**Dr. Jas. W. Robertson on Duty.**

Dr. Jas. W. Robertson of Ottawa, in immediate response to a cabled invitation has gone to England to give his services on behalf of Canada in co-operation with Great Britain, Australia and New Zealand in the agricultural restoration and relief campaign for the war-devastated portions of Belgium and France out of which the invading enemy is being steadily driven. Ravaged and robbed by a brutal foe the farming industries in these areas have suffered terribly, but, as related in "The Farmer's Advocate" of August 10th, relief work was courageously undertaken last year under the lead of the Royal Agricultural Society—in addition to all the other war burdens manfully shouldered by the United Kingdom. The extended organizing experience of Dr. Robertson and his inspiration and sympathy will find ample scope in coping with the situation and in some measure overcoming the havoc wrought. Germany has imposed on the world terrible burdens which a common humanity is now sharing.

One of the speakers at a country life conference down in Missouri was right when he said that the country should have three things—the best homes, the best schools and the best churches.

**Toronto, Montreal, Buffalo, and Other Leading Markets.**

**Toronto.**

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, August 21, numbered 164 cars, comprising 3,210 cattle, 284 calves, 790 hogs, and 1,465 sheep. Market slow. Good heavy cattle were 10 cents higher; good butchers' were steady; cows were 15 cents lower; bulls steady. Lambs were 50 cents lower than Friday; sheep steady. Hogs, slow, at prices quoted by packers. Calves were steady.

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

	City	Union	Total
Cars.....	100	594	694
Cattle.....	699	5,742	6,441
Hogs.....	2,100	8,503	10,603
Sheep.....	1,145	3,278	4,423
Calves.....	79	824	903
Horses.....	68	3,564	3,632

The total receipts of live stock at the two markets for the corresponding week 1915 were:

	City	Union	Total
Cars.....	17	478	495
Cattle.....	150	6,262	6,412
Hogs.....	334	5,784	6,118
Sheep.....	1,083	4,784	5,867
Calves.....	43	573	616
Horses.....	20	1,442	1,462

The combined receipts of live stock at the two markets for the past week show

an increase of 199 cars, 29 cattle, 4,485 hogs, 287 calves, 2,170 horses, but a decrease of 1,444 sheep and lambs, compared with the corresponding week 1915.

Packers quote hogs for the week commencing Monday August 21st as follows: F. O. B. \$11.75, fed and watered \$12.50, weighed off cars \$12.75.

There was a very steady trade in all grades of cattle all last week. Choice heavy steers advanced slightly and are in demand. There was a steady demand for choice light butcher steers and heifers, but very few of this class were offered. In fact the great majority of cattle were of inferior quality and should have been kept on the farm until they were in better condition.

Cows were somewhat easier than the previous week. Chiefly on account of the quality offered. Bulls—Stockers and feeders and milkers and springers were steady to firm. Lambs—Choice spring lambs were active at 11c. to 13c. lb. Sheep—The sheep market was steady to strong. The demand for choice, light butcher sheep being greater than the supply. Veal calves were steady and active. Hogs were the feature of the week, weighed off cars reaching the record price of \$13.25. A few extra choice loads selling at \$13.35. At the close of Thursdays market, however, they declined about 25c. Packers say they will be still lower this coming week.

Butcher Cattle.—Choice heavy steers, \$8.60 to \$8.75; good, \$8.10 to \$8.50; butcher steers and heifers, choice, \$7.80 to \$8.00; good, \$7.70 to \$7.80; medium, \$7.25 to \$7.50; common, \$6.50 to \$6.75. Cows, choice, \$6.75 to \$7.00; good, \$6.40 to \$6.60; medium, \$5.75 to \$6.00; common, \$5.00 to \$6.50. Canners and cutters, \$3.50 to \$4.75. Bulls, best heavy, \$7.00 to \$7.75; good, \$6.00 to \$6.75; stockers and feeders, \$5.00 to \$6.50; milkers and springers, \$5.00 to \$100; spring lambs, choice, 11c. to 13c. lb., common, 8c. to 10½c. lb.; light handy sheep, 7½c. to 9c. lb.; Heavy fat sheep, 4c. to 5½c. lb.; veal calves, best, 11½c. to 12½c. lb.; medium to good, 9c. to 11c. lb.; common, 6c. to 8c. Hogs, fed and watered, \$12.75 to \$13.00; weighed off cars, \$13.00 to \$13.25.

**Breadstuffs.**

Wheat—Ontario, (according to freights outside) New crop, No. 2, \$1.22 to \$1.25; No. 1 commercial, \$1.18 to \$1.20; No. 2 commercial, \$1.14 to \$1.16; No. 3 commercial, \$1.10 to \$1.12, according to freights outside; feed wheat, 98c. to \$1, according to sample. Manitoba wheat (track, bay ports)—No. 1 northern, \$1.54½; No. 2 northern, \$1.52¼; No. 3 northern, \$1.47½.

Oats—Ontario, No. 3 white, 51c. to 52c., according to freights outside. Manitoba oats (track, bay ports)—No. 2 C. W., 55c.; No. 3 C. W., 54c.; extra No. 1 feed, 54c.; No. 1 feed 53c.

Rye.—According to freights outside, No. 2, new 98c. to \$1.

Buckwheat—Nominal.

Barley.—Ontario, malting, nominal; feed barley, nominal.

American Corn.—No. 3 yellow, 95½c., track, Toronto.

Peas—No. 2, \$1.85 to \$1.95.

Flour.—Ontario, winter, new, \$5.50 to \$5.60, nominal, in bags, track, Toronto; new, \$5.40 to \$5.50, nominal bulk seaboard. Manitoba flour—Prices at Toronto were: First patents, \$8.10; second patents, \$7.60 in jute; strong bakers', \$7.40, in jute; in cotton, 10c. more.

**Hay and Millfeed.**

Hay.—New, car lots, track, Toronto, No. 1 per ton, \$10 to \$12; No. 2 per ton, \$9 to \$9.50.

Straw.—Baled, car lots, \$6 to \$7, track, Toronto.

Bran.—\$24 per ton, Montreal freights; shorts, \$26 to \$27, Montreal freights; middlings, \$27 to \$28, Montreal freights; good feed flour, per bag, \$1.80 to \$1.85, Montreal freights.

**Country Produce.**

Butter.—Again advanced one cent per pound on the wholesales during the past week. Creamery, fresh-made pound squares, 33c. to 34c.; creamery solids, 33c.; dairy, 25c. to 27c.; separator dairy, 29c.

Eggs.—New-laid eggs kept firm, case

lots selling at 30c. to 31c. per dozen, and cartons at 33c. to 34c. per dozen.

Cheese.—Old, 22c. per lb.; new, 19c. to 19½c.

Beans.—Primes, \$5; hand-picked, \$5.50. Honey is beginning to come in—60-lb. tins selling at 12c. per lb.; 5-lb. tins at 12½c. per lb., one-pound sections at \$3 per dozen.

Poultry.—Live-weight prices—Spring chickens, lb., 20c.; spring ducks, lb., 12c.; turkeys, young, lb., 20c.; fowl, 4 lbs. and over, lb., 15c.; fowl, under 4 lbs., lb., 14c.

Squabs per doz., dressed, \$3.50 to \$4.

#### Hides and Skins.

City hides, flat 20c.; country hides, cured, 18c.; country hides, part cured, 17c.; country hides, green, 16c.; calf skins, per lb., 25c.; kip skins, per lb., 22c.; sheep skins, city, \$2.50 to \$3.50; sheep skins, country, \$1.50 to \$3; lamb skins and pelts, 55c. to 70c.; horse hair, per lb., 43c. to 45c.; horse hides, No. 1, \$5 to \$6; No. 2, \$4.50 to \$5.50. wool, washed, 42c. to 46c. per lb.; wool, rejections, 35c. to 38c. per lb.; wool, unwashed, 32c. to 35c., per lb. Tallow, No. 1, 6½c. to 7½c.; solids, 6c. to 7c.

#### Wholesale Fruit and Vegetables.

Apples came in very freely during the past week, but the bulk of them were of such poor quality it was hard to dispose of them—and the shippers would have done better to keep them at home. There is a firm demand for fair to choice fruit at high prices—the 11-qt. baskets sold at 25c. to 75c.; the 6-qts. going at 17½c. to 40c.

Lawton berries came in fairly well, but there is only a fair demand for this fruit, as they are not a favorite. They sold at 12c. to 15c. per box.

Black Currants came in freely, selling at \$1 to \$1.35 per 11 quarts, an odd one bringing \$1.50.

Red currants still came in and sold at 7c. and 8c. per box.

Cherries of splendid quality were shipped in; the best selling at \$1 to \$1.25 per 11 quarts, and 60c. to 65c. per 6 quarts.

Gooseberries were shipped in lightly, selling at 40c. to 50c. per 6 qts.

Muskmelons came in freely and varied greatly as to quality and price, the poor quality 11 qts. selling at 35c. to 50c.; some salmon flesh 11's bringing 65c.; poor quality 16's at 65c., and Fordhooks, Osage and Hoodoo varieties at 90c. to \$1.50 per 16 qts.

Peach shipments increased in quantity and some better quality began to come in, the 6 qts. selling at 25c. to 75c. and the 11's at 50c. to \$1.

Plums also, the 6 qts. selling at 30c. to 50c. and the 11's at 50c. to 75c.

Pears were still poor quality, the 6-quart baskets selling at 25c. to 30c., and the 11-quart baskets at 50c. to 75c.

Tomatoes increased in quantity and decreased in price, firming towards the end of the week, when No. 1's sold at 50c. to 75c. per 11 qts. and No. 2's at 35c.

Corn came in in large quantities. It also declined and then firmed in price, bringing 15c. to 17c. per dozen, with an odd lot of extra choice quality going at 20c. per doz.

Potatoes kept firm, the barrels selling at \$4.75 and the bags at \$3.25 per 120 lbs., and \$2.25 to \$2.35 per 90 lbs.

Onions remained high priced, the Cincinnati selling at \$4 to \$4.50 per 100 lbs.; the Washington's at \$4 per 100 lbs. and Maryland at \$2.25 per bushel hamper. Pickling onions of choice quality came in for the first time this season towards the end of the week, the 11 qts. selling at \$1.25 to \$2 according to size. Cucumbers were a slow sale, at 40c. to 50c. per 11 qts.

Vegetable marrow declined slightly in price, selling at 60c. to 75c. per 11 qts.

Carrots and beets were quite scarce, selling at 40c. to 50c. per 11-qt baskets.

Egg plants came in in small quantities, selling at \$1 to \$1.25 per 11 qt leno baskets.

Celery—Kalamazoo celery remained stationary at 40c. per doz., while Brighton No. 1 brought 90c. and \$1 per dozen bunches, and No. 2, 60c. to 70c. per dozen.

Lettuce has been scarce, the imported Boston head selling at \$3.25 per case of 2 dozen.

Green peppers sold at 50c. to 75c. per 11 qts., and the red ones at 85c. per 11 qts.

Cabbage only came in in very small lots, selling at \$2.75 to \$3.50 per case.

Lemons remained high priced at \$8 to \$9 per case.

Oranges also kept firm at \$5 to \$5.50 per case.

### Montreal.

On the local cattle market, offerings of the lower grades of stock were fairly liberal last week, and, as a consequence, the tone of the market was easy. For certain grades, prices declined about ¼c. Demand was not at all active, particularly as the weather was not favorable to consumption, being again quite warm. Choice steers sold at 8¼c. to 8½c. per lb., and good at 7½c. to 8c., while lower grades ranged down to 6c. per lb. Butchers cows ranged from 5¼c. to 7c., bulls being about ¼c. better than these figures. A good trade was done in canning stock at moderately firm prices, the range being 4¼c. to 4¾c. for cows and 5c. to 5¼c. for bulls. Small meats were rather easier, but demand was good, particularly for lambs, the price of which ranged from 8½c. to 10¾c. according to quality. Sheep sold at 6¼c. to 7c. per lb. There was a moderate demand for calves and everything offered was taken at 5c. to 7c. per lb. for grass-fed stock. Packers took all the hogs offering at around 13¼c. for selected lots, weighed off cars, the general range for best being ¼c. lower, while rough stock sold at 11½c. to 12½c. per lb.

Horses.—Dealers report a very dull market with practically no change in price. Heavy draft, weighing 1,500 to 1,700 lbs., \$200 to \$250 each; light draft, weighing 1,400 to 1,500 lbs., \$150 to \$200 each; small horses, \$100 to \$125 each; culls \$50 to \$75 each; fine saddle and carriage horses, \$200 to \$250 each.

Dressed Hogs.—Dressed hogs were in steady demand, particularly for small lots, which were needed for actual wants, and prices ranged from 17½c. to 17¾c. per lb. for select abattoir killed.

Potatoes.—Only local and import potatoes were offered on this market. The price of local stock was \$1.70 to \$1.80 per bag of 90 lbs., according to quality, while American potatoes were \$3.75 per barrel. Dealers reported that the crop was practically a failure in many good Ontario sections and none too satisfactory in the province of Quebec.

Honey and Syrup.—This market continued very steady. Syrup in 8 lb. tins was 85c. to 90c. and in 10-lb. tins, \$1 to \$1.10, while 13-lb. tins sold at \$1.25 to \$1.50. Sugar was 11c. per lb. White clover comb honey was 15c. and extracted 12c. to 12½c. Brown clover comb was 12½c. to 13c. and extracted 10c. to 11c. Buckwheat honey was 9c. to 10c.

Eggs.—The market is gradually strengthening and was above an export basis. Strictly new-laid eggs were 35c. to 36c.; No. 1 selected being 33c. to 34c.; No. 1 candled 30c. to 31c., and No. 2 candled, 26c. to 27c.

Butter.—Export demand is having a strengthening influence on the market. Prices for finest creamery ranged from 33½c. to 34c. per lb., fine creamery being about ¼c. less and undergrades 31½c. to 32c. Dairy butter ranged all the way from 24½c. to 27½c., according to quality.

Cheese.—At the auction, No. 1 white Quebec sold at 18 5/16c.; No. 2 white at 18 3/16c.; No. 3 white, 17 3/16c. and No. 2 colored, 18 1/4c. Ontario boards sold up to 18 1/2c. Locally, finest western colored was quoted at 18 3/8 to 18 1/2c. and white at ¼c. less. Eastern colored brought 17 7/8c. to 18c. and white ¼c. under these figures.

Grain.—Wheat was unquotable, and it is said that no transactions for local account took place. Oats were firmer at 57½c. for No. 1 Canadian Western; 57c. for No. 2; 56½c. for No. 3, with No. 1 feed extra 56½c. and No. 2 feed, 55½c. per bushel, ex-store.

Flour.—No further advances took place in Manitoba flour, the price being \$8.20 for first patents; \$7.70 for seconds and \$7.50 for strong bakers, per barrel, in bags. Choice Ontario patents were \$7 per barrel, 90 per cents. being \$6.20 to \$6.40 in wood, and \$2.90 to \$3 per bag.

Mill Feed.—The market was firm at \$24 per ton for bran in bags; \$26 for shorts; \$28 for middlings; \$31 to \$32 for mixed mouille, and \$33 to \$34 for pure grain mouille, in bags.

Baled Hay.—There was a decline during the week in old crop hay, owing to offerings of new and prices of No. 1 were \$18.50 to \$19 per ton; No. 2 being \$17.50 to \$18 and No. 3 \$15 to \$16.

Hides.—Lambskins were up to \$1.10 each, with horse hides \$1.50 for No. 3, \$2.50 for No. 2, and \$3.50 for extra No. 1. Beef hides were 21c., 22c. and 23c. for No's. 3, 2 and 1, and calf skins 31c. per lb. for No. 2 and 33c. for No. 1. Tallow was 8c. per lb. for rendered and 2½c. for rough.

### Buffalo.

Cattle.—Offerings at Buffalo last week were liberal and western markets showed good runs, but, notwithstanding, trade was most satisfactory, especially on anything choice to prime. There were around twenty loads of Canadians, including a few cars of shipping steers but mostly mixed stuff. Market on shipping steers was fully a quarter to thirty-five cents higher, best native steers on the medium weight order, selling up to \$10.60, with best Canadians running from \$9 to \$9.35, Canadian steers were only in fair finish and it would pay the Canadian feeders to put these weighty steers in better finish. They are killing out on a small percentage of beef and are proving disappointing, but no doubt if they were finished up better they would bring better prices and give better satisfaction. A load of heiferly cows, with some strictly heifers in from Canada, sold at \$7.75. In the butchering line, choice kinds sold a full quarter higher, but on a medium kind of cows, selling from five to six cents the trade was a quarter lower, and a medium, plain, kind of grassy steers were also lower. Bulls, which have been bringing high prices right along, were given a good, hard jolt, selling a big quarter to thirty-five cents lower, the best ranging up to \$7 to \$7.25, with the little common stuff down to \$5.50. Stocker and feeder trade was weak, about the best here selling at \$7 to \$7.25, but there are very few of the good quality feeders coming. The little, common stocker stuff is especially slow and bad sale. Milchers and springers were given another general advance of \$5 per head for the best kinds, with the medium and common ones slow and steady. At the close of the market on Monday, when something like 5,400 head were offered, a good clearance was had. After Monday, the trade was generally a quarter lower. Demand at the present time calls for the best finished cattle and these are selling to much better advantage than the half fat kinds. Receipts for the week totaled 6,300 head, as against 4,300 head for the previous week and 4,075 head for the corresponding week last year. Quotations:

Shipping Steers.—Choice to prime natives, \$9.50 to \$10.60; fair to good, \$8.75 to \$9.50; plain, \$8.25 to \$8.60; very coarse and common, \$7.60 to \$8.00; best Canadian, \$8.50 to \$9.35; fair to good, \$8.00 to \$8.50; common and plain, \$7.50 to \$8.00.

Butchering Steers.—Choice heavy, \$8.50 to \$9.00; fair to good, \$8.00 to \$8.50; best handy, \$8.50 to \$9.00; fair to good, \$7.25 to \$8.25; light and common, \$6.75 to \$7.25; yearlings, prime, \$9.25 to \$10.05; fair to good, \$8.00 to \$8.75.

Cows and Heifers.—Best handy butcher heifers, \$7.50 to \$7.75; common to good, \$6.50 to \$7.25; best heavy fat cows, \$7.00 to \$7.50; good butchering cows, \$6.00 to \$6.50; medium to fair, \$5.25 to \$5.75; cutters, \$4.50 to \$4.75; canners, \$3.25 to \$4.25.

Bulls.—Best heavy, \$6.75 to \$7.00; good butchering, \$6.25 to \$6.50.

Stocker and Feeders.—Best feeders, \$7.00 to \$7.25; common to good, \$6.25 to \$6.75; best stockers, \$6.75 to \$7.00; common to good, \$5.50 to \$6.25.

Milchers and Springers.—Good to best, in small lots, \$80.00 to \$100.00; in car loads, \$70.00 to \$75.00.

Hogs.—Last week started with prices ruling a little in favor of the buying side, prices being declined a dime from the previous week's close. Monday a few decks brought \$10.70 but bulk moved at \$10.65, with some on the common order selling down to \$10.40 and pigs landed at \$10.10. After Monday, receipts were very light and the next four days prices were advanced, best grades on Friday selling up to \$10.95 and \$11.00, with pigs around \$10.25. Roughs ranged from \$9.15 to \$9.50 and stags \$8.00

down. Common grassy hogs are being discriminated against and at present they are underselling the best grades by from fifteen to twenty-five cents per cwt. Skip pigs and thin roughs are also showing a big margin under the best ones. Receipts last week were 19,700 head, as against 20,858 head for the week previous and 26,800 head for the same week a year ago.

Sheep and Lambs.—Little change was noted in prices last week. Lambs on the tippy order the first five days brought from \$11.00 to \$11.25 and the throwouts or culls went from \$9.50 down. Top yearlings sold at \$9.00 and \$9.25, best wether sheep are quotable up around \$8.25, and while a few handy ewes sold up to \$7.75, general ewe range was from \$7.00 to \$7.50, heavy ones being hard to land above \$7.00. Last week the run reached around 7,200 head, as compared with 6,256 head for the week before and 8,500 head for the same week a year ago.

Calves.—The highest prices ever known were paid for calves at Buffalo last week. Monday tops sold generally at \$13.00, Tuesday not many reached above \$12.50, Wednesday and Thursday bulk sold at \$13.00, with a few at \$13.25 and Friday, which was the high day, best lots scored \$13.75 and \$14.00 and culls ranged from \$12.00 down. Weighty calves were slow sale all week and they continued to show a big margin under the handy lots of the same weight and quality, it being hard to place anything weighty, even though on the veal order, above \$10.50. Two decks of Canadians were on Friday's market and the tops out of these sold at \$13.00 and \$13.25, culls went from \$12.00 down and some on the heavy fat order moved from \$5.50 to \$9.00. Receipts last week were 1,900 head, as against 2,317 head for the week previous and 1,700 head for the same week a year ago.

### Cheese Market.

Alexandria—Eight hundred and seven-teen cheeses were boarded last week and all sold at 18 1/2 cents for white and colored. Montreal—Finest western, 18 1/2 cents to 18 3/4 cents; finest easterns, 18 1/4 cents to 18 1/2 cents. Cornwall, 18 1/4 cents; Picton, colored, 19 1/2; Iroquois, Que., 18 1/2 cents; Napanee, 19 1/2 Mont Joli, 17 1/2 cents.

### Chicago.

Stockers and feeders, \$5 to \$9.40; cows and heifers, \$3.70 to \$9.50; calves, \$9.25 to \$12.75.

Hogs.—Light, \$10 to \$10.50; mixed, \$9.95 to \$10.90; heavy, \$9.75 to \$12; rough, \$9.75 to \$9.95; pigs, \$8 to \$9.60; bulk of sales, \$10.20 to \$10.80.

Sheep.—Native, \$6.50 to \$8. Lambs, native, \$7.25 to \$11.25.

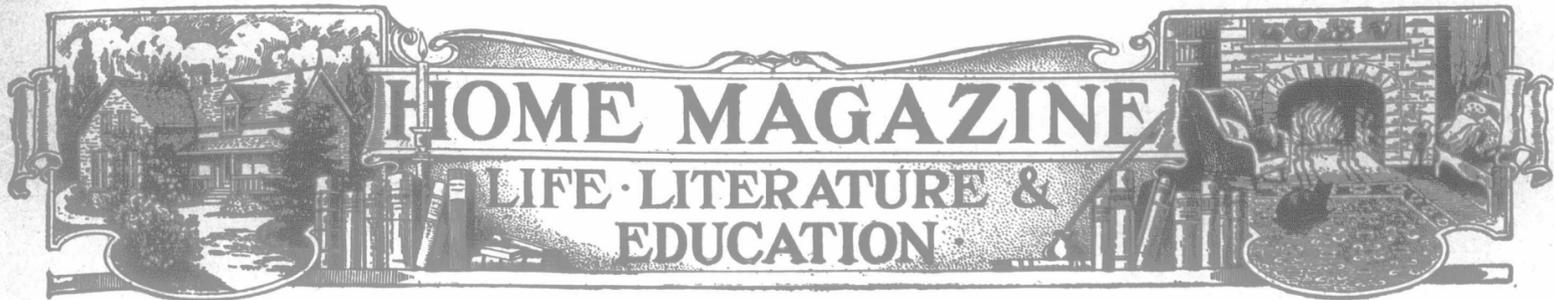
Two characteristic tales are told of the days when Kitchener was at the head of affairs in India. There is no small touch of humor in the account The Times gives of his reception to the Ameer of Afghanistan several years ago:

When the durbar was held at Agra in February, 1907, in honor of the Ameer of Afghanistan the bandmasters were instructed to play the Afghan national anthem on the arrival of the great potentate. No one had ever heard of such a tune, and finally the Commander-in-Chief was appealed to for instructions.

"It does not matter two straws," "K" replied, "what is played, as he does not know a note of music. Play two or three bars of something heavy, pompous, and slow, and let it go at that."

The bandmasters finally decided upon a march from one of the older German operas, very little known by the general public. This was played with such success that the newspapers at Bombay, Calcutta, Madras, and other cities visited by the Ameer printed a column about the "weirdly beautiful Oriental strains of the Afghan national anthem," and it has been used ever since at all royal functions in Kabul.

"There are 600,000 children in Belgium entirely dependent upon the tender-heartedness of the outside world." —A. J. Hemphill, Treas. of the Neutral Commission for Relief.



### Invictus.

[William Henley, the writer of "Invictus" and other poems, was a crippled invalid who spent most of his days in a hospital. So unconquerable, however, was his spirit, that he was the inspiration for Robert Louis Stevenson's character, "John Silver," in Treasure Island.]

Out of the night that covers me,  
Black as the pit from pole to pole,  
I thank whatever gods may be  
For my unconquerable soul.

In the fell clutch of circumstance  
I have not winced nor cried aloud.  
Under the bludgeonings of chance  
My head is bloody, but unbowed.

Beyond this place of wrath and tears  
Looms but the Horror of the shade,  
And yet the menace of the years  
Finds and shall find me unafraid.

It matters not how 'strait the gate  
How charged with punishments the scroll,  
I am the master of my fate,  
I am the captain of my soul.

### Among the Books

#### Travels in Alaska.

["Travels in Alaska," by John Muir. Pub. by Houghton Mifflin Co., Boston and New York. Price \$2.50 net.]  
A short time ago there appeared in these pages a picture of two "grand old men," John Burroughs and John Muir. John Burroughs still lives at his home near the Hudson River. John Muir over a year ago passed the Great Divide, and since his death, has been published a book which he had almost ready for the press, recording what was perhaps, the most stirring, most enjoyable and most productive part of his life—his many journeys and studies in Alaska.

John Burroughs and John Muir were both naturalists, but whereas John Burroughs occupied himself chiefly with the world of small things close at hand—the bees, plants, and above all, the birds.—John Muir's interest was claimed rather, by the great masses of Nature, —mountains, glaciers, and the broad skies—although he was also a botanist of no mean order.

Early in life, indeed, he devoted himself to the mountains. "I am hopelessly and forever a mountaineer," he wrote, long ago, "Civilization and fever, and all the morbidity that has been hooted at me, have not dimmed my glacial eyes, and I care to live only to entice people to look at Nature's loveliness."

"How gloriously he fulfilled the promise of his early manhood!" exclaims a biographer, "Fame, all unbidden, wore a path to his door, but he always remained a modest, unspoiled mountaineer." The greater part of his life indeed, was spent in the high Sierras of Nevada, where he chose to live, but when he made trips abroad it was nearly always to visit other mountains, in Arizona, in Alaska. Emerson urged him in vain to visit Concord and rest from his studies. When at last the East drew him to that spot, the "sage" was no more. "It was seventeen years after our parting on Wawona ridge," he wrote, "that I stood beside his (Emerson's) grave under a pine tree on the hill above Sleepy Hollow. He had gone to higher Sierras, and as I fancied, was again waving his hand in friendly recognition."—And to-day John Muir's body lies above another valley, the sunny Alhambra, beneath a sequoia, one of a grove planted by his own hand.

As the result of his life-work, in addition to many magazine contributions, he has left a number of books: "The Story of My Youth," "My First Summer in the Sierra," "Stickeen: The Story of a Dog," "Our National Parks," and "Travels in Alaska,"—not the least interesting in a series of works at once scientific and literary. To read "Travels in Alaska," indeed, is to enjoy a wonderful trip and thrilling experiences at a little more than second hand, so vivid is Mr. Muir's word-picturing, so simply and honestly told his narrative. And indeed, if one cannot afford the time and money to travel, is it not well to go abroad thus by proxy? "One half of the world does not know how the other half lives," but even reading a good travel book affords interesting side-lights. One cannot read such books without becoming broadened not only in knowledge but in sympathy also.

In passing, midsummer trips to Alaska are likely to become popular in the immediate future. There is comfortable passage on the steamers from Vancouver and Victoria northward, and the scenery all the way is magnificent. Moreover, although many, urged by curiosity, will flock to Europe when the war is over, there are many others who will shrink from the idea of seeing the vast cemeteries and devastated towns of the Continent, and will seek spots for rest and holiday in our own land. To these the Alaskan trip will be one of the most appealing.

In "Travels in Alaska" John Muir describes things as he saw them, with the eye of the scientist as well as of the lover of all nature's beauties. Nothing is missed,—the plant-life, animal-life,

hereabouts. Some, which visiting Indians brought us, were as fine in size and color and flavor as any I ever saw anywhere." And again: "Then come crowberry, and two species of huckleberry, one of them from about six inches to a foot high with delicious berries, the other a most lavishly prolific and contented-looking dwarf, few of the bushes being more than two inches high, counting to the topmost leaf, yet each bearing from ten to twenty or more large berries. Perhaps more than half the bulk of the whole plant is fruit, the largest and finest flavored of all the huckleberries or blueberries I ever tasted, spreading fine feasts for the grouse and ptarmigan and many others of nature's mountain people." Once more: "Some rocks along the shore were completely covered with crimson-leaved huckleberry bushes; one species still in fruit might well be called the winter huckleberry. In a short walk I found vetches eight feet high leaning on raspberry bushes, and tall ferns and *Smilacina unifolia* with leaves six inches wide growing on yellow-green moss, producing a beautiful effect."

That trees are not lacking may be judged from many delightful passages such as the following: "The morning after this delightful day was dark and threatening. A high wind was rushing down the strait dead against us, and just as we were about ready to start, determined to fight our way by creeping close inshore, pelting rain began to fly. We concluded therefore to wait for better weather. The hunters went out for deer, and I to see the forests. The rain brought out the fragrance of the drenched trees, and the wind made wild melody in their tops, while every brown bole was embroidered by a network of rain rills.

broadly palmated branches had beds of yellow moss so wide and deep that when wet they must weigh a hundred pounds or even more. Upon these moss-beds ferns and grasses and even good-sized seedling trees grow, making beautiful hanging gardens in which the curious spectacle is presented of old trees holding hundreds of their own children in their arms, nourished by rain and dew and the decaying leaves showered down to them by their parents. The branches upon which these beds of mossy soil rest become flat and irregular like weathered roots or the antlers of deer, and at length die; and when the whole tree has thus been killed it seems to be standing on its head with roots in the air." In another portion of the book Mr. Muir tells of a hemlock "felled by the Indians for bread-bark," and of common hemlocks 150 to 200 feet in height, "slender and handsome."

Flower lovers will delight in his accounts of many mountain gardens, of Nature's own planting, in which, one is surprised to find, grow a great variety of ferns and flowers. He mentions dwarf cornels, pyrola, coptis and Solomon's seal, larkspurs, geraniums, painted-cups, blue-bells, gentians, saxifrages, violets, columbine, mountain orchids, fritillaria, asters, daisies and many others including a great variety of heathworts. For a bit of description of one of these spots read this:

"After sunset we made haste to seek a camp-ground. I would fain have shared these upper chambers with the two glaciers, but there was no landing-place in sight, and we had to make our way back a few miles in the twilight to the mouth of a side canyon where we had seen timber on the way up. There seemed to be a good landing as we approached the shore, but, coming nearer, we found that the granite fell directly into deep water without leaving any level margin, though the slope a short distance back was not very steep.

"After narrowly scanning the various seams and steps that roughened the granite, we concluded to attempt a landing rather than grope our way farther down the fiord through the ice. And what a time we had climbing on hands and knees up the slippery glacier-polished rocks to a shelf some two hundred feet above the water and dragging provisions and blankets after us! But it proved to be a glorious place, the very best camp-ground of all the trip,—a perfect garden, ripe berries nodding from a fringe of bushes around its edges, charmingly displayed in the light of our big fire. Close alongside there was a lofty mountain capped with ice, and from the blue edge of that ice-cap there were sixteen silvery cascades in a row, falling about four thousand feet, each one of the sixteen large enough to be heard at least two miles.

"How beautiful was the firelight on the nearest larkspurs and geraniums and daisies of our garden! How hearty the wave greeting on the rocks below brought to us from the two glaciers! And how glorious a song the sixteen cascades sang!"

—Truly, as Mr. Muir says, instead of a barren, icy waste, a foodful, kindly wilderness." Alaska surely makes time during her short summers, as, indeed, she well may in a latitude in which, as midsummer approaches, there is scarcely any night at all. Plant-life grows apace where light is so prolonged.

(To be continued.)

During the early part of the war all German music was taboo in France. Now the French critics of music are pleading in behalf of the German composers, claiming that it is childish and of no service to France to insult the art of her enemy.



Gen. Sir Pertab Singh, Leader of the Indian Forces Fighting for the Allies, with His Son and the Rajah of Rutlam.

Underwood & Underwood.

Indians, auroral displays, and above all, the glaciers, wonderful in themselves, sources of intense interest to the author, the greater part of whose life was spent in the study of them and of the mountains in which they are born.

It is a revelation to many who have thought of Alaska as a bleak, ice-bound waste, to be told of fruit in abundance: "Along the base of the mountain-wall we found abundance of salmon-berries, the largest measuring an inch and a half in diameter. Strawberries, too, are found

Perhaps the most delightful part of my ramble was along a stream that flowed through a leafy arch beneath overleaning trees which met at the top. The water was almost black in the deep pools and fine clear amber in the shallows. It was the pure, rich wine of the woods with a pleasant taste, bringing spicy spruce groves and widespread bog and beaver meadows to mind. On this amber stream I discovered an interesting fall. . . . I found most of the trees here fairly loaded with mosses. Some

## Travel Notes.

(From Helen's Diary.)

Geneva, June 21, '16.

Among the numerous charitable organizations in Switzerland engaged in relief work for the victims of the war, there is one which is especially appreciated by the unfortunate British prisoners interned in German camps, this is the Bread Branch of the Red Cross Agency for prisoners of war. The original purpose of this section was to send clothing, and food of various kinds to the English prisoners in Germany, but gradually the work has narrowed down to the sending of one thing—bread, as good bread was what the soldiers were most in need of.

Berne is the headquarters for this work, as the transportation facilities there are especially good, and the communication with Germany rapid and direct. Even when the frontier is closed the bread-cars are allowed to pass through. There are more than twenty bakers in Berne engaged in making this bread, which is baked twenty minutes longer than the usual time. The loaves are a foot long, and good and thick, and they are packed for transportation in paste-board boxes. This work is done gratuitously by the young ladies, Swiss and English, of Berne. Some of them, of course, as at the Agency in Geneva, receive pay for their services. Every afternoon the bread is shipped to Frankfurt, Germany, and from there distributed to the different camps in Germany, reaching the most remote within five days. In this way fifteen thousand English prisoners are kept supplied with good wholesome bread. A very small proportion of the packages fail to reach their destination.

July 7th.

A mid-summer night!  
Sounds warm and mosquitoey, but it isn't.

We are not sitting out under the spreading chestnut trees in the pale moonlight, fanned by gentle zephyrs from the south. No. We are muffled in sweaters, and rolled in furs, and huddled in the salon. Hail-stones are ricocheting on the windows, and an angry *Bise* is thrashing the trees and howling like a thousand demons.

Such a babble of tongues!  
I know now just how those un-

fortunate people at the Tower of Babel felt when that historic linguistic difficulty arose, and made things so uncomfortable for them; for a Swiss pension in war-time, packed to the roof with refugees from all corners of the earth, is a modern Tower of Babel.

If one could only talk to these people in their native tongue, how interesting it would be!

And that brings me to the Dutch lady. She can. At least, she can speak seven or eight languages fluently, and one can acquire considerable information (also misinformation), if able to jabber in eight tongues. In addition to her remarkable linguistic attainments, the Dutch lady has a nose for news. She has all the instincts of a society newspaper reporter, and, being of a cordial disposition, and not troubled with timidity, she butts in everywhere and talks to everybody.

She sat down beside me to-night for awhile and regaled me with spicy items concerning the pensionaires.

Owing to the arctic atmosphere outdoors the salon was crowded. It is a huge, square room, large enough for a concert hall. The various groups of people have the habit of always sitting in the same place, and for that reason all the appropriated sections have acquired descriptive names. The most desirable spot in the salon (the only place where there isn't a draft) is called Paradise. It is monopolized nightly by a large group of Alsations and Belgians. Next to it is Paris. And on the other side of it is Monte Carlo. Each of the four big, square pillars in the salon has a name. One is called the Polish Pillar, because it is the regular rendezvous of a group of Poles. For the same social reason the three other pillars bear geographical names—the British Post the Greek Column, and the Russian Pillar.

The Dutch lady is a tremendous talker. She never stops. Sometimes I wonder if her protruding teeth are the result of the incessant activity of her tongue. A tongue that wags in eight languages needs a good deal of room.

"Terrible weather!" said she, as she sat down beside me. "Most unusual. They say it's the result of all this heavy cannonading. I have just been talking to a man who has come from Bâle. Bâle, you know is right on the German frontier. He says that during that fearful bombardment last week the booming of the cannon could be distinctly heard in Bâle. And they

could see the aeroplanes fighting. Yes, they could even see the flashes from the mitrailleuses. Think of that! This man said the entire population was out in the street, or up on the roofs of buildings watching the battle in the air. And one night he said they could see three aeroplanes flying at a great height, flashing searchlights on German territory, and immediately afterward there was heavy cannonading. Think of all that terrible fighting going on so near us, almost at our doors. It seems incredible."

The grumpy old man who had been smoking next to us, made a noise as if he were gargling, dumped his cigar stubb into the ash tray and hobbled off towards the door.

The Dutch lady smiled knowingly, "says he's a Belgian" said she, "but his name is German, his habits are German his French is German, and I think he's nothing more or less than a Prussian Jew. Did you ever notice the way he eats jam? Typically German."

Just then there was a silvery tinkle of little bells, and a little brown dog came frisking into the salon followed by its stately mistress—a tall, handsome woman, gowned in black.

"What a cute little dog!" said I. The Dutch lady did not enthuse.

"Don't you like dogs?" I asked.

"Yes, but not these miserable little lap dogs. It disgusts me to see a woman devote as much time to a dog as that woman does. It is always in her lap. *Toujours*."

"But she can knit socks for the soldiers and hold the dog at the same time, and she knits all day, and evenings too."

Silence—for one minute.

"Did you hear about the Countess?" asked the Dutch lady abruptly.

"Which one? There are such a lot of them here."

"The one with the little, black dog. She always sits out in the hall smoking cigarettes, with the dog under her arm. They say she is seventy, but she doesn't look it. And you didn't hear about the row she made a few days ago?"

"No."

"She made a terrible scene in the office. I happened to be there when she came in." (Someway the D. L. is always on the spot when anything happens). "She went on like a crazy woman. The language she used! Terrible! She's an Italian, you know, and when they get angry the sparks fly."

"What was the trouble?"

"Oh, it was all about the dog. She thinks she can take it wherever she goes. She takes it into the dining-room with her. *Oui, c'est vraie*. Feeds it butter in a spoon. *Oui, oui*. A lot of people complained, and three families threatened to leave. So the manager told the Countess she could not take the dog into the *salle a manger* again. She hasn't been down stairs since. Takes all her meals in her room. She always takes the dog to the theatre with her. *Oui, toujours*. And to concerts. Carries it in that black silk bag with the gorgeous gold embroidery. That dog has been at every symphony concert this winter—in that bag. She says she never takes it to Wagner concerts, because Wagner excites it too much."

"There seem to be a great many dogs in this house."

"Yes. Fifteen. I counted them one day. That French actress who just went away, had two Japanese poodles. And that queer-looking Russian Countess has three dogs. One of them, that ugly bull-dog that looks like a seal, is twelve years old. The Spaniel, that always wears the coat even on hot days, is fifteen, and the Fox-terrier is a stray dog she picked up. And she keeps all three in her room *tout le temps*. Disgusting, I think. And so unhealthy."

There was a loud explosion in Paris. It sounded something like a delirious trombone. It was the "Count" laughing. He has these spasms at the most inopportune times. One night when the orchestra was playing soft and low, he had an awful spasm, and the result was the orchestra had to stop playing.

"They say he can't help it," said the Dutch lady, shrugging her shoulders, "but I think he does it on purpose. I don't believe he's a count. I'd like to see his papers. If he is French and of noble birth, as he says, he ought to be fighting for his country instead of idling here. My private opinion is he is a gambler out of a job. It's a wonder to me the women talk to him, but some women will talk to anything with trousers on."

There seemed to be a good deal of loud talking at the Polish Pillar. But it was nothing serious, just a dispute about cards.

"Madame Osuchowska looks very pretty to-night," I remarked.

She was one of the Polish Pillarites. "Pretty?" blurted the Dutch lady. "All made up. Nothing but paint and powder. Look at her lips—like cherries."

"But her eyes—don't you think her eyes are beautiful?"

"Regular Jewish type. She knows how to use them. But I haven't any patience with that kind of a woman. Her husband is in Warsaw, and she is here with her three children, and she can't find anything better to do than play cards, and wear fine clothes, and flirt with that big lazy Pole."

(The Dutch lady being happily married has no sympathy with flirtatious widows of the kind called "grass.")

"She's just a bit of vanity, and she can't live without admiration. That's the reason she keeps Puzeworski dangling after her. He waits on her like a slave. They say he's a deserter."

"And the other man?"

"A deserter too. He's an Austrian, but doesn't admit it. Supposed to have a weak heart. So many of these deserters have weak hearts. In my opinion it's their heads that are weak and not their hearts."

"I heard the other day," she continued, in a very confidential tone, "that the Swiss are going to intern a lot of these troublesome deserters. Yes, really. It was a Swiss gentleman who told me. He said Switzerland was tired of supporting a lot of cowardly loafers. Switzerland is ready to help the needy, but she doesn't propose to feed shirkers. And half of these deserters are spies. So they are considering interning them in Central Switzerland. They are going to be examined, he said, and if they can't give a satisfactory account of themselves—tell why they are here and what they are doing they will be given the choice of either going back to their own country at once, or being interned in a little Swiss town in the canton of Berne. They are not to be allowed anywhere near the frontier. I hope they will carry out this plan. And I think it would be an excellent idea to intern the undesirable women too. Geneva is filled with the scum of



Welcome in England to Battle-scarred Australian and New Zealand Troops.

Europe. So is Zurich. So is Berne. So are the resorts. It's shameful! And something ought to be done about it. Switzerland must protect herself."

### Hope's Quiet Hour.

#### Walking with the King.

They shall walk with Me in white.— Rev. 3:4.

"I would not keep my fairest thought, Like folded garment, laid away, With 'broidered imag'ries enwrought, Too fine for simple song to say;

"I would not put emotions by, Ethereal, remote from deeds, Like robes in lavender that lie Awaiting death or bridal needs; But I, adorn life's travelled way, Would wear my soul's best everyday!"

Last Sunday was a very hot day, and I said to a gentleman who was enduring the discomfort of a high, stiff collar: "For once we women have the best of it. This weather takes the starch out of collars and it must be a great expense to have them done up so often."

He answered smilingly: "It was only yesterday I was remarking that nearly every woman on the street was wearing a white dress. What a lot of work and expense all those white dresses must entail."

I was silenced, but his retort set me thinking. "All the women on Saturday were wearing white!" and quite right they were to do so. What can be better for hot weather? It does entail a lot of work, of course, but we are not put into this world on purpose to avoid work. One great outward difference between a savage and a civilized person is—clothes.

Then my thoughts flew to the lovely promise our Lord sent through St. John to the few disciples in Sardis who had not defiled their robes: "They shall walk with Me in white. They shall be clothed in white raiment." That promise involved great expense—only the blood of Jesus could cleanse from any sin, and His great Offering of His own Life is enough to cleanse from "all sin."

The whiteness also involves work. We read in Rev. 19 of the great rejoicings over the marriage of the Lamb, when his wife hath "made herself ready," when she is arrayed in fine linen, clean and white—the righteousness of saints." Rev. W. L. Watkinson has beautifully said:

"The emblem of righteousness is bridal attire, wrought with flowers, bedropped with gold, lighted with jewels. The convict's rig, the hair shirt, the poisoned tunic, the mourning weeds, the shroud—they are not in the wardrobe of the Church of God at all. These ghastly things are worn by Passion and Fear, by Avarice, Selfishness, Pride, Lust, Ambition, outside the Christian Church. All our garments smell of myrrh. We walk in white, our heads anointed with the oil of gladness."

Let no one make the mistake of thinking that those who follow the Great Leader, "clothed in fine linen, white and clean," have turned their backs on earthly happiness for the sake of future joy. Joy is one of the great gifts promised by our Lord to His disciples—and He still gives it to those who love and trust Him, to those who obey His counsel to the church of Laodicea and come to Him for white raiment (Rev. 3:18).

What then? The fine linen, which is "the righteousness of saints," so soon loses its beauty. It is hard enough to walk in white on Sunday, but to keep our lives spotless and our thoughts sweet and pure every day! Is it possible? What of the sins—sins of thought, word and deed—of the past! What of the unkind words we have spoken, the failures in duty, the selfishness, laziness about spiritual things, cold and careless prayers, loss of temper, untruthfulness, dishonesty—the list grows as we think about it, until we are driven by shame to accept the great offer: "Though your sins be as scarlet, they shall be as white as snow."

It is when we see the ugliness of our own sins beside the beauty of God's perfect holiness that we turn to Him for cleansing, and for strength. Our Lord's enemies were speaking the truth when they said that only God could cleanse a soul from sin. Think of some hated sin which is hidden away out of sight in your past life. Can you get rid of it by your own efforts? You cover it up and try to forget it, but sometimes—perhaps in the silence of the night—it lifts its ugly head and you are helpless to purify your soul from its foulness.

Hezekiah said: "Mine eyes fail with looking upward: O Lord, I am oppressed; undertake for me." Then he exclaimed in his joy: "Thou hast cast all my sins behind Thy back."

If we put our sins behind our own back—as we are inclined to do—they will spread, like a foul disease, destroying our own souls and infecting other people. If we really repent and "confess our sins," He is faithful and just to forgive us our sins, and to cleanse us from all unrighteousness. Of course, it is not real repentance to confess our sins and then make no attempt to do better. Our text to-day is a short one, but the pivot words are the three in the middle. "Walk with Me!" is the invitation of our King—and a king's invitation to a subject is also a command. If you live every day with a noble earthly friend, trying to catch his spirit and walk as he walks, you will grow more and more like him. The twelve apostles walked with Christ for three or four years, then eleven of them went out in His strength to make disciples of all nations, and tell out the glad tidings of the forgiveness of sins. The parable of the Prodigal Son has been called "the gospel in the Gospel." It tells of one who dragged his white robes in the mire until he grew too ashamed to endure it any longer. He remembered his father's home and his father's love, and cast himself upon that love without offering any excuses for his folly and misconduct.

You remember how he was greeted. Instead of a severe rebuke he received a glad and eager welcome. Not a moment was wasted in examining his rags to see how dirty they were, or in asking his motives for returning. "The father said to his servants, bring forth quickly the best robe and put it on him" (St. Luke 15:22, R. V.). There was no delay. He entered his father's house as a dearly loved and honored son, dressed in the best robe the house afforded; although he had no claim on anything, having recklessly wasted his portion.

The King's sorrowing disciples were to be strengthened and cheered by His unseen presence. "I will not leave you comfortless: I will come to you," He promised. "Yet a little while, and the world seeth Me no more; but ye see Me."

That great promise is still faithfully kept.

A friend in England sent me the following story about Lord Kitchener. When he was in India a certain chaplain—who was troubled about the amount of drinking in the Indian army—wrote to Kitchener asking if he might have a few minutes to put certain plans before him and some of his staff. The meeting was arranged. "Hope you have got it all cut-and-dried," said one of the officers; "K. can't stand palaver."

"Well, what's the business?" asked the General, as he took his seat. "It is the King's business," said the chaplain, and I think we ought to ask the King's guidance on what we shall do."

"You mean prayer?" was the answer. "Yes," said the chaplain.

"Right you are!" said the chief, and he and all present knelt down while the chaplain prayed for God's blessing on his plans. Then Kitchener gave his whole attention to those plans for two hours, and the matter was satisfactorily arranged.

"Kitchener believed in a man who believed in his belief," who took his daily orders straight from his King and was not afraid to own the fact.

On the surface, our lives may seem very ordinary and commonplace, but in secret we may—if we will—meet our Master in the "little sanctuary" (Ezek. 11:16) where He is always ready to welcome his friends. The

key is in your hands—do not let it grow rusty through disuse. You may lead a very busk life, but you can always find time for—

"A hand-clasp in the dark, a glimpse of JESUS passing by."

DORA FARNCOMB.

#### Gifts.

"They presented unto Him gifts." Again "gifts for the King" have been laid in my hands to pass on to His needy "brethren." Your dollar (R. F.) is going on a mission of good cheer to one who is also very lonely. Like the moon, you are reflecting the light of the sun to brighten another life; and the gladness you bring to her will shine into your own sad heart and gladden it.

As for your dollar, my good friend in Alberta, it will go to-day (God willing) to a poor woman who has been sick and helpless for more than three years.

The "Advocate purse" is seldom empty—thanks to our good readers.

HOPE.

### 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.]

It was a group of exceptionally pretty and well-dressed women who sat on a vine-draped verandah last evening enjoying the "coolth," as Kipling calls it, of after-sundown. Almost too summery and flower-like they looked in their airy muslins to be connected with cookstoves and meats and preserving, and yet one could not help noticing how often the talk drifted back and back again to—just cookery. And this was quite as it should be. The cookery question is indeed an important one for the woman at the head of every household. Upon her provision of eatables that are at once nutritious and appetizing so much depends. After all "human folk" are just animals, so far as the physical is concerned. They need nutritious foods for body-building, appetizing foods in order that they may eat enough, and bulk foods to provide the necessary rapidity of movement through the intestines. If anyone of these necessities is ignored the body suffers; and when the body suffers, work suffers. Inefficiency has often been laid—and rightly so—at the door of inadequate feeding.

It is not sufficient to provide "enough" of one thing or another for each meal—the quality must be considered. Indeed catering for a family is a fine art, and a pretty art too, as anyone must realize who looks at a really well-provided and well-set table with its flowers and delicious-looking salads as well as nicely served meats and other "substantial" things.

By the way, what a difference there may be in the appeal of meats and fish, according to the way in which they are served. Take a stew, for instance. Put it on the table in any kind of dish with a spoon stuck in at any angle, and it does not greatly induce to appetite. But put the same stew on a hot platter, with a border of mashed potatoes or buttered biscuits around, sprinkle the potatoes with dots of butter and a dusting of paprika, and put a few bits of green parsley over the stew, and what a difference there is! Similarly, a baked fish with hardened skin laid on a platter is not especially attractive, but if the fish has been basted and dusted with cornmeal, and if it is garnished with a few slices of lemon and some parsley there is a different story.

—So it is quite as it should be that pretty women—no matter how dainty and summery they look—should talk, and think, more than a little, about such an every-day and prosaic, yet interesting and suggestive subject as cookery.

The talk had turned on "Optimism."

"Did you ever hear" said Polly, stabbing away at the buttonholes she was working on a pair of war pajamas, "that very clever remark made by someone that 'a pessimist is a person who lives with an optimist'?"

"And there's just a whole lot of truth in it," exclaimed Perdita, with enthusiasm, "Of all the people who would drive one to drink give me the inanely eternally delighted individual! It makes me think of Jack, you know, when he said he didn't like Miss M. She was 'too demnition cheerful.'"

Polly laughed, then suppressed a little yawn born of the heat of the afternoon.

"After all," she said, "there are optimists and optimists, aren't there?"

"Oh yes," agreed Perdita, readily enough, "there are about a dozen kinds of almost everything. But as Purinton said not long ago, in The Independent, 'Optimism is not talking or even smiling—but knowing, doing, waiting.'"

"Especially 'waiting,'" nodded Polly, "the most of us are so impatient; we want everything hurried. It has seemed to me for a long time that optimism consists in just being confident that somehow, sometime, everything will be all right."

Perdita glanced at her friend. "But that is a very different thing from insisting that everything is all right now," she said.

Polly smiled again. "Why, certainly. It is only a very selfish person, not an optimist at all, truly, who insists on turning away from everthing disagreeable. The real optimist, I believe, sees very clearly, and works very hard to correct wrong conditions. His salvation lies in the fact that while the pessimist thinks everything is going to the dogs, and the world growing worse all the time, he believes that really things are becoming steadily better—that even present catastrophes help to that end—and that so, some day, the world's existence will be justified."

Perdita was looking far away, dreamily, seeing far past the nodding clematis tendrils on the verandah post. "Catastrophes," she repeated, "Even the war."

"Yes, even the war," said Polly, holding up the pajamas for a last inspection before sending them off for "the front." "If the horror of this war teaches the nations of the future to hate and despise war, good will once more have come out from evil."

For a long time the two sat without speaking, then Polly reached for her work-basket.

"I have a little bit here," she said, "that you may like to hear. It was written by Corra Harris.—And drawing forth a clipping from a magazine she read:

"To grow as the trees do, fearing nothing, neither winter's cold, nor summer's heat, nor storms, nor anything that is, knowing that all things work together for goodness and peace except greed and ambition, of which all the earth is guiltless save man."

"It seems to me that is optimism," she concluded—"just knowing that things will all be right some day, and doing the best we can as the days go by."

"Yes," nodded Perdita, "just doing the very best we can."

—JUNIA.

As I write the news is arriving, day after day, about the terrible holocaust in Northern Ontario. In the face of such agony one stands dumb. But one lesson rings out, clear and loud, above the roar of the flames:—If wrong conditions are permitted consequences must follow as surely as the sun is in the sky. In this case several causes, it is said, contributed. Settlers set out fires in the midst of a dry season, tinder-dry slash had been left along the railways instead of being hauled away before it could be a menace, carelessness of prospectors in quenching camp-fires may have been somewhere to blame, while inefficient fire-rangers failed to prevent the spreading of the flames. The result was inevitable. A long period of drouth prepared the way, and not even the green woods could withstand so fierce a kindling.

Conditions must be made right, everywhere, and in everything, else someone must suffer.

How long?—How long? [Since writing the above rains have

come and the present danger is over; but if wrong conditions are permitted to go on there is no guarantee that similar results may not again follow,—and another year rains might not come. Should not every effort be made to see that "slash" is not permitted to accumulate anywhere, and that the period for setting out fires be strictly adhered to and efficiency in fire-rangin' ensured, by compulsion if no other way? People must not be thus murdered.]

By this time the golden rod will be in bloom in the fence corners and along the edges of the woods, and the swampy places will be gay with white bonaset and pinkish Joe Pye weed and purple asters. Along the creek edges arrow-head will be pushing up its waxy begonia-like flowers through the water, and white turtlehead and blue lobelia will be blooming side by side, while the flame of the cardinal flower burns among the tall grasses beyond. Over the stone-piles and along the fences, too, the wild clematis will be hanging out its clusters of dear white blossoms, quickly changing to the silky bearded tufts that have caused the plant to be sometimes called "old man's beard." And, by the way, what a variety of names this beautiful vine has! "virgin's bower," is another, and—still more beautiful—"traveller's joy." A joy indeed it is, wherever found, from spring until fall. One wonders why more people do not transplant it from the woods and fields to the home yard, for it grows splendidly about a house if given half a chance. Nothing can be prettier for a verandah, a screen of poultry-netting giving all the support needed.

Yes, what a dear, beautiful time the summer is! And how happy we might all be if it were not for the horrible thing happening over in Europe and in our own fair land. Surely when all the dark days are over we will not let ourselves fret and worry over little things again.

Have your flower gardens suffered because of the long siege of hot, parching weather? I cannot remember so long a period of the kind previously at this time of year, in Southern Ontario. Perhaps, some day, some of you will be good enough to tell the rest of us which of the flowers best withstood the drouth. And so we may put a note in our notebooks for next year.

—JUNIA.

### Coasters.

Do you know what a "coaster" is? If you do not you have failed to become acquainted with one of the convenient things about a house, for although a "coaster" may be a "server" it may be much more.

A coaster is simply a framed tray which may be devoted to any use whatever from serving glasses of lemonade to holding flower-dishes or other dishes and so protecting polished tables.

Coasters may be made of any size according to the use to which they may be devoted, and they may be constructed, with a little trouble, at home. The materials needed are a "backing" of thin wood or heavy pasteboard or mill-board, (wood is best, of course,) felt to line it with on the side that goes next the table, glass to fit the top, and material for the frame. This may be of raffia, fine rope, or tightly braided crepe-paper, or the whole may be taken

to a carpenter who will put on a wooden frame. Old wooden picture-frames may also be used, and serve the purpose splendidly, needing only two brass handles or lifters to make them complete.

For the decorative portion, which is to be placed underneath the glass, a variety of materials may be used,—linen embroidered with an initial in silk, an old sampler, a piece of pretty cretonne or chintz, or birch-bark or brown linen, upon which may be arranged a pretty design of pressed seaweed, flowers, leaves, ferns, moss, grasses, or milkweed silk. The whole—backing, decoration and glass—must be very solidly put together with glue and passe-partout binding which may be bought for a trifle. Afterwards the frame is put on, and, last of all, the felt lining is glued solidly in place. If raffia or crepe-paper is used the material should be tightly braided and sewn together or put together with chain-stitching of raffia straws; afterwards clear varnish may be applied.

Coasters made during the summer and decorated with pretty things from the woods and fields, make very acceptable and unusual Christmas gifts. Try one.

### Letter from Somewhere in France.

The nurse who wrote us before from France and again from the Island of Lemnos, writes again from a British Casualty Clearing Station behind the firing lines, "Somewhere in France." The following is part of her letter:

"I suppose mother will be 'scared green' because I am up nearer the firing line, but really there is no need for worry; we are quite safe here, and anyway someone had to come, so Miss W. and I came, and it is only for a little while. Oh how I wish this war would end! This is just pure hell. I thought I knew before what it meant, but I knew nothing about it. When will it ever end?—Well there is one thing sure,—we are gaining anyway, and one of these days Germany will go through with a smash. How thankful I am that I am a nurse, and strong and well.—These men need us so.

"This is a British C. C. S., and I am on night duty. I have had several Germans for patients. Do you know I feel sorry for the poor beggars too, because they are suffering too, and it is the Powers of their Country that are to blame. One thing, Britain treats the wounded enemy well, just as well as our own.

"It is fearfully cold these nights. I have a pair of men's woolen socks drawn over my shoes, and a flannel pajama coat on to try and keep warm."

"Write soon, and don't wait for me to write. I am too busy at night and too tired during the day.

### To Clean Zinc.

Dear Junia.—Could you please tell me what would take salt brine out of zinc? I had some spilt on the top of my kitchen cabinet; it stood over night and does not seem to come off by scrubbing.

Would kindly like to know if our dear shut-in friend, Lankshire Lass, is a cripple. I read with grand interest her lovely letters.

Wentworth Co., Ont. N. N.  
You might try washing the spot quickly with hot potash lye applied with a swab, and rinsing with water con-

taining about 10 per cent. sulphuric acid. Wash then with plenty of clear water—and if necessary scour with pumice-stone powder. This is the method given for cleaning zinc by Scientific American.

"Lankshire Lass" is an invalid, not a cripple. She has suffered much.

### A Page of Pickles.

Pickled Peaches.—Four lbs. sugar, 1 pint vinegar, 1 tablespoon allspice, 1 tablespoon cloves, stick of cinnamon. Boil all ingredients together before putting in the peaches. Cook as many peaches in this as possible and have juice enough to fill up. The spices should be tied in a bit of cheesecloth. Peaches may be cooked in the same way.

Spiced Fruit.—Six lbs. fruit, 4 lbs. sugar, 1 pint vinegar. Add 1 tablespoon each of cinnamon, allspice and cloves tied in a bag. Boil this to a thin syrup and add any kind of fruit. Seal in glass jars.

Green Corn Relish.—Make in two parts (1). 4 large onions, 1 large cabbage, 8 red peppers, 20 ears corn, 1½ cups sugar, ½ cup salt, 1 quart vinegar. Bring to a boil. The vegetables should be chopped fine and the corn cut from the ears with a sharp knife. (2). 3 tablespoons mustard, 1 tablespoon turmeric, ½ cup flour, 1 level tablespoon celery seed, 1 scant quart vinegar. Blend dry ingredients with vinegar and cook all for 30 minutes. Mix with first mixture and put in jars.

Pickled Watermelon Rind.—Pare off the green rind and all the pink part, using just the white of the melon. Cut into cubes. Cover with water to which has been added a pinch of alum. Let stand 24 hours. Pour off the water and drain. Take enough vinegar to cover, and add 1 teaspoon whole allspice, cloves and white mustard seed; let boil and pour over the melon. Heat the vinegar three mornings in succession and pour over the melon again while hot. Ready in a week. Sugar may be added if liked.

Tomato Catsup.—One pint vinegar, 2 quarts ripe tomatoes, 1 tablespoon salt, 1 tablespoon mustard, 1 tablespoon black pepper, 1 of allspice, 2 pods red pepper. Peel the tomatoes and cut them up; add spices and stew slowly in the vinegar for 2 hours. Put through a sieve and cook down to one quart, then bottle.

Piccaililli.—One peck green tomatoes, 3 pints vinegar, ½ pint green peppers, 1½ cups sugar, ½ cup salt, 2 large spoons ground cloves. Chop all and simmer together 3 hours.

Piccaililli with Onions.—One peck green tomatoes, 4 large onions, 2 green peppers, 1 oz. whole cloves, allspice and mustard seed, vinegar to cover, 1 cup salt. Slice the tomatoes, sprinkle the salt over and let stand over night. In the morning drain. Slice peppers and onions, tie the spices in cheesecloth and pour the vinegar over. Let simmer 3 or 4 hours.

Quick Cucumber Pickles.—Take small cucumbers, wipe clean and put in a small crock. Allow 1 quart coarse salt to a pail of water. Boil the salt and water until the salt is dissolved, and pour at once on the cucumbers. Cover tightly and let stand 24 hours, then drain. Boil as much vinegar as will cover the cucumbers and skim well. Put the cucumbers in glass jars and pour the boiling vinegar over. Put a piece of alum the size of a bean in each and seal. They will be ready to use in 2 or 3 days. Add peppers and whole spice if liked.

Chili Sauce.—One quart ripe tomatoes, 1 cup good cider vinegar, 1 onion, 1 red pepper, 2 teaspoons salt, 2 teaspoons white sugar. Chop onion and pepper, add peeled and chopped tomatoes and other ingredients and cook 1 hour, uncovered.

Mixed Green Pickle.—One peck green tomatoes chopped fine, 6 large onions and 4 green peppers chopped fine. Sprinkle over them 1 cup salt. Let stand over night. In the morning drain and add 2 red peppers, 2 lbs. brown sugar, 4 bunches celery chopped fine, 3 pints vinegar, 2 tablespoons allspice, 2 tablespoons whole cloves, 2 sticks cinnamon. Let come to a boil then add a ten-cent bottle of grated horseradish. Seal in jars.

Chow Chow.—One-half peck green tomatoes, 1 large head cabbage, 6 large onions, ½ pint grated horseradish, ¼ lb. white mustard seed, ¼ cup ground black pepper, ½ oz. celery seed, 2 lbs. brown sugar, 3 quarts vinegar, 1 cup salt. Chop tomatoes, cabbage and onions fine, and salt over night. Next day drain off the brine, add vinegar and other ingredients, then mix well and put in glass jars. Do not cook.

### Canning Corn, Pumpkins, Etc.

The following general method for canning vegetables is given by E. L. Davies, Demonstrator in Bacteriology, in Bulletin 236 issued by the Ontario Agricultural College, Guelph.

Have the jars thoroughly sterilized and place them on a rack in a boiler. Blanch the vegetables from 5 to 15 minutes by covering them with boiling water, then pour off the water and plunge in cold to restore the firmness. Boil the vegetable and pour to fill jars, adding salt to season, or fill up the jars with the vegetable and add cold water to overflowing. Pour water in the boiler to an inch or two above the rack. Put on boiler lid and boil for the required length of time with the sealer tops left loose. Screw or snap down tops and set the boiler aside to cool. Repeat the process the second day, and again on the third day, loosening the tops each time.

Asparagus, small beets, "greens" of all kinds, green beans, peas, corn, carrots etc., may all be done this way. Asparagus should be boiled 30 minutes on 3 successive days, as also should beans, corn off the cob, and peas. Tomatoes require only 15 minutes on 3 successive days. Corn should be blanched before it is taken off the cob.

It is advisable to stand the jars upside down for the final cooling period, so that any leaks of air may be observed. If this occurs the sterilization must be repeated and new rubbers used. The reasons given for this process are:

(1). Blanching removes various substances containing soil bacteria etc.

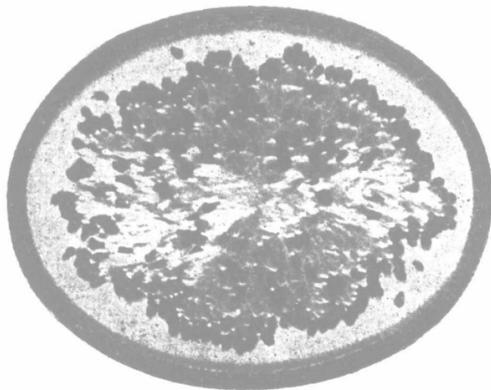
(2). "Intermittent" sterilization, as the three-day process is called is necessary because of certain bacteria which form very hardy spores, resistant to ordinary boiling. The heat the first day kills all moulds, yeasts, and active (vegetative) bacterial cells, but not the spores. In the 24 hours elapsing between the first and second heating most of the spores germinate, and are killed by the second application of heat. A third heating is given after another twenty-four-hour interval, to kill any cells which have formed from spores which had not germinated when the second heating was given.

Vegetables are harder to sterilize than fruits. Most fruits demand only one heating.

A false bottom, which may be made of galvanized sheet iron perforated with ½-inch holes to allow diffusion of water, should always be put in the boiler to keep the jars from direct heat and prevent cracking. It should be kept nearly an inch off the bottom of the boiler by means of projecting ridges or feet.

### Does Anyone Know?

Mrs. J. Sercombe, Thedford, Ont., R. R. 2, wishes to know if anyone knows the whereabouts of Fred G. Rodber, 18 years of age, red hair and blue eyes, whose mother will be thankful to hear of him. Will anyone who can answer kindly write directly to Mrs. Sercombe.



Coaster of Linen and Milkweed Seeds.



Coaster of Birchbark and Maidenhair Fern.

# Bread Making Contests At Rural School Fairs

**PRIZES—Free Courses at Macdonald Institute, Guelph  
Free Poultry Raising Courses at Ontario Agricultural College  
Free Cook Books and Magazines**

Over 1,500 prizes in all will be offered in bread-making contests which will be held this fall at over 250 rural school fairs taking place in Ontario. It will be a great event at the fairs and will stimulate interest in bread-making among young girls between the ages of 12 and 17 years.

Here is a wonderful opportunity for your daughter to win for herself a Free Course in Domestic Science at the famous Macdonald Institute, Guelph. All she has to do is to bake one double loaf of bread and enter

it in the contest at the fair according to the conditions explained below and more fully told in the folder we will send you on request. The loaf must be baked with

## Cream of the West Flour the hard wheat flour guaranteed for bread.

This is a splendid flour which makes the biggest, bulging loaves—whitest, lightest and most wholesome bread you ever baked. Is this not a splendid opportunity to interest your daughters in breadmaking?

**Here are the Splendid Prizes** offered for the best loaf of bread baked with Cream of the West Flour. The following are offered at each local fair:

- 1st Prize.—1 paid-up subscription to "My Magazine" for 1 year. This magazine is full from cover to cover every month with articles suitable for young people of all ages. It is published in England. Value \$2.50 per year.
- 2nd Prize.—6 months paid-up subscription to "My Magazine" Value \$1.25.
- Extra Prizes.—When entries exceed ten a 3rd prize will be awarded of 6 mos. paid-up subscription to "My Magazine." When the number of entries exceeds twenty the judges at the fair will award 4th, 5th, and 6th prizes of one year's paid-up subscriptions to "The Little Paper." This is a wonderful little publication issued every month in England. Its eight pages are packed with highly engaging information and stories relating to history, nature-study, animals, bird-life, etc.

**Important**—The winners of 1st prizes at the fairs automatically become competitors for the Provincial Prizes. The second half of the double loaf is sent to Ontario Agricultural College, Guelph, by the district representative in special container provided. The judging is done by Miss M. A. Purdy of the Department of Breadmaking and Flour Testing at the College.

**Provincial Prizes**—The winners of first prize at each local fair compete for following Provincial prizes. The first and second prizes, or third and fourth prizes, will not be awarded in any one county:

- 1st Prize.—Short Course (3 months) in Domestic Science at Macdonald Institute, Guelph. The Macdonald Institute does not accept students under the age of 17 years; if the winner be less than 17 we present her with a certificate entitling her to take the course when she reaches the right age. Value of course \$75.00, which pays for fees, room, board and washing. The winner lives at Macdonald Hall while taking course.
- 2nd Prize.—Short Course (3 months) in Domestic Science at Macdonald Institute, Guelph.
- 3rd Prize.—Short Course (4 weeks) in Poultry Raising at Ontario Agricultural College, Guelph. Girls taking this course do not live at the College, but good boarding houses will be secured for them in Guelph. Value of course \$35.00, which pays board of student in Guelph. (No fees are charged for course.)
- 4th Prize.—Short Course (4 weeks) in Poultry Raising at the Ontario Agricultural College.
- 5th to 29th Prizes.—The Famous Boston Cooking-school Cook Book by Fannie Merritt Farmer, latest edition (1914). There are 2117 thoroughly tested recipes and 130 photographic reproductions of dishes, etc., besides much special information.

### Conditions of the Contest

Every girl may compete at the rural school fair in her district, whether or not she attends school, providing that her 12th birthday occurs before November 1st, 1916, or her 17th birthday does not occur before Nov. 1, 1916. One loaf of bread must be submitted baked in pan about 7 x 5 inches and 3 inches deep, and divided into twin loaves so that they may be separated at the fair. The loaf must be baked with Cream of the West Flour. One half will be judged at the fair. The other half first prize loaf will be sent to Ontario Agricultural College, Guelph, to compete in the Provincial Contest. The local contest at the fair will be conducted under the same rules as all the other regular contests at your fair.

The standard by which bread will be judged will be as follows:

- |                            |          |
|----------------------------|----------|
| 1. Appearance of Loaf..... | 15 marks |
| (a) Color.....             | 5 marks  |
| (b) Texture of crust.....  | 5 marks  |
| (c) Shape of loaf.....     | 5 marks  |
| 2. Texture of Crumb.....   | 40 marks |
| (a) Evenness.....          | 15 marks |
| (b) Silkiness.....         | 20 marks |
| (c) Color.....             | 5 marks  |
| 3. Flavor of Bread.....    | 45 marks |
| (a) Taste.....             | 25 marks |
| (b) Odor.....              | 20 marks |

Each loaf must be accompanied by the part of the flour bag containing the face of the Old Miller (important) and an entry form must be signed by the girl and parents or guardian stating date of birth, P.O. address, and giving name of dealer from whom Cream of the West Flour was purchased. The form will state

Write for free folder giving full and complete information about every feature of this great contest.

Address **Campbell Flour Mills Co., Limited, (West) Toronto**

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### Seasonable Recipes.

**Potato and Green Corn Croquettes.**—To 1 pint hot mashed potatoes (best use the ricer) add 1 cup green corn pulp, scraped off the cobs, salt and pepper to season, and the yolks of 2 eggs. If dry add a tablespoonful of butter or one or two tablespoons cream. Mix all well, shape into croquettes, roll in beaten egg then in bread crumbs and fry in deep fat. To get the corn pulp the best way is to score the kernels lengthwise with a sharp knife then press out the pulp with the back of the knife. The fat should be smoking hot when the croquettes are put in, and quite deep enough to immerse them.

**Peach Sherbet.**—Boil 1 quart water and 2 cups sugar for 20 minutes; add 1 teaspoon granulated gelatine softened in 3 tablespoons cold water, and when cold add 1½ cups peach pulp, half a

cup of orange juice and pulp, and the juice of 1 lemon. Partly freeze and serve in glasses.

**Plum and Crab Apple Jelly.**—Cook the plums with a little water and drain through a jelly-bag. Cook the crabapples in the same way and drain. Do not stir either fruit while cooking. Take one-third plum to two-thirds crabapple juice. Take ¾ cup sugar to each cup of juice. Boil the juice 20 minutes, add the sugar, heated in the oven, and let boil a little longer.

**Apple Marmalade.**—Use tart apples, not quite ripe. Pare, quarter and core, and allow ¾ pound sugar to each pound fruit. Add water to the parings and cores and boil ½ hour, then drain the liquid over the apples. Let cook until the apples are soft, then press through a fine colander. Add the sugar and cook until thick and clear.

The juice and grated rind of 2 or 3 lemons or oranges may be added if liked.

**Creamed Corn.**—Make a sauce of 2 tablespoons each of butter and flour mixed together and cooked with ¾ cup milk. Season to taste. When boiling add 1½ cups corn pulp. When boiling put in a buttered dish, sprinkle with cracker crumbs mixed with melted butter, heat in oven, and serve.

**Cream Potato Salad.**—Take 2 eggs beaten very light, 4 tablespoons vinegar, butter size of a walnut, 2 teaspoons salt, mustard and paprika mixed together, some whipped cream. To make the mixture that can be kept on hand, mix 3 teaspoons salt, 1 of mustard and ½ of paprika. To make the dressing, heat the vinegar and pour slowly over the beaten eggs, stirring all the time. Cook in a double boiler, stirring steadily, and when done add the butter and seasoning. When cold beat in the cream.

Mix with the potato cubes adding a little chopped onion and parsley.

**Rhubarb Jelly.**—Rhubarb may be gathered in late fall and made into jelly as usual. If it does not stiffen enough reheat with some apple jelly.

**Stuffed Tomato Salad.**—Peel firm tomatoes and remove some of the pulp, after cutting a slice from the stem end of each. Sprinkle the inside with a little salt, and turn open side down on a plate. Let chill. For the filling take 1 cup slices of the inner stalks of celery and some chopped apple and nuts mixed with salad dressing. Fill, and serve on lettuce or celery leaves. Anchovies may be used instead of the apples and nuts.

**Peach or Apple Betty.**—Use soft crumbs from the center of a state loaf. Mix 3 cups crumbs with ½ cup melted butter. Have ready 3 cups sliced apples or peaches. Put the buttered crumbs and fruit into a baking dish in alternate layers, having crumbs on top. Sprinkle each layer of fruit with sugar and cinnamon or grated orange or lemon peel. Bake for 1 hour, covered for the first half-hour. Serve with sugar and cream.

**Spiced Pickled Peaches.** (From "American Cookery.") Take 7 lbs. peaches, 3½ lbs. sugar, 3 cups vinegar some whole cloves, 3 oz. stick cinnamon, 1 to 3 cups water. Brush the skins of the peaches to remove the down, or dip for two minutes in boiling water, then in cold water. Make a syrup of the sugar, vinegar and water; add the spices, then cook the peaches in the syrup, a few at a time, until tender. When all are cooked, drain off any syrup around them, and let all the syrup cook until thickened somewhat. Reheat the peaches in the syrup and store in glass cans as canned fruit is stored.

**Mixed Salad.**—Three cups cold boiled potatoes cut in small cubes, 1 cup shredded cabbage, 4 hard boiled eggs cut in pieces, 2 tablespoons chopped pickle, 2 tablespoons chopped green pepper if available, 1 tablespoon chopped parsley, a few drops of onion juice. Mix with dressing and serve on lettuce.

**Orange Pudding.**—Four oranges, 3 cups milk, 1 cup sugar, 3 eggs, 2 tablespoons cornstarch, pinch of salt. Cut orange pulp fine and sprinkle half the sugar over. Let stand a few hours. Beat yolks of eggs, add the rest of the sugar, cornstarch and salt, and stir into the boiling milk. Cook and cool, then pour over the oranges and sugar. Beat the whites of eggs to a stiff froth and add 2 tablespoons sugar. Spread over the top and brown in oven. Eat cold.

**Cream of Lettuce soup.**—Cook ¼ tablespoon chopped onion with 1½ tablespoons butter, stirring constantly. Add 2 heads lettuce finely cut, 2 tablespoons rice, and 2½ cups chicken broth. When the rice is soft add the yolk of an egg beaten and mixed with ½ cup cream. Season to taste.

**Whole Wheat.**—One cup whole wheat washed and soaked several hours. Drain, add to 4 cups boiling water, put in 1 teaspoon salt and boil until soft. Serve with cream and sugar. This may be boiled ½ hour then put in the fireless cooker over night. Reheat in the morning and serve for breakfast.

**Cream Cake.**—Two eggs, 1 cup sour cream, 1 cup sugar, 2 cups flour, 1 teaspoon soda, ½ teaspoon salt, flavor with lemon. Stir the soda into the cream, beat the eggs, then mix all ingredients together, last of all the flavoring.

**Filled Cookies.**—To make the cookies use 1 cup sugar, ½ cup butter, 1 cup milk, 3½ cups flour, 2 teaspoons cream of tartar, 1 teaspoon soda, 1 tablespoon vanilla. Roll thin and cut out. For the filling take 1 cup chopped raisins, ½ cup sugar, ½ cup water, 1 teaspoon flour. Cook this until thick, stirring all the time. Put a layer of cookies in a well-buttered pan, spread a teaspoon of the filling on each, cover with another cookie and bake in a moderate oven.

### The Scrap Bag.

#### For Perspiring Feet.

Mix together three parts talcum powder and 1 part boric acid. Dust the feet with this every morning after washing them.

#### Removing Freckles and Tan.

Mix together buttermilk, grated horseradish and cornmeal. Spread between

**Educational Exhibit of Farm Water Supply Systems  
In Machinery Hall at the Western Fair**



**This exhibit will interest you  
—make a point to see it.**

Display includes gasoline, hand and electric driven home water supply systems; bathroom fittings, hot water boilers, storage plants and general plumbing supplies.

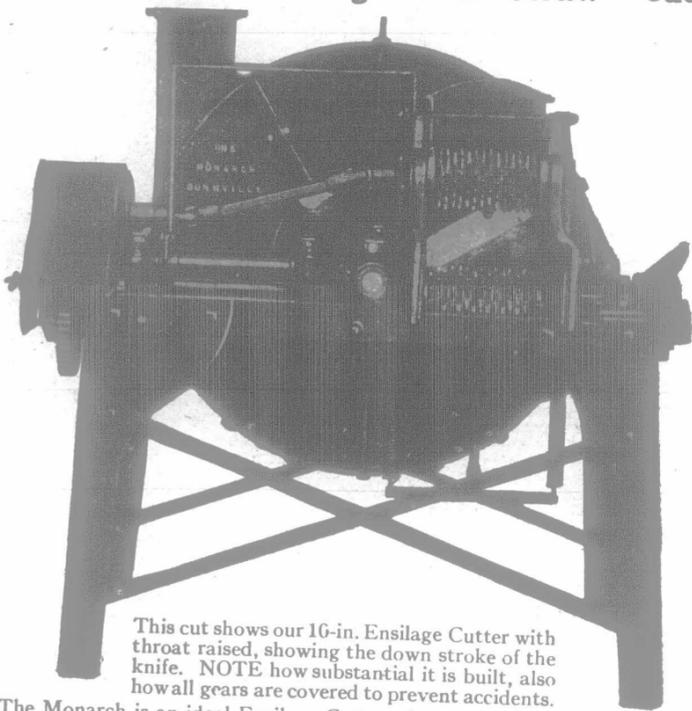
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a little ammonia, using a brush if necessary. Dry and polish with chamois.

**Use for Paraffine.**

Cheese and plum puddings coated with melted paraffine will keep in good condition for a long time.

**To Keep Starch from Crusting.**

Add a tablespoonful of kerosene to boiled starch and it will not crust over if left standing for a time. The kerosene also helps to prevent the irons from sticking.

**Use for old Boiler.**

Do not throw away the old wash boiler. Keep it in a convenient place for receiving old papers, and from time to time set a match to the contents.

**To Hemstitch by Machine.**

Take three thicknesses of newspaper and a needle large enough to penetrate without breaking, and you can obtain a perfect hemstitch from any sewing machine. Use paper according to how fine or coarse you wish your stitch, and after taking the material from the machine draw it open gently and you will find you have a nice stitch without using any attachment. It is best to practice first on some small bits of the material.

**To Remove Fruit and Coffee Stains.**

Rub the spots with glycerine, leave several hours, then rinse in lukewarm water.

**Mending Fine White Waists.**

Launder a roll of white pieces and keep on hand for patching. There will be no pucker after washing as when unshrunk material is used.

**Vegetables for Health.**

An authority says to eat plenty of beets, tomatoes, carrots, parsnips, lettuce, onions and parsley. All contain minerals useful to the body, and help to provide, also, the necessary bulk. Foods that are too concentrated, if used alone, would speedily derange the system.

**News of the Week**

The vise is tightening on the armies of the central powers. The Russians are now reported to be meeting with pronounced success in the Carpathians, and are entering the plains of Hungary. The Turks were repulsed with heavy losses in their recent attack on the Suez Canal. On the Somme and Verdun fronts the British and French are slowly pushing the Huns back and are consolidating their new positions.

In the interests of the cause, Hungary is asked to turn over her surplus wheat crop to Germany.

Six members of the Stefansson exploring party have returned to Alaska and report that a second Greenland has been found. Stefansson remained in the Arctic region to continue his work of exploring newly discovered land north of Prince Patrick land.

The heads of the nations at war make personal visits to their armies at the front. It was a strange coincidence that at the time of the recent visit of King George at the front, the Kaiser was reviewing his troops on the opposing lines.

Great Britain has contracted with Australia for 100,000 tons of zinc concentrates and 40,000 tons of spelter annually during the period of the war and for the next ten years afterwards. This ensures the transfer of the smelting industry of that country from Germany to British hands.

Canada's aggregate trade for the twelve months ending May, 1916, reached the total of \$1,563,230,513 or nearly

thin muslin and leave on the face as long as possible at night, keeping it away from the eyes.

**Buttonholes.**

When making buttonholes in children's bloomers and other undergarments, mark all of the buttonholes the right length with a pencil, then stitch around each two or three times on the sewing machine, and finally cut with the scissors on the pencil mark. If the rows of stitching are very close together they will wear just as well as if worked by hand and can be done in much less time.

**Flower Vases.**

To prevent flower vases from falling over when top-heavy with flowers, put in each a small muslin bag filled with shot.

**Use for old Flour Sifter.**

When the flour sifter has become useless as a sifter give it a new lease of life by using it for an egg-boiler, by which the eggs may be removed all at once.

**To Clean Matting Suit Case.**

Brush the case free from dust and scrub with rain-water and borax, using a small brush. Use no soap or the straw will turn yellow.

**Freshening Butter.**

If butter should become a little strong put it in a kettle of water, allowing 1 quart water to each pound of butter. Boil with the kettle uncovered for 2 hours, then set away to cool. When butter has hardened take it off, wash, salt, and work as for fresh butter.

**Perspiration Stains**

To remove perspiration stains from white silk use peroxide of hydrogen. For colored silks use a mixture of equal parts of alcohol and chloroform.

**Use for Vinegar off Pickles.**

Use the vinegar off pickles for making salad dressing. It is better than ordinary vinegar.

**Adding Salt to Milk.**

Salt added directly to hot milk will usually curdle it. To avoid this add the salt to the flour or eggs and sugar which are to be put in when the milk boils.

**To Wash White Silk.**

Hot water will turn a white silk waist yellow. Wash it in cold water and use white soap.

**To Clean Old Jewelry.**

Wash it in warm water containing

a brush if neces- with chamois.

raffine. puddings coated will keep in good time.

m Crusting. of kerosene will not crust on a time. The to prevent the

Boiler. the old wash convenient place and from time the contents.

Machine. s of newspaper gh to penetrate you can obtain m any sewing ording to how h your stitch, terial from the ently and you stitch without It is best to small bits of the

Coffee Stains. ycerine, leave e in lukewarm

te Waists. e pieces and ng. There will ing as when ed.

health. eat plenty of rsnips, lettuce, ntain minerals elp to provide. Foods that used alone, e system.

Week

on the armies The Russians be meeting in the Car- entering the Turks were ses in their Canal. On ts the British pushing the idating their

use, Hungary surplus wheat

efansson ex- d to Alaska reenland has remained in his work of land north

s at war their armies range co- f the recent front, the ops on the

ted with zinc con- of spelter of the war afterwards. ne smelting n Germany

for the 16, reached or nearly

a billion greater than that of the year previous to the war.

President Wilson is bending every effort to avoid a strike of the railroad men in the United States. At time of writing he has been unsuccessful in arranging an agreement between employers and employees.

An order in council has been passed providing for a system of registration for Canada.

The German high seas fleet has partially recovered from its punishment and is again becoming active. Considerable activity was reported in the North Sea on the 19th instant where the British lost two cruisers by submarine attack, the Nottingham and Falmouth, when searching for the enemy.

The British army made an important advance at the end of last week covering a front of 11 miles, the distance between Thiepval and Guillemont. The gains have considerable strategic importance.

Our Serial Story

The Road of Living Men.

BY WILL LEVINGTON COMFORT. Author of "Down Among Men," "Fate Knocks at the Door," "Red Fleece," "Routledge Rides Alone," "Midstream," "Child and Country," etc.

Serial Rights Reserved. III. 13

As I reflect a moment, it grows clear that the events at the wet placer settlement divide themselves into two periods. The first ended with the coming of the great pack-train with guns and cart-ridges. The second period is the lull of rich mining. The Rio Calderon gave up her hidden ornaments to modern machinery. Viringhy held the Pass, and peace brooded over the valley. Romany asked no more. The early dawn, the high day, and the late dusk meant dollars—yellow condensed dollars—and Tropicania hummed with days of toil and nights of faro and nefariousness.

The first period covered six days and the second as many months; the first requires chapters, the second pages; six days of fighting, six months of singing.

Then there is a final period. . . but a few preliminaries are to be staged. The old Master loved the story of Huntoon. It was a story after his own heart.

"I missed him," he said, "but I didn't care to ask you. I saw you were sweating blood. I couldn't tell you—that it might not prove fatal, even if he were Orion's, body and soul. It didn't occur to me that he had that sort of a military conscience. Had you spoken I'd have said he had been picked off by a sharpshooter. If it weren't for upsetting Ecuador, I'd let him go out and re-take the trail to the Headland, just as reward for fine behavior. But we really don't need the Headland. Orion won't remain strong there."

At the end of the first ten days, I became mentally gaunt from thinking of possible letters at Libertad. On the very night that I had determined to speak, the old Master opened the subject. All was quiet except for the voices from Dole's Riverside Drive Inn. I was sitting by his cot, which he rarely left, enjoying his talk and the little masterpieces from the Amsterdam dealer.

"What was the name of those friends of yours in Libertad, Tom?" Romany inquired, with a glint in his eye that I had come to understand.

He knew very well that the Yarbins represented to me but an evening's and a morning's acquaintance. He was curious to see if I would seek to evade responsibility. I did not, nor did I propose to tell about the San Francisco paper sensation associated in my mind.

"The Yarbins," he repeated. "Oh, yes I expect them to-morrow night." I cleared my throat. "Then there'll be mails?"

"Yes, one drops in the post-office going to town—as a matter of habit."

"How about Orion and the trail between here and Libertad?"

"I've heard from Orion," he remarked. "He won't bother us. He's decided not to be an army. Gold has been pronounced contraband. Orion is a guard now to prevent the issue of bullion from the valley. The grocery store up on the slopes of Moloch is still open to Tropicania orders. He'll have a coast guard to prevent us from loading our pay-dirt on to steamer, and a goodly force across the Pass to examine our mail-bags and prevent small personal smuggling. Everything goes out but gold."

"I begin to see," said I. "Orion is willing that you should do his mining for him."

"You have the point."

"It seems a pretty good idea on his part," said I. "You go down into the Cul-de-sac and dig gold for a year—this adventurer graciously permitting you to have letters and canned goods, and only insisting upon taking the gold away when you want to go home.—"

"One has to foresee many things in a game like this," the old Master remarked cheerfully.

"In a word, Orion can't get in and Romany can't get out," I finished.

"That, I believe, is an epigram."

There would be many millions in gold bullion in Romany's hands before the dredge began to bring up colorless gravel. I scanned the old Master's face. It was lined with pain, but Orion's ultimatum, which must have come across the Pass to Viringhy, did not seem an added worry. Certainly I had cause to respect the resourcefulness of Mary Romany's father.

"There's positively no trail out through the other Canyon?" I whispered.

"No, Tom. Nothing like that. Orion knows it as well as I do. That part of Peru is marked 'Unknown' on the maps. Do you realize that there are great stretches of territory down here in the Andes—tens of thousands of square miles in area—absolutely virgin to man? The Canyon is narrow, filled with rocks, rapids, and falls. No trail was shelved by the old Incan rock-punishers."

All of which he said with unflinching good cheer.

The next evening brought the party from Libertad; of which Romany had spoken. I sat in Headquarters holding myself hard, until the mail-bags were carried in. There was nothing for me. It had been only two weeks—but hard to believe. Romany had gone out to meet the train. I locked up the mail for a moment. I had to go out in the dark to get myself in hand. There was a blur in my eyes, and a clutch at my heart. The mountains closed in. It was difficult to breathe. . . At last I heard a woman's voice calling my name. . . It was the woman of the balcony-room at Libertad, Yarbin's woman.

She was tall and cool and steady-eyed. She came toward me smiling, holding a lantern high. The man was behind her. . . She seemed finer and clearer here than in Libertad. Tropicania had shown me nothing but the work-a-day natures of human beings, dull as the yielding of earth itself. The woman of the settlement—tired, broken, badly-used creatures—had seemed to expect nothing but brutality. . . There was a bloom upon this woman. She took my hand, and with the free one drew forth a packet of letters warm from her breast, the lantern swinging from her elbow.

I'll never forget. . . I glanced at the writing, and then at the woman's face. She was laughing at me strangely.

"That was one of the best things I ever did—to earn that look from a man," she said. "Your Chief gave them to me out there at the bridge. He said I would see you before he came in."

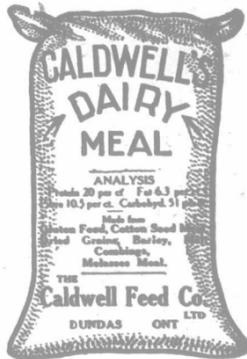
It was now that I greeted Yarbin who gripped my hand with gratitude. I had forgotten why for the moment, and how much it meant to him to be in the valley.

Lillian Yarbin was adding vague explanations. I asked if they were being cared for.

"Yes. The men are putting up a tent for us to-night," she said. "Run away and read your letters, but come and find us as soon as you can."

And so I stole away to my candles. I should always be fond of the woman. . . How Lillian Yarbin would have laughed at that. It was the same with

CALDWELL'S



A Fully Balanced Meal-Ration For Milking Cows

Dairymen have found that Caldwell's Dairy Meal increases the milk flow of their herds (both winter and summer) and at the same time keeps them in good physical condition. They have found our meal to give uniformly good results ton after ton and year after year. Here is the reason—

Caldwell's Dairy Meal

is prepared by Canada's foremost feed analysts—men who know from experience both the practical and scientific feeding value of foods. They blend into Caldwell's Dairy Meal the proper quantities of the different foods. The result is that our meal is pure, palatable, balanced in its food content and easily digested. Caldwell's Dairy Meal (when fed the year around) supplies the "missing link" between an unbalanced and a balanced ration.

ANALYSIS—Protein 20%, Fat 6.3%, Fibre 10%

Secure CALDWELL'S DAIRY MEAL from your feed man or write direct to us and we will supply you promptly. Shipped in 100 lb. sacks or ton lots.

The Caldwell Feed & Cereal Co., Limited

Dundas, Ontario MAKERS ALSO OF Molasses Meal, Cream Substitute Calf Meal, Molasses Horse Feed, Poultry Feeds.

STANDARD FEEDS

More Milk Wanted

We offer to Farmers within 50 miles of Toronto a good permanent market for Clean Whole Milk. Highest prices paid and cans furnished. Write or phone us at once.

Price's Dairy, Toronto, Ont.

SHERLOCK-MANNING

"Canada's Biggest Piano Value" has qualities found in no other make. Write Dept 18 for catalogue "T", which gives a full description of these exclusive features. THE SHERLOCK-MANNING PIANO CO. London - Canada (No street address necessary)

St. Thomas & Elgin County Children's Aid Societies

FOR ADOPTION 1 boy, aged 5 years. 1 baby boy, aged 5 months. Write the acting secretary. H. S. WEGG, 12 Elgin Street, St. Thomas, Ont.

When writing advertisers will you kindly mention The Farmer's Advocate.



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

**DOMESTICS WANTED—A GIRL WANTED** as mother's help, age 14 to 16, light work, good home, kind treatment. Wages \$10 per month with good room and board. Apply Mrs. Thos. W. Slattery, 29 Spencer Ave., Toronto.

**LAMBTON COUNTY DAIRY FARM FOR SALE**, 185 acres, near town, creamery, cheese factory, school. Rural mail. Phone, Hydro line, Box W, Farmer's Advocate, London, Ont.

**SCOTCH SABLE COLLIES READY FOR SHIPMENT**. Buy brains and beauty combined. Geo. C. Burt, Hillsburg, Ont.

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**WANTED—EXPERIENCED MILKER AND FARM HAND**; also man for bottling milk. Thirty-five dollars and board per month. Write Erindale Farms, Limited, Erindale, Ont. (12 miles from Toronto).

**PATENTS AND LEGAL FETHERSTONHAUGH & CO., PATENTS Solicitors**—The Old Established Firm. Head Office Royal Bank Building, Toronto, and 5 Elgin St., Ottawa, and other principal cities.

**For Sale**—by North Dumfries Seed Reg. Dawson's G Chaff Seed Wheat, in sealed sacks, at \$1.60 per bus. W. C. Barrie, Sec. R. R. 7 Galt, Ont.

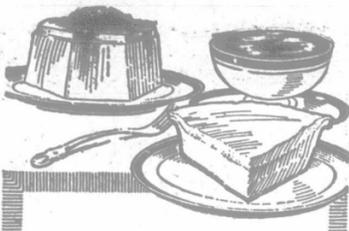


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**LIMITED NUMBER OF TRIOS OF THE famous table-egg ducks** (fawn and white Indian Runners). Hardy, island raised. \$5.00 a trio, order quick from this ad. W. A. Staebler, Gananoque, Ont.

**Pratts** Poultry and Animal Regulators  
 A remedy for every ailment. Write now for FREE advice and descriptive literature. Address:  
**PRATT FOOD CO. OF CANADA, LTD.**  
 68G Claremont St., Toronto

**SEED WANTED**  
 We are buyers of ALSIKE, RED CLOVER, ALFALFA, WHITE BLOSSOM, SWEET CLOVER, and TIMOTHY Seed. If any to offer send samples and we will quote you our best price F.O.B. your station.  
**TODD & COOK**  
 Seed Merchants  
 Stouffville, Ont.



These are only a few of the delicious desserts you can make with

**BENSON'S CORN STARCH**

The good cook will tell you that she always mixes BENSON'S with the wheat flour, no matter what she is baking—because BENSON'S gives a fine, smooth, even texture to Bread, Rolls, Biscuits, Cake and Pie Crusts, that can't be gotten with flour alone.

Our new recipe book of "DESSERTS AND CANDIES" tells just how to use it, to get the best results. Write to our Montreal Office for a copy.

**THE CANADA STARCH CO. LIMITED**, Montreal, Cardinal, Brantford, Fort William. Makers of "Crown Brand" and "Lily White" Corn Syrups and "Silver Gloss" Laundry Starch.

**SEEDS FIFTY YEARS SERVICE**  
 1866 1916  
**Timothy**  
 Freight paid on two or more bus. Gov't standard No. 2, No. 1 for purity.....\$4.85 bus.  
 Write for quotations on any other seeds you might require.  
**GEO. KEITH & SONS** 124 KING ST. E. TORONTO

**Keep Your Live Stock Healthy**  
 and in prime condition by supplementing the feed with  
**LINSEED OIL CAKE, "Maple Leaf" Brand**  
 With a trial ton order we will send you free, "The Veterinarian," a valuable book about the diseases of cattle.  
**The CANADA LINSEED OIL MILLS, Ltd.**  
 Toronto and Montreal

**Harab-Davies Fertilizers** Yield Big Results  
 Write for Booklet.  
**THE ONTARIO FERTILIZERS, LTD.**  
 West Toronto

**Low Prices on GASOLINE ENGINES**

Owing to our very large purchasing power, we have been able to secure a line of high class Farm Engines at prices never offered before in Ontario. If you want an engine, don't fail to get full information on our proposition—it will save you money.

**CO-OPERATIVE PRICES ON U. F. O. ENGINES**

1½ h. p. mounted on skids, battery ignition	\$ 36.50
2 h. p. " " " " " "	47.30
3 h. p. " " " " " "	54.00
4½ h. p. " " " " " "	91.95
6 h. p. " " " " " "	115.20
Big 8 h. p. on steel base	136.05
Webster Magneto extra on machines up to 4½ h. p.	10.00
" " " " " " 6 to 8 h. p.	12.00

Freight paid to your station in Ontario  
 These engines are sold under an absolute 10-year guarantee; and if within 60 days after you receive the engine you would rather have your money than the engine, we will cheerfully refund it.

See our exhibit of engines at the Toronto Fair in the Preston Metal Shingle & Siding Company's Steel Truss Model Barn.

Send for illustrated catalogue. Address—  
**The United Farmers' Co-operative Co., Limited**  
 110 Church Street, Toronto, Ont.

the Santell memory. The last night of his life, he had run Orion's lines with letters from Mary Romany. . . . The postmarks were oddly smudged. The first letter had been written from Savannah, Georgia. The later two were not marked. Was she coming still nearer—perhaps to winter in Florida? Mary Romany carried me far out of the world, and its thoughts and ways, filled my life with visions. As I blew out the candles, I had to recall, and with difficulty, that all men were not harboring such visions.

A man's ideals sweep him out of the human current far more surely than his errors. I learned this well.

Mary Romany had put me away for a year, and the answer was a kingdom in my heart, wrought of absence and dreams and love of her. How cheap was the price I paid—this dropping slightly out of touch with men. . . . Later I saw that a new tent had been raised near Headquarters, and as I approached, a white arm beckoned in the moonlight.

The Yarbins fitted in smoothly to the life of the settlement. I could see that Romany, a sick man, liked her stamp of woman, and found it good to have her about. He made it comfortable for her in many ways, which she returned in good measure to us all. Yarbin often joined us in the evening at Headquarters, where the dry Maconachie called, and Huntoon sat uneasily on occasion, rolling pestiferous cigarettes from a limp cloth bag. It appears that Yarbin, who had considerable currency, helped out in the purchase of supplies from Libertad. Since gold was contraband, there was now no need of exciting Orion in the matter of exchange. It was a big gamble all round, but I came to realize that Yarbin had deeply appreciated the little brush we had in Libertad, and what I had said the next morning about having no interest in him beyond Libertad and the valley. He saw, moreover, that I had not spoken. There was a sense of protection in Tropicania which he enjoyed for the woman; and when Yarbin became acquainted with Romany, it was clear that he was willing to stake a good portion of what he had, with the fortunes of the big mining venture.

The old Master's wound healed outwardly, but had shaken the stronghold. Every evening he went to the Vatican with the day's yield of gold, but invariably alone. He alone held the keys to the great iron door, which was locked after his entrance. On two or three occasions, I went with him to the master-ruin, when duplicate parts of the machinery were needed, a few extra guns, or valuable stores; but it was afterward that I was required to look closely and learn the mystery of the treasure-house. The impressions that remained from these early visits were external; the cistern in the centre of the ancient stronghold, the great altar-stone enigmatically perforated, the long cases of guns, ammunition boxes, and the vast bulk of provisions of an imperishable nature. The size of the interior astonished me. All Tropicania might have found refuge there, indeed; and it was no black hole. Strangely enough there was fresh-water in the cistern, and sunlight found its way through the broken places in the roof, which Romany had caused to be reinforced with iron bars when he constructed the great door.

I thought much of the old Master's wound and the man himself. On the days when he seemed actually to be failing, invariably would he declare his strength. We had many rare talks. He did much writing and intimated that I was to have his effects in the event of death.

"I'm not looking for trouble," he said. "This is only a sort of insurance. You'll find a letter upon me, addressed to you. It will make everything clear." His life had made him master of his own thoughts. Romany never fully confided to me anything that had to do with the success of the settlement, until conditions forced a disclosure. It was not that he distrusted, I found repeatedly. As a leader of a colony of men whose growing fortunes were bound together under his hand, secrecy appeared to him imperative. But there was a natural repression in the man—iron and unbreakable and under his will, like the great door of the Vatican.

For instance, one night he showed me a dispatch from an important financial

house in Guayaquil, politically very close to the government of Ecuador and colossally rich. The message was a reply to one that the old Master had sent out evidently weeks before, and was a courteous refusal of a large loan. The terms of the letter showed me what Romany had asked and represented. He had made it appear that he was in need of more machinery; and that, while he was convinced more than ever of the riches in the Calderon, it was going to require much more money than he had, to get out the gold.

And this was his way of writhing a little, of representing failure to Ecuador, of breaking the patience and concentration of Orion.

I knew that the riches in the Calderon were prodigious, also that they were yielding themselves every daylight hour; singing excitement everywhere. Each passing day was a victory; and yet with curious and far-reaching care the old Master had undertaken to negotiate a loan that he had no use for. The strategy undoubtedly checked the rush to the eldorado, and cooled the lust of the two republics.

The men knew that all was going well but so undeviating was the course of Romany's policy of silence, that even Maconachie could only guess at the degree; and I, who was closest to the Chief, did not know until afterward that the winning surpassed even his dreams.

He watched very closely my relation to the colony, pleased to observe that I prospered alike with the soldiers and miners. I had fallen into the post of his aide, on a large and friendly basis, and found much to do both in the departments of defense and labor. Leek alone remained unopened, in so far as I was concerned. The personal factotum to the old Master appeared to resent my advent.

It was the same between Viringhy and Huntoon. No love of these two for each other complicated their day's work. Huntoon remained dry—just about; his enthusiasm for the old Master unabated. Romany's personal gameness and mastery of strategic changes had won the professional soldier to the last breath. Huntoon had been given Santell's place—second to old Viringhy in the fighting force.

To be continued.

**The Dollar Chain**

A fund maintained by readers of "The Farmer's Advocate and Home Magazine" for (1) Red Cross Supplies; (2) Soldiers' Comforts; (3) Belgian Relief; (4) Serbian Relief.

Contributions from Aug. 15 to Aug. 21: Mrs. Geo. H. Ridley, R. 2, St. Mary's \$2.00; J. McIntyre, R. 5, St. Thomas, \$5.00; Unknown, \$2.00; I. H. G., \$1.00; J. A. Spalding, Watford, \$2.00.

Amount previously acknowledged.....\$2,821.70

Total to Aug. 21.....\$2,833.70

Kindly address contributions to "The Farmer's Advocate and Home Magazine" London, Ont.

**Dead Man's Hill.**

Who was the "dead man" of Dead Man's Hill?

Plenty of comrades he has to-day Lying around him so calm and still, Corpses in blue and corpses in gray, Friend and foe, a grim array, Shattered by shrapnel and scorched by flame, And the poilus grimly smile as they say That Dead Man's Hill lives up to its name.

Was he some wanderer lone who died On a winter's night when the air was chill, And the snow lay deep on the country side, And the dirge of the wind was loud and shrill?

And so did he come at last to fill A nameless grave? Nay, who can tell?

I only know that the Dead Man's Hill To-day is but known as a living hell. —London Evening News.

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15 to Aug. 21- 2, St. Mary's St. Thomas, H. G., \$1.00; 2.00.

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**DOUGLAS EGYPTIAN LINIMENT**

**Stops Bleeding at once.**  
**Removes all Inflammation.**  
**Prevents Blood Poisoning.**  
**A Speedy Cure for Thrush.**  
*For Sale Everywhere.*  
 Free Sample on Request.

DOUGLAS & COMPANY MFRS. WINDSOR, ONTARIO

**RIDER AGENTS WANTED**

In every community to ride and exhibit a sample 1916 Hyslop Bicycle. **10 DAY'S TRIAL.** If owner is not entirely satisfied after riding any Hyslop Bicycle 10 days it can be returned and money will be promptly refunded. **TWO CENTS** is all it will cost to write us a postal and we will mail free, postpaid, catalogue and colored art folder showing complete line of bicycles, tires and supplies and particulars of most marvelous *after-eyes* made on a bicycle. You will be astonished at our low prices and remarkable terms. **MAKE MONEY** taking orders for Bicycles, Tires and Sundries. **DO NOT BUY** until you know what we can do for you. Write to-day. **HYSLOP BROTHERS, LIMITED DEPT. TORONTO, ONT.**

**Live Poultry**

We are open to receive shipments of live poultry at all times. Highest market prices paid, according to quality. Write for quotations.

**Henry Gatehouse & Son**  
 Wholesale and Retail. Fish, Poultry, Eggs and Vegetables.  
 348 Dorchester Street West  
 MONTREAL

**AUCTION SALE OF 392 HEAD OF FARM STOCK**

Locke & McLachlin, Auctioneers, will sell for C. F. Jackson, on Middlemarch Farm, two miles west of St. Thomas, on Friday, Aug. 25, 1916. Commencing at 1 o'clock 70 good young horses matched teams of Percherons, Clydes, and Belgians, some teams weighing 3,000, 40 three-year-old colts, 10 two-year-old colts, 40 extra good dairy cows, number of new milkers and springers, 20 good big steers, 30 fat heifers, 60 yearlings, 12 spring calves, 4 pure-bred Shorthorn cows (registered), 2 pure-bred Holstein cows (registered), 30 sheep, 75 hogs. Sale of horses starts at 3 o'clock.

**Men's Clothing For Sale**

Get your new suit from Catesby's, London, England, for half what you pay local tailor. Best materials, style, fit guaranteed, or money back. Write for free catalogue, self-measurement form and patterns. Address: **CATESBYS LIMITED, Canadian Office 119 West Wellington Street, Toronto** Mention "Farmer's Advocate"

**"1900" Gravity Washer**

Sent free for one month's trial. Write for particulars.

**"1900" WASHER COMPANY**  
 357 Yonge Street Toronto, Ont.  
 (Factory, 79-81 Portland St., Toronto)

**DO YOU NEED FURNITURE?**

Write for our large photo-illustrated Catalogue No. 7—it's free to you. **THE ADAMS FURNITURE CO., Limited Toronto, Ontario**

**Tile** made from stone and cement, from 4 inches up to 18 inches; assorted car lots. Prices on application. Building Blocks for houses or barns. These make an ideal garage. Window sills, lintels for prompt shipment. For prices, write or phone 31A. **A. DEVINEY, St. Mary's, Ont.**

**What the Women's Institutes Are Doing.**

EDITOR "THE FARMER'S ADVOCATE":

To the Institute world in general, it is interesting to know what some of the Institutes are doing in particular. During my recent trip in the counties of West York, North and South Wentworth and Peel I took a few notes on the special features of the work. It was most gratifying to find that with two or three exceptions the Institutes were in a growing, enthusiastic condition. The younger people are taking hold of the work and bringing added life to many branches. This is one of the best and most hopeful signs I found. So many of the officers were young married ladies. There has been a vast improvement in the manner in which the meetings are conducted. The methods are quite business-like, and the opening and closing exercises, the reading of the minutes, etc., are gone through with deference to parliamentary rule.

Where separate Red Cross Branches have been organized the Institutes have felt the effect, but where the work has been undertaken by the Institutes, membership has been increased and a wonderful stimulus given.

It is simply marvellous the amount of Patriotic work these busy countrywomen have managed to do during the past two years. No undertaking has seemed too great for them. Early and late they have toiled, knitting, sewing, preserving, collecting monies, holding bazaars, concerts, picnics, in fact every way and means has been resorted to, to help in the cause which is so dear to the heart of every true Canadian.

The following news items from some of the Institutes I visited might be helpful in suggesting methods of further supplementing the still much-needed help.

Islington Institute taxes its members fifteen cents a month for war fund. The President, Mrs. McLellan at Richview, entertained all the ladies at the June meeting, and in answer to the Roll Call they gave twenty-five cents, which went to buy Red Cross supplies.

Thistleton has a knitting bee every two weeks at a member's home. Light refreshments are served and each member contributes ten cents towards buying wool.

At Elia they have a social evening each winter and men are invited. Edgley Institute has been busy making quilts for the Belgians. They take a monthly collection and send comforts to the Edgley boys at the front. The members served dinner to the men who shingled the hall. The Institute is such a helpful organization, the ladies are always ready to assist any local enterprise that comes along. And they can do it for they represent the district, and that is one of the grand features of the Society. It stands for community improvement and development.

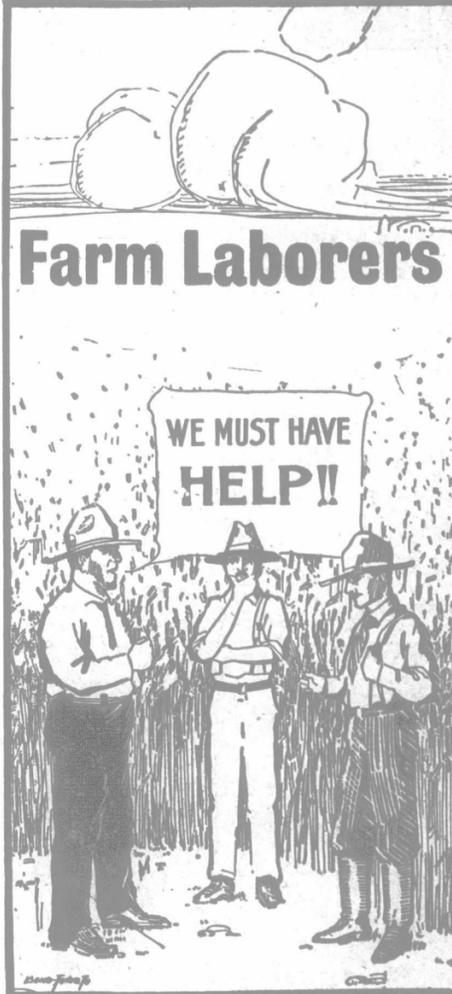
Maple held a box social and raised \$50.50, and other sums besides to buy Red Cross material. Twenty-two quilts are to their credit for relief supplies.

At Vellore the married ladies entertained the Institute, then the young ladies returned the compliment. The Institute served meals at the school fair, the young men sold ice-cream and candy, and the children vended flowers. The fine sum of \$139.00 was cleared, which went toward buying an organ. The Institute took up a special collection for soldiers' funds. Vellore is one of the places where the young people, and especially the young men, are very active in the good cause. With their help in putting on a school concert, supper and dance and other attractions, \$291.00 has been raised during the year for Red Cross purposes.

Kleinburg sent a large box of clothing valued at \$65.00 to the Belgians, have helped the Sick Children's Hospital, and have undertaken to look after their boys who have gone to the front.

Waterdown Institute meets at the Red Cross Rooms during the summer, and after the business meeting the ladies remain to sew. Much is being accomplished by this body of busy women, as could be judged by the constant click of the many knitting needles during the meeting.

The new President of the Rockton



**CANADIAN PACIFIC RAILWAY**

**Excursions**

Going Trip West  
**\$12.00**  
 TO  
**WINNIPEG**

Return Trip East  
**\$18.00**  
 FROM  
**WINNIPEG**

Going Dates  
 August 17 and 31  
 From Toronto-Sudbury Line and East, but not including Smith's Falls or Renfrew, also from Main Line East of Sudbury to, but not including, North Bay.

August 19 and September 2  
 From Toronto, also West and South thereof

Further particulars from Canadian Pacific Ticket Agents, or W. B. Howard, District Passenger Agent, Toronto.

**Does Your Neighbor Borrow Your Farmer's Advocate?**

Avoid inconvenience and loss to both by obtaining his subscription at once. If he doesn't get the paper, he should. And it is worth keeping on file, so you should retain your own copy. We'll pay you well for the new name. Send us the new subscription, retaining as your commission 50 cents, or have your own subscription extended six months, which is equal to 75 cents cash. Many of you by merely suggesting the idea to a neighbor can earn this money in a few minutes. Here is a chance for the boys. Write for extra samples. Address:

**The William Weld Co., Limited**  
 London, Ontario

**ALMA LADIES' COLLEGE**  
 OPENS ITS THIRTY-SIXTH YEAR ON SEPTEMBER TWELFTH: NINETEEN HUNDRED & SIXTEEN

For calendar and terms: R. I. Warner, M. A. D.D., Alma College, St. Thomas, Ont.

# USEFUL PRESERVING HINTS

## Here's the Way to Succeed in Jam or Jelly Making.

1o—Use ripe — but not over-ripe fruit.

2o—Buy St. Lawrence Red Diamond Extra Granulated Sugar. It is guaranteed pure Sugar Cane Sugar, and free from foreign substances which might prevent jellies from setting and later on cause preserves to ferment.

3o—Cook well.

4o—Clean, and then by boiling at least 10 minutes, sterilize your jars perfectly before pouring in the preserves or jelly.

Success will surely follow the use of all these hints.

We advise purchasing the Red Diamond Extra Granulated in the 100 lb. bags which as a rule is the most economical way and assures absolutely correct weight.



Dealers can supply the Red Diamond in either fine, medium, or coarse grain, at your choice.

Many other handy refinery sealed packages to choose from.

St. Lawrence Sugar Refineries, Limited, Montreal.

Institute gave this as her motto: "I cannot do everything, but I can do something. What I can do, I ought to do, and God helping me I will endeavor to do." A good resolve, and what splendid records our Institutes would have if each member tried to keep it. The Township Council makes a monthly donation of \$5.00 to each Institute in the township.

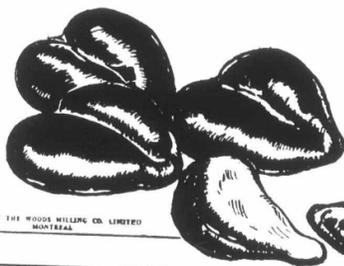
The Sheffield Institute has raised, during the past year, between \$300.00 and \$400.00 for patriotic funds.

Orkney has a big oyster supper each winter. This is the special treat the ladies tender the men for driving them to the meetings. In the summer they have a neighborhood picnic, the children's treat. Small prizes are given for all sorts of races; everyone has a jolly time. A collection is taken at each meeting to buy Red Cross materials.

The Upper Hamilton Institute is most active in various Red Cross undertakings. A large garden party to augment the funds is held each summer by the Ancaster Institute. Tickets are sold for donated articles, and a lot of money raised.

It was a great pleasure to visit the initial Institute of the Dominion at Stoney Creek. Nineteen years ago last February I spoke at the then only Institute in Canada. It was gratifying to learn the membership of this oldest branch was ninety-eight last year, the members are busy in every good cause, they have a flower fund for sickness, sold over \$50.00 worth of old papers, and helped raise \$1,000.00 for the 128th Battalion. It was a unique occurrence that the first president Mrs. E. D. Smith; first secretary, Miss Nash; first treasurer, Mrs. McNealy; first lady to write an Institute paper, and the first lady Institute delegate, Mrs. Lena Rose Stephen; should be at this meeting. A photograph was taken of the five.

Crisp Bits of Golden Brown - Light, Alluring Texture - Your Rolls are Greatly Relished



Baked From  
**FIVE ROSES FLOUR**

For Breads, Gakes, Puddings, Pastries

**25 CENTS**

**WONT BREAK - WONT BIND**

Griffith's Handy Tie is as strong as two knots, but it won't bind. You could tie or untie it with mitts on. It's as handy as a snap and ring, but it won't break. If your dealer can't supply you, send a quarter and get one by mail

**Griffith's Handy Rope Tie**

You can see dozens of Griffith's money-savers at your dealer's. Ask him for our list of harness specialties. Or write to us, mentioning this paper. We will see that you get our goods at regular prices. *This tag on genuine.*

**GLENGOW SHORTHORNS AND COTSWOLDS**  
Pure Scotch in breeding, we have an exceptionally choice lot of bulls for this season's trade, ranging in age from 8 to 15 months, big mellow fellows and bred in the purple. Also ram and ewe lambs of first quality.  
Wm. Smith & Son, Columbus, Ont. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

Clarkson has a splendid record, the monthly collection for June was \$10.00. An autographic quilt, managed by a member who could not get out, brought in for the war fund \$150.00. The Institutes sees that their soldier boys are written to weekly, and that they get papers and magazines.

Streetsville was perhaps the most active in "good works" of all the Institutes I visited, held concerts, picnics, sales, made quilts, sent bales of hospital supplies to Greece, and are not yet weary in the still needy cause. Meadowvale cleared over \$100.00 from a concert. Donated canned fruit to soldiers in training at Brampton, and takes up monthly collections.

Snellgrove takes a one cent monthly collection for flower fund for any sick in the district. A garden party brought in \$163.00. The older shut-in women do such a lot of Red Cross work.

Cheltenham held a big concert and a garden party for Red Cross Fund. Sandhill ladies have knit over 150 pairs of socks since January, which only indicates a small part of their activities. Inglewood boasts of a play ground, the result of Institute endeavors. Alton is not forgetful of local Institutions, and made a number of nightdresses for the Orangeville Hospital, at the same time not shirking Red Cross work.

This will give the reading public some faint idea of what the Institutes stand for in our country. They should have the hearty support of every right thinking Canadian man and woman.  
LAURA ROSE STEPHEN.

### Questions and Answers.

1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

2nd—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

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.

### Miscellaneous.

#### Administering Estate.

1. How long can executors and trustees hold an estate, providing there is no real estate?

2. How long will the law allow them to hold it? It is now three years since the testator's death.

Ontario. A SUBSCRIBER.

Ans.—1 and 2. The matter may be subject to provisions contained in the will. In the absence of such provisions, or other special circumstances, one year is considered a reasonable allowance of time to executors for the winding up of an estate.

#### Keeping Line Fence in Repair.

I own two farms, one 60 acres and one 80 acres, with another man's farm between them, which means that I have two line fences with him. All this land runs into a creek. Have I to keep up the part of both line fences running into the creek? I have kept up one side of the fence running into this creek for twenty-five years, and now he tries to force me to keep up both fences.  
J. G. C.

Ans.—The general rule is for each man to build and keep in repair one-half of the line fence. The division is usually made by mutual consent when the fence is first built, and the custom is to adhere to the first division. If the neighbor's share of both fences is to the front of the farm your share will naturally be the back half. If the creek crosses the farm where your share of the fence comes it will be your place to keep that part of the fence in repair. The division of a line fence is generally made so that the front half will be built and kept in repair on one side of the farm, and the back half on the other side.

#### A Sale of Live Stock.

Anyone wishing to purchase horses, cattle, sheep or swine should not fail to turn to the advertisement of C. F. Jackson in this issue. On his farm two miles west of St. Thomas he will sell on August 25 almost 400 head, including horses, cows, steers, heifers, calves and hogs. Many of the cows are registered, both Shorthorns and Holsteins. The sale begins at 1 p.m. The farm can be reached conveniently. See the advertisement.

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# SEE THE COMPLETE "TREASURE" LINE AT THE TORONTO EXHIBITION

## Here Are The Points—

OUR CLAIMS FOR THE

# "Othello Treasure"

Are based on facts—not fancies. Every claim made is guaranteed.

**Fuel Economy.**—Will bake all day with one fire-pot of coal; 2,020 biscuits were actually baked in one day with one fire-pot of coal.

**Even Temperature in Oven.**—That is accomplished by solid, heavy construction. A light stove cools quickly. Othello Treasure is very heavy, 725 lbs., as illustrated.

Large, deep fire-box, with straight sides—interlocking and interchangeable.

**Ventilated Oven.**—Fresh heated air supplied. No burnt-up smoky air to destroy flavor of food.

Oven has patent cold-rolled steel bottom. Saves fuel and ensures even heat.

**Glass Oven Door.**—You can watch progress without cooling oven by opening door.

**Thermometer.**—You can keep the heat regulated.

Large reservoir made of copper. Will lift off.

Special lining for wood. Will take 28-inch stick.

**Burnished Top.**—No black-leading.

Top in three sections, convenient for broiling, toasting and firing.

Nickel Edges all lift off for cleaning.

Towel Bars and all conveniences.

Extra large ash pan.

Beautifully decorated with tile—either dark green or rich ivory.

Made by the largest exclusive stove factory in Canada.

In business 88 years. Tried and true. No misrepresentation. No exaggeration. Just plain facts plainly told.

Ask the OTHELLO dealer for free booklet, or write to:

**THE D. MOORE CO., Limited**  
Hamilton, Ontario

Distributors for Toronto:

**ADAMS FURNITURE CO., LIMITED**  
City Hall Square



### Questions and Answers. Miscellaneous.

#### Value of Silage—Feed for Hogs.

1. Which would you advise feeding, wheat and oat chop dry or soaked in a barrel a day or two ahead? Hogs weighing about 175 lbs.

2. What should silage be worth per foot in a silo 15 by 26 feet taken out 6 feet from the bottom, corn being in first-class condition? W. H.

Ans.—1. When feeding chop it is doubtful which method gives best results. Some feeders recommend soaking the feed while others prefer feeding it dry. The general consensus of opinion is that any extra gains attained by soaking chop do not make up for the work entailed.

2. There would be about 3½ tons of silage per foot of depth in a silo of the dimensions given. Good silage should be worth \$3.00 per ton, and some feeders claim it is worth considerably more.

#### Eczema.

Have a horse nine years old, is fat and sleek, has a beautiful coat, is well groomed, but is continually rubbing and biting himself, particularly on the back and rump. Am positive he has

## TO EVERY LOVER OF MUSIC

Many farm homes have decided this fall to purchase a GOOD piano—that gift which adds new happiness and breaks like sunshine through the long, dreary winter evenings and keeps the children home.

The Williams Piano Company will have on display an assortment of especially finished models of the renowned WILLIAMS New Scale PIANO at their booth in the Manufacturers Building of the Toronto Exhibition this year.

As these Exhibition Models are greatly in demand, it would be wise to write the Williams Piano Company, Oshawa, Ont., in advance for illustrations and easy payment plan regarding these special models.

### ONTARIO LADIES' COLLEGE

and Conservatory of Music and Art, Whitby, Ont.  
A SCHOOL OF IDEALS AND AN IDEAL SCHOOL FOR GIRLS  
Healthful, picturesque location, with the outdoor advantages of the country as well as the cultural influence of Toronto, which is only 30 miles away.  
Academic courses from Preparatory work to Junior Matriculation, Teacher's Certificates and First Year University; Music, Art, Oratory, Domestic Science, Commercial Work, Physical Training by means of an unusually well equipped gymnasium, large swimming pool and systematized play.  
COLLEGE RE-OPENS SEPTEMBER 12th, 1916  
FOR CALENDAR WRITE REV. F. L. FAREWELL, B. A., PRINCIPAL

no vermin of any kind, but seems to have a lot of dirt like dandruff when he is curried. I cannot turn him out to pasture for he rubs the fences down. Can you suggest a remedy? Would a sponging of creolin be of any benefit, and, if so, what would be the proportion for the mixture? P. D.

Ans.—The symptoms indicate eczema. Clip the horse and give the body a thorough washing with strong, warm, soft-soap suds, applied with a scrubbing brush. Rub dry and dress twice daily with corrosive sublimate, 20 grains to a quart of water. Give internally one ounce Fowler's solution of arsenic, night and morning every alternate week as long as necessary. A five-per-cent. solution of creolin would probably be as effective as the corrosive sublimate.

#### Delightfully Cool on the Great Lakes.

Port McNicoll, a few hours pleasant journey via Canadian Pacific Railway, is the Gateway to the Great Lakes. Steamship Express leaves Toronto 2:30 p. m. each Tuesday, Thursday and Saturday making direct connection at Port McNicoll with either Steamship "Keewatin" or "Assiniboia" for Sault Ste Marie, Port Arthur, and Fort William. Particulars from any Canadian Pacific Ticket Agent or W. B. Howard, District Passenger Agent, Toronto.

**HORSE OWNERS! USE**  
**GOMBAULT'S CAUSTIC BALSAM.**  
 A safe, speedy and positive cure. The safest, Best ELIXIR ever used. Removes all bunches from horses. Impossible to produce scar or blemish. Send for circulars. Special advice free.  
**THE LAWRENCE-WILLIAMS CO., Toronto, Canada**

**R.M.S.P.**  
**FORTNIGHTLY SAILINGS**  
 BY  
**Twin-Screw Mail Steamers**  
 FROM  
**ST. JOHN (N.B.)**  
 AND  
**HALIFAX (N.S.)**  
 TO THE  
**WEST INDIES**  
 Excellent Accommodation for 1st, 2nd and 3rd Class Passengers  
 SPECIAL FACILITIES FOR TOURISTS  
 NEXT SAILING FROM HALIFAX:  
 R.M.S.P. "Chignecto"  
 August 25, 1916  
 APPLY TO  
**The Royal Mail Steam Packet Co.,**  
 57-59, Granville St., HALIFAX (N.S.)  
 OR TO THE  
**Local TICKET AGENCIES.**

**Heaves CURED**  
 —by removing the cause—and secured to stay cured—If 3 boxes of  
**Fleming's Tonic Heave Remedy** fail to effect a cure of any case, old or new, we will refund the full amount paid.  
 Per Box, \$1.00; 3 for \$2.50. Mailed on receipt of Price.  
**Scratches Disappeared**  
 Gentlemen:—I gave a course of your Tonic Powders, which has put a horse and his mate in fine shape, and a touch of scratches has quite disappeared.  
 Geo. A. Miles, Oxville, Alta.  
 Full information in Fleming's Vest Pocket Veterinary Adviser  
 Write us for a Free Copy  
**FLEMING BROS., Chemists**  
 75 Church St. - Toronto, Ont.

YOU CAN ASSURE YOUR FAMILY A MONTHLY INCOME FOR LIFE or assure yourself an income during your old age by means of an  
**Imperial Monthly Income Policy**  
 Write for particulars now and mention the Farmer's Advocate. Address:  
**IMPERIAL LIFE ASSURANCE CO.,**  
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In a Mutual Life company every policy holder has a voice in its administration

**LAMENESS**  
 For over 20 Years we've given a Signed Contract Bond to return money if Save-The-Horse REMEDY fails on Ringbone--Thorpin--SPAVIN or ANY Shoulder, Knee, Ankle, Hoof or Tendon Disease.  
 Our FREE 96-page Save-The-Horse BOOK is a mind settler on 58 forms of LAMENESS.  
 This BOOK, Sample Contract and ADVICE --ALL FREE (to Horse Owners and Managers). Address: TROY CHEMICAL CO., 145 Van Horn St., TORONTO, ONT.  
 Druggists Everywhere Sell Save-The-Horse with CONTRACT or we send by Parcel Post.

**ALLOWAY LODGE STOCK FARM**  
**Angus, Southdowns, Collies**  
 Special this month  
**Southdown Prize Rams**  
**ROBT. McEWEN, R.R.4, London, Ont.**

**Balmedie** Aberdeen-Angus—Get a high-class Angus bull and breed the champion steers. I have show-ring quality bulls from 10 to 24 months of age; also choice 1- and 3-year-old heifers.  
**T. B. BROADFOOT, Fergus, Ont.**

**Aberdeen-Angus** Cattle. Several choice young bulls from the imported sire "Pradamer" for sale. Apply **A. DINSMORE, Manager, "Grape Grange"** Farm, Clarksburg, Ont., 1 1/4 miles from Thornbury, G.T.R.

**Questions and Answers.**  
 Miscellaneous.

**Size of Pulleys.**

1. I am going to put in a line shaft for a gasoline engine 1 1/2 horse-power, 500 revolutions per minute, with a 3-inch pulley on engine. Give me an idea of size of drive wheel to use on shaft, and size of pulley to run a separator 60 revolutions per minute. I have a 12-inch pulley on separator. I have a speed governor which reduces speed one-half for separator.  
 2. What size pulley is required on a shaft to run a churn about 50 revolutions with an 8-inch pulley on churn? R. F.  
 Ans.—1. Make the diameter of the pulley on the shaft half the diameter of the driving wheel. This combination with a three-inch pulley on the engine and a twelve-inch one on the separator will run the latter exactly one-quarter as fast as the engine, namely, 62 1/2 revolutions per minute. Throttle the engine down to 480 revolutions per minute, and the separator speed will be 60, or by your governor reduce the separator speed from 62 1/2 to 60 revolutions per minute.  
 2. Make diameter of pulley on shaft one-quarter as great as that on driving wheel, and the churn will run 47 revolutions per minute.

**When to Sow Alfalfa Seed.**

1. Is August the best time to sow alfalfa?  
 2. Would it be advisable to sow with a nurse crop this time of year?  
 3. Will you get as good a catch if sown now as in the spring?  
 4. Have you had any experience with basic slag fertilizer?  
 5. Is it a good fertilizer for fall wheat on clay loam soil? A. D. P.  
 Ans.—1. It has not proven to be. There are usually several weeks of hot, dry weather in late summer that either prevents the seed from germinating, owing to lack of moisture, or else burns up the young plants. Sowing with a nurse crop in the spring or sowing without a nurse crop after a shower in the early part of July is preferable to August seeding.  
 2 and 3. We think not.  
 4 and 5. We have seen a number of fields where this kind of fertilizer was used, and in most cases the results were very satisfactory in the wheat crop as well as with other crops. It is a good fertilizer, but results will depend on the soil to which it is applied. If it is well supplied with the materials which the fertilizer contains the results will not be so noticeable as on a soil which is lacking in plant food.

**Control of Cabbage Root Maggot.**

1. I would like if you could tell me, through the columns of your paper, how to protect newly transplanted cabbage plants from a small white grub or worm which attacks the root and kills the plant.  
 2. Is it the same pest which destroys radishes?  
 3. Will kerosene emulsion kill bugs on cucumber vines and lice on roses without injury to the foliage?  
 4. Is there a government bulletin issued dealing on this work? If so, could you give me the name or number and tell me where to write? D. B.  
 Ans.—1. Tar-paper discs placed around the plant at time of setting it out have proved effective. White hellebore or pyrethrum insect powder either as a decoction or dry, mixed with flour or land plaster, have been used with satisfactory results.  
 2. It is believed so.  
 3. Kerosene emulsion is a remedy for sucking insects and would not prove effective against insects which bite. Aphids and lice can be controlled by the emulsion, which should not injure the tenderest vines. Poison material must be used for biting insects.  
 4. The subject of root maggots is fully discussed in Bulletin No. 12, which may be obtained from Department of Agriculture, Entomological Branch, Ottawa, Ontario.

**Penmans**  
**Sweater-coats**  
 THE STANDARD OF EXCELLENCE  
 THE man who puts clothing to the hardest test usually selects Penmans when it comes to sweaters. He knows, of course, from experience that they wear like so much iron, that they fit right and look right. After all there is nothing like accepting what an overwhelming majority take as a standard. Say Penmans.  
 Penmans Limited  
 Paris



**Put Your Barn on a Self-Watering Basis**  
 The "Toronto" Windmill, easy-running, powerful, and strongly constructed, pumps water, even in a light breeze. For pumping to water cattle, there is no method so inexpensive. Write for Windmill prices.  
 A self-watering Barn is about what it means when a farmer puts in our complete watering system. A Windmill, or gasoline engine, a sheltered tank, pump, piping, and automatic self-filling water basins in the stalls, cause a tremendous saving of work, and an enormous advantage to the cattle in beef-raising and dairying. Where cattle are watered by hand-pumping, they never get all they would like and do not make as good a showing. Plenty of water to drink means productivity and health in cattle. Together with our Litter Carrier, Steel Stanchions, etc., the barn work is so reduced that one man can care for 25 to 40 head of cattle. This saving of labor means saving of hired help and a chance to expand on a larger scale and make more profit. Write for our Book on "Barn Equipment."

**Pipe Water into the House.**  
 The same Windmill or Engine and Pump that supply water for the barn will supply the house. Particulars of the methods and cost of running water in farm house on request.  
 Write us for Catalog of Barn Equipment and Water Systems  
 A piped, self-regulating watering system, with individual basins, is the greatest saver of labor, time, and money. We will give you figures on the entire cost of a water system for your barn or house, or both, if you wish. Write us to-day.

**Farm Homes with City Comforts**  
 After all, life on the farm is worth while, in proportion to the reasonable comforts that are supplied. With inexpensive power to run pumps, feed grinders, wood saws, washing machines, churns, separators, etc., the labor of the farm is lightened. With running water in the house, the home is made as comfortable as a city home, and the cost is very slight indeed. Write us for full information.  
**ONTARIO WIND ENGINE AND PUMP CO., LIMITED**  
 93 Atlantic Ave., TORONTO. Branches: Montreal, Winnipeg, Regina, Calgary

**Clydesdales** We have still left some exceptionally good drafty stallions, ranging in age from one to eight years, prizewinners, including champions; also in-foal mares and fillies. There is a horse boom coming. Buy now.  
**SMITH & RICHARDSON, Columbus, Ont.**

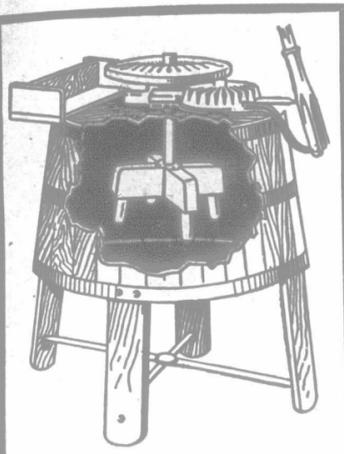
**ORCHARD GROVE HEREFORDS**  
 Have several young bulls and heifers for sale. Satisfaction guaranteed.  
**L. O. Clifford**  
**Oshawa, Ontario**

**Spring Valley Shorthorns** Herd headed by the two great breeding bulls, Newton Ringleader (imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.  
**Kyle Bros., Drumbo, Ont. Phone and telegraph, via Ayr.**

**Imported Shorthorns** Our recent importation of thirty head has arrived at our farms. We have imported cows with calves at foot, imported heifers that are in calf, imported yearling meet trains at Burlington Jet, at any time if notified.  
**J. A. & H. M. PETTIT,**  
**FREEMAN, ONTARIO**

**Canada's Grand Champion Shorthorns of 1914-1915**  
 are headed by the great "Gainford Marquis" Imp. Write your wants.  
**J. A. WATT,**  
**ELORA, ONT.,**  
**G.T.R. & C.P.R.**

**When writing please mention this paper**



**Washes Everything gently, but thoroughly**

WHETHER the tub is full of clothes, or whether there are only a few, the Maxwell Washer is equally efficient. It washes and cleans delicate fabrics as well as blankets, tablecloths or sheets.

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**"HOME" WASHER**

is the easiest running of all washers—made with high speed balance wheel, steel ball bearings and automatically cut gear wheels. Constructed of best quality Cypress and handsomely finished.

Insist on seeing the Maxwell Home Washer at your dealers, or write to us.

MAXWELLS LIMITED, St. Mary's, Ont. Dept. A

When Building—specify

**MILTON BRICK**

Smooth, Hard, Clean-Cut. Write for booklet.

MILTON PRESSED BRICK COMPANY Milton, Ontario

**Glenfoyle Shorthorns**

Large selection in females all ages, bred from the best dual-purpose families. One extra choice fifteen-months bull, some younger ones coming on. Priced well worth the money.

Stewart M. Graham, Lindsay, Ont.

**1854 Maple Lodge Stock Farm 1916 SHORTHORNS AND LEICESTERS**

We have now for sale one 2-shear Leicester ram, three shearings, and 14 ram lambs. Also a few young ewes and ewe lambs. All these are of excellent quality and choice breeding, and will be priced moderately. Come and see our flock.

Miss Charlotte Smith Clandeboye, R. R. 1 Lucan Crossing one mile east of farm.

**SHORTHORNS**

Bulls, females, reds, roans, size, quality. Breeding milkers over 40 years. Cows milking 50 lbs. a day. Big, fleshy cows that will nurse calves right. Prices easy, write: THOS. GRAHAM, R. R. 3, Port Perry, Ont.

**FLETCHER'S SHORTHORNS**

3 choice bulls of serviceable age; also females, all of good Scotch breeding, for sale. Write before buying. Geo. D. Fletcher R. R. 1, Erin, Ont. L.-D. Phone, Erin ta. C.P.R.

**Lakeside Ayrshires**

A few young bulls for sale from Record of Performance dams, imported and Canadian-bred, sired by Auchenbrain Sea Foam (imp.) 35758, grand champion at both Quebec and Sherbrooke. Write for catalogue. GEO. H. MONTGOMERY, Proprietor Dominion Express Bldg., Montreal, Que. D. McArthur, Manager, Philipsburg, Quebec

High-class AYRSHIRES—If you are wanting a richly-bred young bull out of a 50-lb.-a day and over cow, imp. or Canadian-bred dam or sire, write me. Females all ages. Prices are easy. D. A. MacFARLANE, KELSO, QUEBEC

STOCKWOOD AYRSHIRES—Sired by my royally-bred and prizewinning bull, Whitehall King of Hearts, imp., for sale are in-calf heifers and young bulls, out of imp. and big-producing cows. D. M. WATT, St. Louis, P.O., Quebec

**Questions and Answers. Miscellaneous.**

**Seeding Low-lying Land—Size of Water Tank.**

1. I have a small oat stubble of light clay loam soil, very good natural drainage, free of all weeds and in good tilth, which I wish to sow to fall wheat and seed down with alfalfa clover. Would you advise this to seeding it with oats or barley? For many reasons I would prefer the former method, but if the latter will insure a much better chance of a catch of the alfalfa that's the one I shall adopt.

2. What mode of cultivation and what variety of seed would you advise for the re-seeding of the low-lying land in a long-used pasture run?

3. Suggest the most convenient place, in a barn 30 by 64 feet, with the pig pen 25 feet due west of that end of barn, to have the well of water, which is to be pumped by a small engine to a tank on the barn floor. What kind and size of tank would you recommend for a stock of about 12 cows, 8 young animals, 6 horses, 4 or 5 colts, 2 brood sows, and from 12 to 20 pigs of different size? What should be done by way of precaution to prevent the water freezing in the pipes as it approaches the tank? Can you tell me how to locate the vein of water in a low-lying, marshy spot beneath a ridge along which old springs were formerly located? J. M. M.

Ans.—1. Alfalfa is usually seeded with barley or spring wheat in the spring, or else sown in early July without a nurse crop. However, good catches have been obtained by sowing the seed on fall wheat early in the spring. There is generally a light fall of snow late in the season and alfalfa seed has been sown at that time with satisfactory results. It has also been sown later in the season with fall wheat. If your soil is good wheat land it is reasonably safe to sow the wheat this fall and the alfalfa in the spring.

2. If it is not possible or convenient to break up the field and sow to a crop of grain for a year or two a seed-bed for the small seeds may be made with a disc harrow. For a permanent pasture on low land a mixture of red top, 4 lbs.; orchard grass, 4 lbs.; Kentucky blue grass, 2 lbs.; alsike, 2 lbs.; white clover, 2 lbs.; timothy, 2 lbs.; making a mixture of 16 lbs. seed per acre, has given very good satisfaction.

3. Unless the well is drilled and the piping put in so that there is no chance of seepage from the barnyard coming in contact with the water we would not advise having the well in the stable. If it is in the stable one end of the feed passage is a fairly convenient place. The water can be piped to all parts of the stable. If the water rises to within 20 feet of the surface the engine for pumping could be located in the stable and the water could be drawn a distance of 100 feet or more. This would permit of locating the well a short distance from the buildings. However, when the water does not rise near the surface the pump must be located directly over the well. A round tank 6 feet across and from 6 to 8 feet deep, or a square tank 4 feet wide, 8 feet long and about 4½ feet deep would be large enough, especially when an engine is used for pumping. Even a smaller tank might prove satisfactory. Tanks are generally built round, although a square tank is serviceable. Concrete makes a permanent tank but requires a firm foundation. A wooden tank lined with galvanized material would probably be preferable to concrete when it is placed on the barn floor. If the stable is cold it will be necessary to wrap the piping below where it enters the tank. The tank may be protected with straw. It is doubtful if there is any accurate method of locating a vein of water. Some take a small crutch of a limb and claim it will turn in their hands when they hold it directly over a spring. There appears to be under-ground currents of water which take more or less of a definite course. These currents are indicated by wells already drilled in the neighborhood. It is advisable to follow these courses as closely as possible.



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following the simple rules. Here is the prescription: Go to any active drug store and get a bottle of Bon-Opto tablets. Drop one Bon-Opto tablet in a fourth of a glass of water and allow to dissolve. With this liquid bathe the eyes two to four times daily. You should notice your eyes clear up perceptibly right from the start and inflammation will quickly disappear. If your eyes are bothering you, even a little, take steps to save them now before it is too late. Many hopelessly blind might have been saved if they had cared for their eyes in time.

Note—Another prominent physician to whom the above article was submitted, said: "Bon-Opto is a very remarkable remedy. Its constituent ingredients are well known to eminent eye specialists and widely prescribed by them. The manufacturers guarantee it to strengthen eye sight 50 per cent. in one week's time in many instances or refund the money. It can be obtained from any good druggist and is one of the very few preparations I feel should be kept on hand for regular use in almost every family."

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And he is offering in Shorthorns some of the best some younger still; heifers ready to breed and younger, and some in calf. They are of the best Scotch families and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to improve any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years, and still it grows. There is a reason. ROBERT MILLER, Stouffville, Ont.

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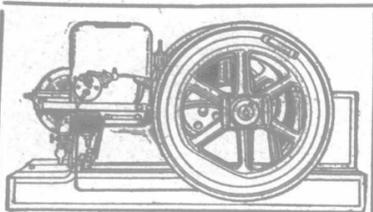
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R. M. Holtby, Port Perry, Ont.

### Farming in Flanders.

The following letter from F. W. Crawford, formerly connected with the Department of Animal Husbandry in Manitoba Agricultural College and now with a well-known Canadian unit at the front will be read with interest. It reads:

I read a book not long ago entitled "Fighting in Flanders," and I have often thought the right man might write a very interesting story entitled "Farming in Flanders." However, I have decided that I shall not exactly undertake that task, but I will endeavor to tell a little about our recent scrap and a few things I have seen in connection with agriculture out here.

As the papers have very likely told you, we got quite a pounding on June 2 and 3. Our battalion was occupying part of the line that was most heavily bombarded and we had quite an exciting time. Fritz bombarded us with almost every conceivable kind of heavy guns. For five hours the shells dropped in and about our trenches like hail, and it was in that way we suffered so heavily. He could not smash us up with his infantry, as those of us who were left proved when the infantry attack was made as the bombardment ceased. The boys were great, not one showed the white feather, and one cannot say enough in praise of the gallant action of our Colonel and Major Gault. I heard one young French lad say that a man would follow either of them to hell or to death without a thought, and I believe it was true. The colonel unfortunately lost his life while leading our boys against Fritz's attacking infantry, and Major Gault was quite seriously wounded while dashing at the head of a body of men with bayonet and rifle in his hand. Although Fritz had a temporary foothold in our trenches the Canadian troops extricated him or rather I should say ejected him at the point of the bayonet three nights later. At present I must not say more lest the base censor shall be offended, but I will tell you the whole story some day if I continue to dodge Fritz's missiles of destruction.

Now I shall tell you something of the country in which we find ourselves. It is nothing new to most people that the country is rather low and flat, but despite the fact that the topography would make the stretches of flat land monotonous the country has an appearance of beauty with its many trees, hop fields and green fields. The main roads are generally fairly straight, or at least they run quite directly between different points. This coupled with the fact that they are paved with heavy cobble stones is conclusive evidence that they were first built for military purposes, and are at present being used more than ever for those same purposes. Other roads leading to the farms and villages are more tortuous and are not built so permanently. The main roads nearly all have a row of large trees on each side, which adds greatly to the beauty of the country and also the shadiness of the thoroughfares themselves.

The soil about here is mostly a rather heavy clay and is very light in color. When it rains, which is quite frequently, the land becomes quite sticky. It is very easily saturated. One would expect that a good deal of fertilizer would be required if good crops were to be obtained. Further I have observed a number of farmers using artificial fertilizers, such as various nitrate compounds and some forms of potash. Not being able to master the Flemish tongue I have not obtained the detail that I otherwise would have learned. Most of the land is well drained as there are ditches along all roads, and in many places small ditches through the farms to carry off the water.

The farms are quite small. What inquiry I have made has led me to believe that they vary in size from five acres to 40 acres, and that in this part of the country they tend mostly to the larger size, from 20 acres to 40 acres. Every acre of land is made use of, and I would judge that in times of peace weeds would find very little encouragement on waste plots, because such plots do not exist. The land is worked carefully and intensively so that noxious weeds do not trouble the Flemish farmer as they do the agriculturist of Canada. However, I have seen our old friend, the Canada thistle, thriving beautifully on

Continued on next page.

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WE have for sale a few sons of the above bull, ready for service, and whose dams are large heavy-producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices. Correspondence solicited.

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Anything in herd for sale, which consists of 22 cows, 6 two-year-old heifers bred to freshen next fall and early winter, nine yearling heifers not bred and nine heifer calves. All bred in the purple and priced right. FRED ABBOTT, R. R. 1, Mossley, Ont.

Hospital for Insane, Hamilton, Ontario—Holstein bulls only for one being a son of Lakeview Dutchland Lestrangle, and the others from one of the best grandsons of Pontiac Korndyke, and large producing, high testing R. of P. cows.

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### For Sale---Sons of King Segis Walker

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some land that had been forced to idleness by the war. On most of the farms only one horse is used, although one occasionally sees a team. One horse plows, cultivators, rollers, harrows and wagons are the common thing. The plows are very light, but have a double set of moldboards, one for going each way like a side hill plow. The wagons are mostly three wheelers, two large ones behind and a small one in front. Tongues or shafts are not used, the whiffletree is simply hooked on the front of the wagon and away they go. The horse is always driven with a single rein.

Much of the labor on the farms is performed by hand. The old-fashioned hoe is kept pretty busy over here. Many of the girls and women perform much of this work at present, all men having been required for war purposes. In France this is particularly noticeable. One must see to realize what the women of France are doing for her to-day. Where I was in France the farms were in as fine condition as one would ever expect to find them.

The crops grown here are more varied than ours, but the small fields make it possible to give each crop excellent attention. Their main crops are hops, tobacco, sugar beets, beans, clover, rye, potatoes and also a little oats and wheat. The hops are quite an important crop as the people of this country are great beer drinkers. I am told that as much as \$600 per acre is sometimes made from the tobacco crop. I have seen many fields of rye from four to six feet in height. The people here use this straw largely for thatching purposes. Most of the houses and barns are roofed with this material. Over a month ago red clover was an excellent crop, about two feet and a half in length.

The farm yards are nearly all arranged in a similar manner. The buildings are generally laid out so as to form a square yard within. The house generally forms one side of this yard which to us would be a very objectionable feature. Most of the yards are paved with brick and a manure pit is built in the center. This arrangement is undoubtedly very convenient, but one would hardly appreciate having the house so close. On most of the farms we find a well for the liquid manure fitted with a large pump, and I have seen many of the farmers treating the land with the manure preserved in this well. From this you will see that the farmer here can show us something about economy and much about the use of manures, etc.

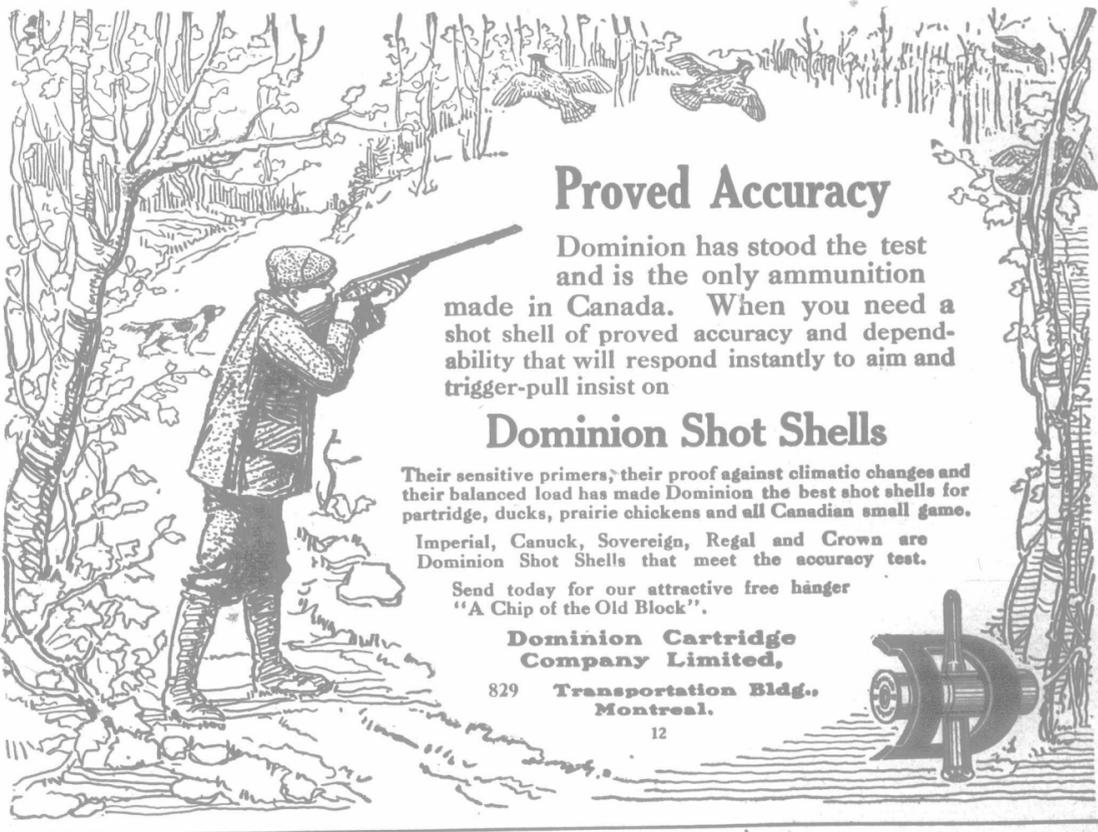
Most of the buildings are constructed of a soft, red brick which is easily obtained here. The roofs are thatched with rye straw and again this is often covered with a clay tile.

A word about the live stock I have seen. It is certainly a country of good horses. An honest Scotsman would not think so as they are all Belgians, but I have never been through a district in any country where I have seen such uniformity among their horses. Almost every one of them shows plenty of breeding, has lots of size and as they are Belgians they are easy keepers. Belgium has certainly eliminated the scrubs. I have seen mares here on a small farm as good as those at Chicago, and the finest Belgian geldings that I have ever seen, I saw on some of the small farms about here. This, of course, is the result of the excellent system of government assistance and subsidy in peace times. In Belgium cattle are almost as poor as their horses are good. I cannot say what blood they represent, but they (with a few exceptions) have a very scrubby appearance. In France they are much better, apparently of a pure breed, but I did not have opportunity to find out. They are of a uniform dark red color, of a dairy type, about equal in size to the Ayrshire and with a horn somewhat like the Shorthorn.

Hogs are quite plentiful and may be seen at every farm. All the hogs that I have seen have been white in color, in type of body much like our Yorkshire, but they have an ear and nose more like the Chester White. One can easily imagine that some Yorkshire blood has been introduced to this country, as it is a well known fact that the European countries have never paid anything like as much attention to the raising of meat producing animals as has Britain.

I have only seen one flock of sheep so I cannot say very much about them. It seems to me that we in the West think we have got things about our own way.

Continued on next page.



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The BISSELL SILO has strong, rigid walls, air-tight doors, hoops of heavy steel. Sold by dealers or address us direct. Get free folder. Write Dept. W.

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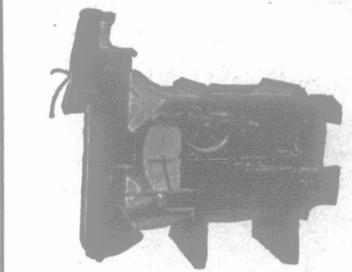
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PRESENT OFFERING: 100 Imported Shearling Ewes, 25 Imported Shearling Rams, 75 Canadian-bred Shearling Ewes, 20 Cows and Heifers in Calf, 5 Bulls of serviceable age

JOHN MILLER, Ashburn, Ont. Myrtle Sta., C.P.R. & G.T.R. A number of splendid ram lambs, fit for service this fall. Sired by one of the best imported rams that we ever owned, and from imported dams. Prices and description on application.

W. A. DRYDEN, Maple Shade Farm, Brooklin, Ont. Brooklin, G.T.R., C.N.R., Myrtle, C.P.R.



If you want a good Fanning Mill, and test it yourself beside any fanning mill in existence, and if it does not, after paying for it, do cleaner and faster work, and easiest running mill built, you will get all monies paid for mill refunded. Once you see

### THE KLINE

In operation we are positive you will not part with it. It is absolutely unequalled for separating wild oats, chaff, light and small grain, smut and seeds. Has capacity of 100 bushels per hour. Write for further particulars.

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Best 2-inch Wire-lined Suction Hose in 15-, 20- and 25-ft. lengths.

Our price, 37c. per ft.

Write for our Illustrated Catalogue "Engineer's Bargains" Also General Supplies for Farmers

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For type and color ... good R.O.M. dams ...

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sale several excep- ... choice young bulls of ...

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**Wilkinson Climax B**  
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**Ensilage and Straw Cutter**

Our "B" machine, built especially for the farmer. A combination machine—it will cut and deliver green corn into the highest silo or dry straw or hay into the mow. 12-inch throat, rolls raise 6 inches and set close to knives—solid, compact cutting surface. Can change cut without stopping. Can be reversed instantly. Direct pneumatic delivery. Knife wheel carries fans. No lodging, everything cut, wheel always in balance. Steel fan case.

Made in two styles—mounted or unmounted. We also make larger type machines for custom work. Ask your dealer about this well-known machine and write us for new catalog showing all styles.

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WRITE FOR OUR PRICES BEFORE SELLING  
**FREE** SPORTSMEN'S CATALOG  
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No. 3 HALLAM BUILDING - TORONTO

**Choice Tamworths**

Boars and sows of all ages, bred from best prize stock. Prices right. Write:  
**Herold's Farms, Beamsville, Ont.**

**Alderley Edge Yorkshires**

Young pigs both sexes for sale.  
**J. R. KENNEDY, Knowlton, Que.**

**ELMFIELD YORKSHIRES**

Choice ones—ranging from 2 1/4 to 5 months. Will be ready for fall service. Prices right.  
**G. B. Muma, R.R. 3, Ayr, Ont. Paris, G.T.R. Ayr, C. P. R., Telephone 55 R 2, Ayr Rural.**

**Morrison Tamworths and Shorthorns**—Bred from the prize-winning herds of England. Tamworths, both sexes. 12 young boars fit for service. 12 young sows to farrow in August. Choice Shorthorns of the deep-milking strain.  
**CHAS. CURRIE, Morrison, Ont.**

**TAMWORTHS**

Particularly nice young sows and boars, three months old.  
**ANGUS BEATTIE, R. 1, Wilton Grove, Ont.**

**TAMWORTHS**

Young sows bred for September farrow, and some nice young boars. Write:  
**JOHN W. TODD, R.R. No. 1, Corinth, Ont.**

**Swine for Sale**—Am offering choice stock in Poland-China and Chester White swine of either sex; most any age. First-prize Poland-China herd London and Toronto, 1915. Prices easy.  
**GEO. G. GOULD R.R. 4, Essex, Ont.**

**Yorkshires and Shorthorns**—We are offering two choice Kilblean Beauty bulls, one from the imp. cow, Scotch Thistle. Also a choice lot of young Yorkshire pigs of both sexes, from a litter of eighteen, out of a 600-lb. dam.  
**A. McKinnon, Erin, R. M. D. Hillsburg or Alton station. Long-distance 'phone.**

**Pine Grove Berkshires**—Sows ready to breed. Boars fit for service. Young things, both sexes, from my prizewinning herd.  
**W. W. Brownridge, R.R. 3, Georgetown, Ont.**

**Meadow Brook Yorkshires**—Sows bred, others ready to breed; 20 sows, 3 to 4 months old, and a few choice young boars. All bred from prizewinning stock. Also one Shorthorn bull, 18 months old.  
**G. W. MINERS, R.R. 3, Exeter, Ont.**

**Avonhurst Yorkshires**

First quality pigs, both sexes. From two litters of eighteen each. We sell winners.  
**B. Armstrong & Son, Codrington, Ont.**

**PROSPECT HILL BERKSHIRES**  
Young stock, either sex for sale, from our imported sows and boar. Also some from our show herd headed by our stock boar, Ringleader. Terms and prices right.  
**John Weir & Son, Paris, Ont. R.R. No. 1**

I also think that we would not be quite so complacent and satisfied with our superiority if we could only see other peoples on their native heath. What I have seen since coming here has developed in me a certain respect for the Belgian and French peasant which I formerly did not have. They are industrious, careful, economic and accomplished tillers of the soil. They with their methods have many lessons for Canadian agriculturists as no doubt we have many lessons for them.

It is a mystery to me how any man, or woman either, can have much to do with cows or cattle or horses and not be made a little better for it. On the farm things do sometimes happen to these friends of the field and the stable. They get sick or they meet with accidents. Before now on our own farm we have had all these things to deal with. By day and by night we have watched with some heifer that was in trouble, or "sat up with" some horse that was suffering. Not always have we been able, even after we have done our best, to bring these patients through to health. We have at such times felt something of the sorrow that gets hold of the heart of the good family doctor when his best efforts have fallen short of his hopes. It hurts the man and the woman of the tender heart to be compelled to part company with a good farm creature of any kind. Just to have one of the sheep die brings a sense of great loss, so that, as we said just now, it is not strange that farmer folks should come to have hearts that are a little bit more tender than are those of people who do not know the effects of this close contact with cows and other farm animals. How could it be otherwise? Suffering ought always to make the heart more sympathetic, even if it be pain in a dumb animal. If it is not so, God pity us! If we grow hard and cold through caring for the creatures which have been placed in our keeping, we need to stop and inquire pretty closely into the state of our hearts. We are in danger of missing a great deal of the good there is in life.

**Questions and Answers.**

**Miscellaneous.**

**A Trip West.**

To whom should I apply for information about a trip West? I would like to go part way by boat. E. G.

Ans.—Apply to H. B. Howard, Passenger Department C. P. R., Toronto, or to Mr. Horning, Passenger Department G. T. R., Toronto.

**License Inspector.**

1. Has a Liquor License Inspector any right to give a letter written to him about an infraction of the law to a neighbor of the writer to read?

2. Is there anything in his oath as Inspector about keeping matters brought before him secret? E. H.

Ans.—1. No.  
2. It is not probable that there is.

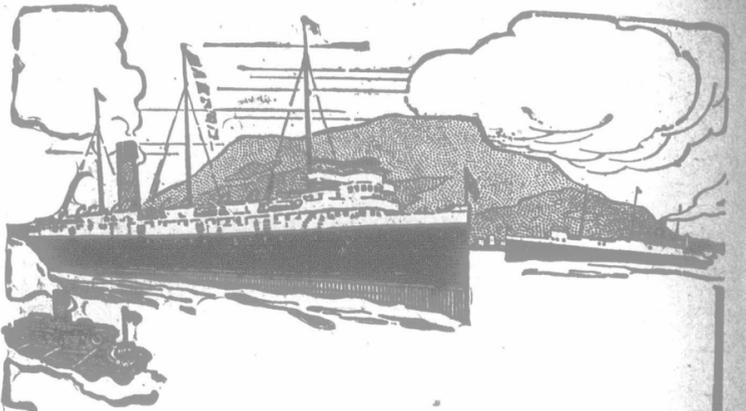
**Tuberculosis in Fowl.**

1. We have lost a large number of our hens lately. When they first become sick they lose their appetite and become very weak. In about two days they die. We opened one and the liver was much enlarged and covered with white spots. What is the trouble with the hens?

2. We have a pig which goes around in a circle until it falls. When it gets to its feet again it appears all right with the exception that it shakes its head and holds one ear down near the ground. What is the trouble? S. Mc. L.

Ans.—1. Symptoms indicate that the birds are dying of tuberculosis. There is no effective remedy. All birds showing symptoms of the disease should be destroyed and the poultry-house and yards thoroughly cleaned and disinfected.

2. It is impossible to diagnose the trouble definitely from the symptoms given. The actions of the pig points to some trouble in the head. Probably there is a gathering and it will be difficult to treat it successfully. If it is a valuable pig it is advisable to call in your local veterinarian.



**A FIVE DAY HOLIDAY**  
on the  
**GREAT LAKES**

And you will feel good, because among the islands of Georgian Bay, the green banks of the St. Mary's River and the expanse of Lake Superior, fresh, cool breezes will blow new life into you. The

**CANADIAN PACIFIC**

Clyde-built Greyhounds, with their Verandah Cafe, perfect appointments and cuisine, are as good as Atlantic Liners. Express Steamships "Assiniboia" and "Keewatin" leave Port McNicoll every Tuesday, Thursday and Saturday for Port Arthur and Fort William. Round trip 5 days.



Tickets, information and reservations from Local Agent, or W. B. Howard, District Passenger Agent, Toronto, Ont.

**AGRICULTURAL LIME**

From the celebrated Beachville Quarries. Highest testing and purest lime in Canada. Why pay \$20 to \$35 per ton for your fall wheat fertilizer when we can give Ontario farmers the highest testing Phosphate and Lime ingredients to make two tons for \$20, analyzing 14.87% Phosphoric Acid and 50% Lime? Progressive farmers by thousands are using these high-grade materials for profitable, permanent agriculture. No high-priced soil stimulants for them. Our traveller will call if you are interested. Agents wanted in unrepresented districts.

**THE HENDERSON FARMERS' LIME & PHOSPHATE CO., Woodstock, Ont.**



**BERKSHIRES**

**ADAM THOMPSON**

My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. Highcleres and Sallys, the best strain of the breed, both sexes, any age.

**R. R. No. 1, Stratford, Ontario**  
Shakespeare Station, G.T.R.

**Newcastle Herd of Tamworths and Shorthorns**—Stock boar and 2 aged sows for sale; fit for any show ring; also boars ready for service, and a number of sows bred for Aug. and Sept. farrow; others ready to breed, both sexes ready to wean; all descendants of imported and championship stock. A few choice bull calves, from 2 weeks up to a year old, from great dual-purpose cows; several extra good cows, with or without their calves; also heifers in calf to Broadlands, my present stock bull. Show stock a specialty. Prices reasonable. Long-distance 'phone.  
**A. A. COLWILL, R.M.D. No. 1, Newcastle, Ont.**

**ELMHURST LARGE ENGLISH BERKSHIRES**  
From our recent importation of sows, together with the stock boar, Sudden Torredor, we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.  
**H. M. VANDERLIP, Breeder and Importer, R.R. 1, Brantford, Ontario**  
Langford Station on Brantford and Hamilton Radial.

**YORKSHIRES**

Our offering never better. Champion hog winner of 12 firsts, 5 championships, two years showing, still at the head. Boars and sows, all ages, same breeding as winners of export bacon in keen competition at Toronto in 1915.  
**WM. MANNING & SONS, Woodville, Ontario**

**Oak Lodge Yorkshires**

We are in a position to supply boars and sows of different ages. We have an established type of Yorkshires that has been produced through many years of careful breeding and selection.  
**J. E. BRETHOUR & NEPHEWS, Burford, Brant County, Ont.**

**Duroc Jersey Swine, Jersey Cattle**—In Duroc Jerseys we have either winners and champions for generations back. In Jerseys we have young cows in calf, and young bulls, high in quality and high in producing blood.  
**MAC. CAMPBELL & SONS, Northwood, Ontario**

**CLOVERDALE LARGE ENGLISH BERKSHIRES**

Sows bred, others ready to breed; boars ready for service; younger stock, both sexes, pairs not akin. All breeding stock imp. or from  
**C. J. Lang, Burketon, Ont. R. R. 3**

**Lynnmore Stock Farm**

Our present offering is young breeding Berkshires, both sexes and any desired age, sire and dams imported, high-class in type and quality and priced right. Also one 2-year-old imported dairy-bred Shorthorn bull with official backing for generations back.  
**F. W. COCKSHUTT, Brantford, Ont.**

**Maplehurst Herd of Tamworth Swine**

S.-C. W. Leghorns and White Rocks—This herd has won about 90 per cent. of the prizes offered in the last ten years at the Canadian National, Toronto, Ottawa, London and Guelph Winter Fair.  
**D. DOUGLAS & SONS, R. R. No. 4, MITCHELL, ONTARIO**

**Quality in YORKSHIRES**

FOR SALE—We have a number of choice sows bred and others of breeding age; also a limited number of young boars.  
**RICHARDSON BROS. COLUMBUS, ONT.**

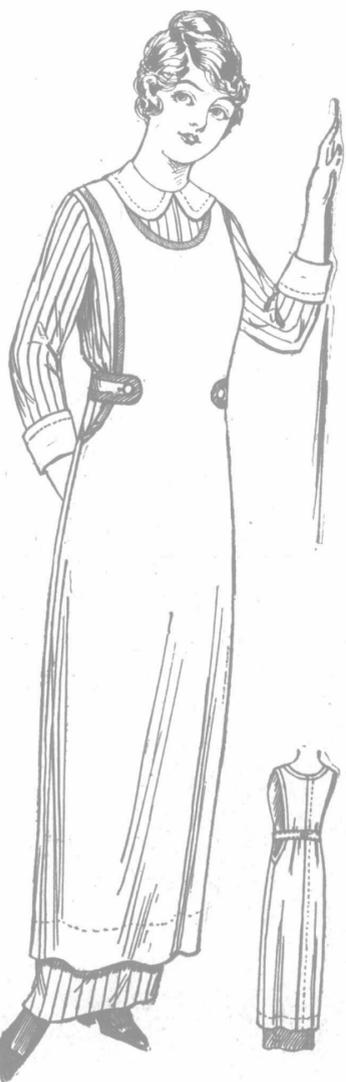
# Fashions Dept.

## How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price fifteen cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, thirty 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.....



8514—Work Apron, 34, 36, 38, 40, 42 and 44 bust.



8480—Waist for Misses and Small Women, 16 and 18 years.



8888—Gathered Blouse, 34 to 42 bust.  
8880—Two-piece Skirt, 24 to 32 waist.



8823—Girl's Dress, 6 to 12 years.



8729—Boy's Suit, 4 to 8 years.



8823—Girl's Dress, 6 to 12 years.



8668—Girl's Dress, 10 to 14 years.



8851—Two-piece Skirt, 24 to 34 waist.

## Suits Free.

### Remarkable Cloth that Won't Wear Out!

Now readers, would you like a suit or pair of pants absolutely free! A most astounding offer is being made by a well-known English firm! They have discovered a remarkable Holeproof Cloth. You can't tear it! Yet it looks just the same as \$20 suiting. You can't wear it out no matter how hard you wear it, for if during six months of solid, hard grinding work every day of the week (not just Sundays), you wear the smallest hole, another garment will be given free! The firm will send a written guarantee in every parcel. Think readers just \$6.50 for a man's suit, and only \$2.25 for a pair of pants sent to you all charges and postage paid and guaranteed for six months' solid, grinding wear. Now, don't think because you are miles away you cannot test these remarkable cloths, for you simply send a 2-cent post card to The Holeproof Clothing Co., 56 Theobalds Road, London, W. C., Eng., for large range of patterns, easy self-measure chart and fashions. These are absolutely free, and post paid. Send 2-cent post card at once! Mention "The Advocate."—Advt.

The new postmaster was not having a very happy time, besieged as he was by a crowd of burly men all demanding their letters at the same time. At last one strode in and shouted with a voice of thunder: "Have you got any letters for Mike Howe?" "For who?" snapped the postmaster. "Mike Howe, I said! Don't you know your job or can't you talk English? Have you any letters for Mike Howe?" The postmaster took his glasses off. "No I have not," he snorted; "neither for your cow nor anyone else's cow."

His Wife.—"What a lovely evening. It reminds me of that night three years ago when you proposed to me. The moon was full, and—" Her husband (interrupting)—Yes, and it's a dollar to a dill pickle that I was also here."

# A Talk To Boys

EVERY BOY wants *something*. If some person should ask *you* to name the things you would like to have, you could reel off a string of a dozen or more without much thinking, couldn't you?

Now, The Farmer's Advocate wants something too—and that is more new readers. Suppose you get us what we want, and in return we get you what you want! That's a fair, square arrangement, isn't it? And everybody will be happy, including the new readers.

## Watch this paper for special announcements to boys in the near future

We are not going to tell you our proposition to-day, but we want you to think over this fact: That gun, or canoe, or bicycle, or pony, or printing outfit, or talking machine, or whatever it is that your heart is most set on, can be yours by just doing a little easy, pleasant work for The Farmer's Advocate when you have the chance.

More than that, when you have got one thing, you can get another and another, as so many boys have done. Some of them have started bank accounts. Some have made enough to pay for their education. All have benefited. All have **learned** something and **earned** something.

## STUDY THIS OVER AND GET ACQUAINTED WITH THE FARMER'S ADVOCATE, SO YOU'LL BE READY TO START IN SOON

Cut this page out, or, if the folks don't like to have the paper cut, copy the following facts on to a piece of paper and learn them off. It will help you wonderfully in getting subscriptions to know every good point about The Farmer's Advocate:

This paper was started in 1866. It is now fifty years old.

The price (paid in advance) is only \$1.50 a year.

The Farmer's Advocate is a practical farmer's paper, a paper for the farm household, a paper for the farm family, with father's favorite special columns, mother's own pages, and plenty of interesting matter for young men and women, and the boys and girls too.

It is well printed on good paper and contains many fine photographs and illustrations each week.

Its editors are modern farmers. A demonstration farm "Weldwood," near London, Ont., is part of the paper.

A year's subscription to the Farmer's Advocate at \$1.50 is a very profitable investment, because the buyer gets more real, solid, useful farm information than he could get in any other way.

We answer all questions free. Where it will help the enquirer to send an immediate reply, we mail an answer the same day, without charge. One question rightly and fully answered may be worth many times the cost of a year's subscription.

The Farmer's Advocate is a paper that is clean, wholesome, modern, helpful and progressive. It stands right up for the rights and interests of the farmers, first, last and all the time. It is a strictly independent paper, devoted to serving the farmers only, and it is not controlled or influenced by any political party, class, or corporation of any kind.

## LEARN TO KNOW THESE DEPARTMENTS--THEY RUN EVERY WEEK

Editorial	The Dairy	Home Magazine Section
The Horse	Horticulture	Hope's Quiet Hour
Live Stock	Poultry	The Beaver Circle
The Farm	Farm Bulletin	Fashions Department
Canada's Young Farmers and Future Leaders		The Ingle Nook
Automobiles, Farm Machinery and Farm Motors		The Windrow
Leading Market Quotations	Questions and Answers	Serial Story

And last but not least the announcements and advertisements of hundreds of Canada's leading farmers, stockmen, poultry raisers, manufacturers and buyers and sellers of every kind of produce and product.

## So now you see what value we give

Such value for the small sum asked is easy to sell. One afternoon's work in your own neighbourhood will put a very nice amount into your savings bank, if you go at it right and **know all about the paper you are working for**. That's why we urge you to study this page and keep it handy until you know it by heart. Watch for the next announcement and be ready to take right hold of this opportunity, determined to make it pay you well. In that, we will help you in every way possible.

# The William Weld Co., Ltd., London, Ont.