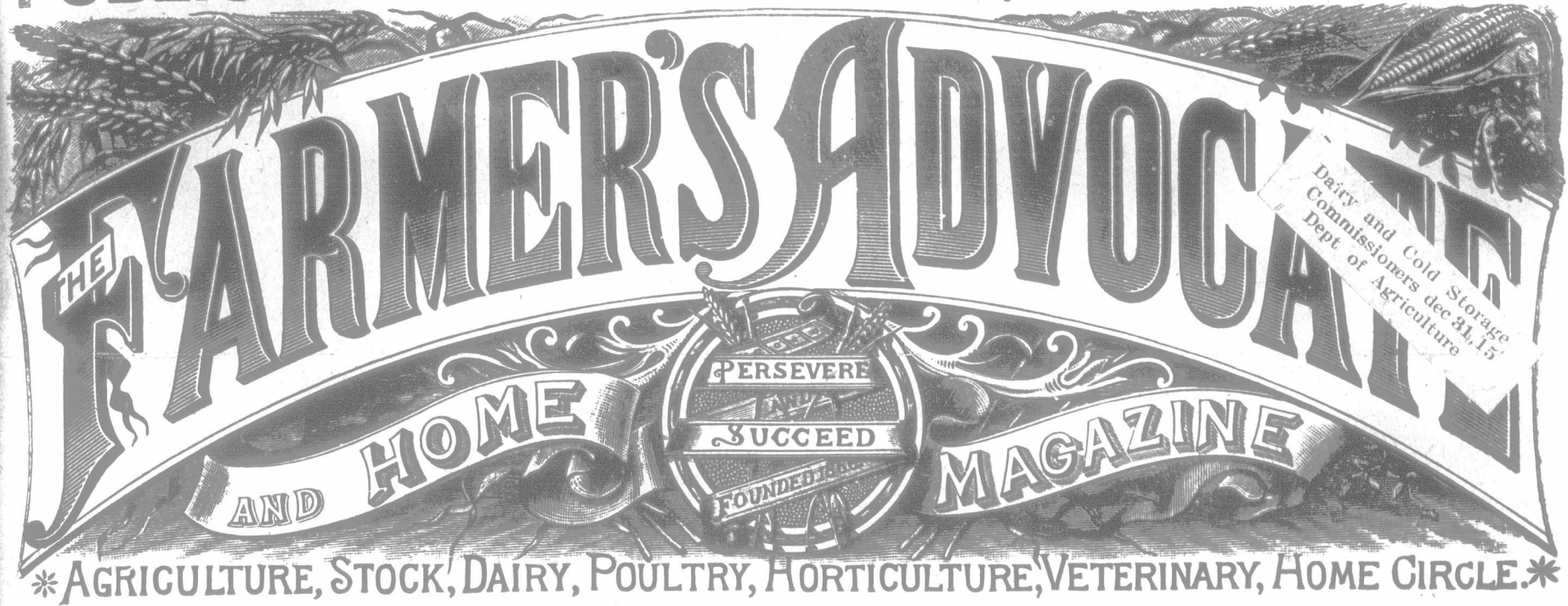


PUBLISHED EVERY WEEK. \$1.50 PER YEAR.



Vol. L.

LONDON, ONTARIO, FEBRUARY 18, 1915.

No. 1169

Four Fold Increase In Ten Years What Is The Answer?

After all other arguments are exhausted regarding the real merit of wire fence, there still remains this proof: "The actual amount sold." Frost Fence must be right, otherwise, the demand from year to year would not go on increasing at the rate this ten year Chart shows.

Our products absolutely satisfy and will continue to do so. The more that farmers know of wire fence: the more farmers there will be buying Frost Fence. It gets the confidence of the buying public and you can see for yourself by the increased business from year to year that it holds that confidence.

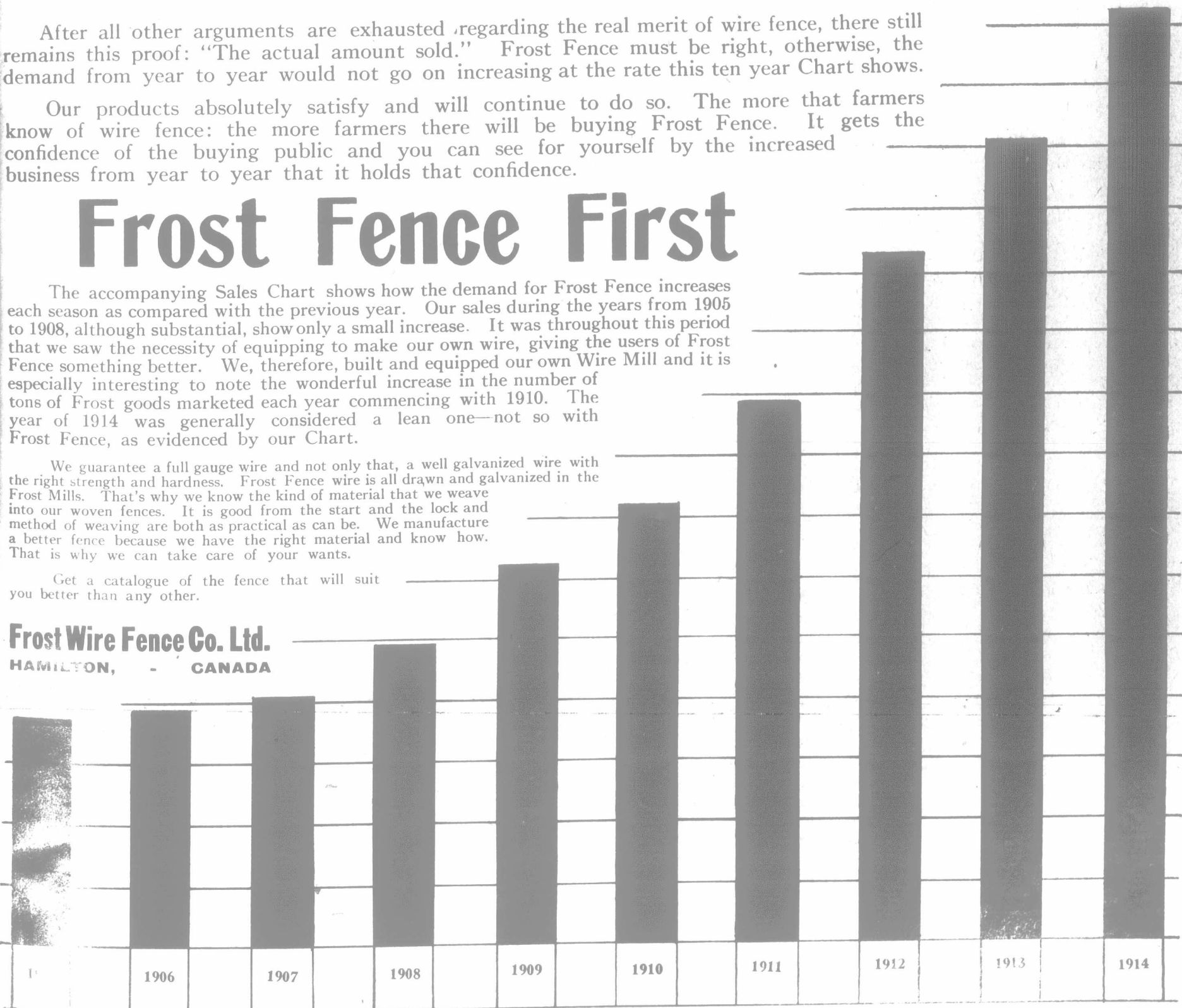
Frost Fence First

The accompanying Sales Chart shows how the demand for Frost Fence increases each season as compared with the previous year. Our sales during the years from 1905 to 1908, although substantial, show only a small increase. It was throughout this period that we saw the necessity of equipping to make our own wire, giving the users of Frost Fence something better. We, therefore, built and equipped our own Wire Mill and it is especially interesting to note the wonderful increase in the number of tons of Frost goods marketed each year commencing with 1910. The year of 1914 was generally considered a lean one—not so with Frost Fence, as evidenced by our Chart.

We guarantee a full gauge wire and not only that, a well galvanized wire with the right strength and hardness. Frost Fence wire is all drawn and galvanized in the Frost Mills. That's why we know the kind of material that we weave into our woven fences. It is good from the start and the lock and method of weaving are both as practical as can be. We manufacture a better fence because we have the right material and know how. That is why we can take care of your wants.

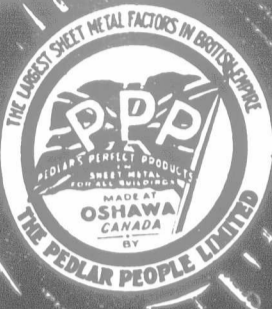
Get a catalogue of the fence that will suit you better than any other.

Frost Wire Fence Co. Ltd.
HAMILTON, CANADA



10 Years' Sales Chart "Frost Fence"

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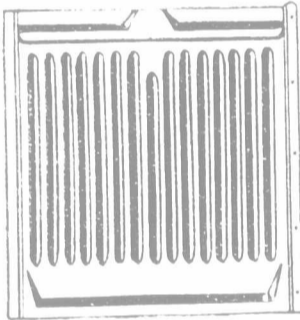
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It's the Roof that Makes or Mars Your Barn

Because if the roof is not watertight no matter how well built the rest of the barn may be, your leaky roof will quickly ruin anything you may have stored under it. A "Pedlarized" roof of "George" Galvanized Steel Shingles is the best roofing that 53 years' experience has taught us how to make. Not only is such a roof absolutely watertight, but the fluting gives it exceptional strength as well as making it the handsomest roof you can buy.

Pedlar's "GEORGE" Shingle

is guaranteed rainproof on any roof having a fall of 3 inches or more, to the foot. Each shingle has a hook-like flange along the top and bottom edges. The top flange is on the outside, and the bottom flange underneath the shingle. As the shingles are laid, these flanges intermesh, and the self-draining side locks seal up



the side seams, making the roof one continuous sheet of steel, and a perfect watershed.

No rain can get in between the shingles, because the side-locks are sealed top and bottom, as shown by the illustrations inset below. Note the top flange which seals up the gutter, and the long nailing flange which extends to the bottom of the shingle. These features render the roof absolutely proof against driving snow or rain.

Each "George" Shingle is 24 in. x 24 in. in size and 25 shingles will cover 100 square feet of surface.

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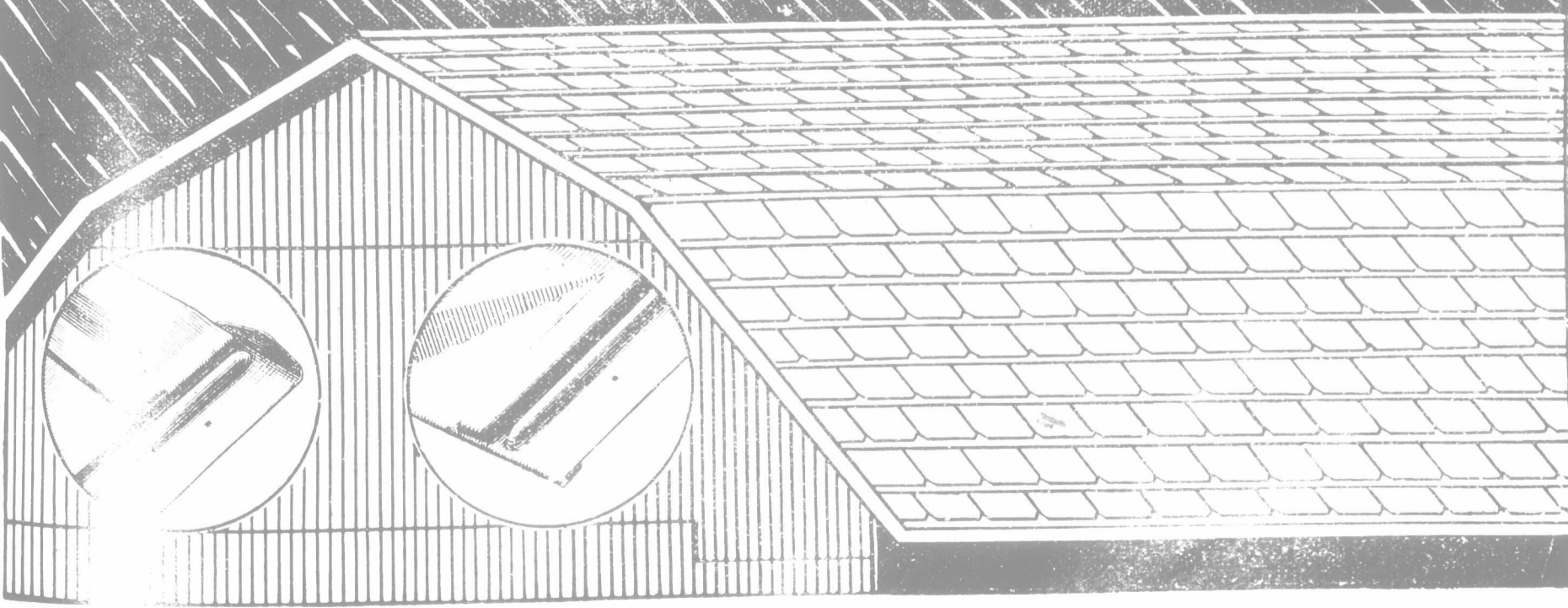
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Here is a chance to get a silo free

Ideal Green Feed Silo PRIZE COMPETITION

Open to every Canadian Farm Owner. It costs nothing to enter.

The competition is open to any Canadian farm owner or to any member of his family living on the farm with him.

It isn't necessary to spend a cent to enter this contest. There are no entrance fees. The prize will be awarded to the one who gives the **most and best reasons why there should be a silo on every farm.**

The "reasons" should be written plainly in pen and ink, or typewriter, on one side of the paper only, and sent to our Peterboro address, as given below.

The prize will be one of our 10x20 Ideal Green Feed Silos, complete, with roof, having a silage capacity sufficient for seven or eight cows.

If the winner of the prize prefers a silo of larger size, he will be given credit for the list price of a 10x20 silo toward the payment of a larger size silo.

Should the winner of the prize purchase an Ideal Green Feed Silo before June 1st, 1915, the date this contest closes, credit will be given him for the list price of prize silo toward payment on whatever size silo he may have ordered.

The contest will close June 1st, 1915, and no entries will be considered after that date.

Our new silo book, containing a great deal of silo and silage information, will gladly be mailed upon request.

DE LAVAL DAIRY SUPPLY CO., Limited
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PROVIDED you select good seed and plant it in a good seedbed, you can be reasonably sure of good crops.

A Peter Hamilton Cultivator will properly work your soil into a perfect seedbed. It is designed to go over every inch of the ground and till to an even depth. There are several groups of teeth attached to separate frames. Sections are of heavy extra-strength steel. Teeth are amply reinforced and will not go out of action under hard usage. The whole implement is light draft—no neck-weight falls on the horses. There are other good features that, when seen, will decide you in favor of a

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Have a Fine Assortment of Trees, Vines, Plants, Ornamentals, Etc. for Spring Planting.

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"The Wonderful Papec"
Papec cutters are the most efficient and powerful ensilage cutters ever made. They cut the crop into small pieces, and the material is blown into a silage bin. The Papec cutter is a simple machine, and is easy to operate. It is a great help to the farmer, and is a must for every silage producer. Write for catalogue and price list.

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The Aylmer Bronze Sprayer

Won highest award at St. Petersburg, Russia, over all Canadian, French and German Pumps. Also secured first place at Manchester (England), Toronto, Ottawa and Halifax.

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Being Outfit A, ten feet of hose, with couplings attached, two Bordeaux nozzles, one brass stopcock, one Y, one long iron extension rod, without barrel. Price **\$15.25**
Extra hose, per foot **.12**

For lined bamboo extension rod, in place of iron extension rod:

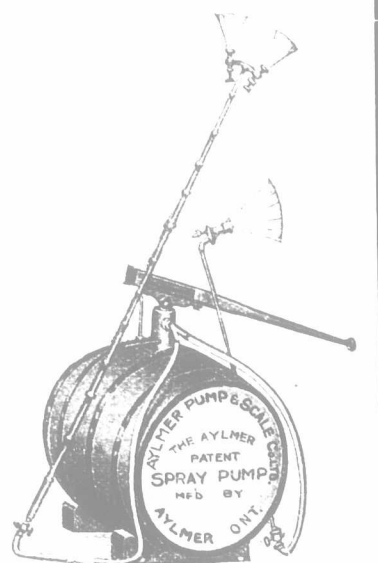
Add **\$1.50**
With barrel **3.00**

SPRAYER NO. 3.—OUTFIT E

Being Outfit A, two lines of hose, ten feet each, with couplings attached, four Bordeaux nozzles, two brass Y's two brass stopcocks, and two eight-foot iron extension rods, without barrel.

Price **\$22.50**
With bamboo extension rods in place of eight-foot iron. Price **25.50**
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Our Catalogue gives full information as to sizes, capacity, equipment, etc. Write us for one. If your dealer can't supply you, your mail orders will receive our prompt attention.



Sprayer No. 2.—Outfit D

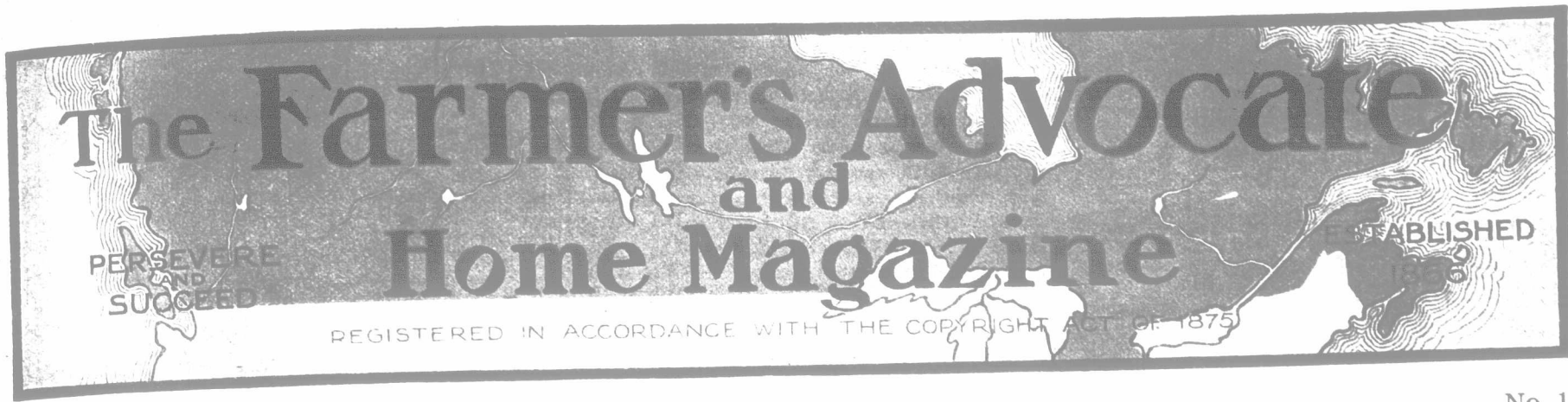
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The Breeder Wants

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Vol. L.

LONDON, ONTARIO, FEBRUARY 18, 1915.

No. 1169

EDITORIAL.

Are Canada's stockmen downhearted? No!

The worst Spring the world has ever seen fast approaches.

Do not forget "The Dollar Chain." The money is urgently needed.

Are you ready to produce the most your farm is capable of in 1915?

What have the war lords accomplished for the benefit of the German Fatherland?

Six months of war cost \$8,575,000,000, to say nothing of death and destruction beyond conception.

In making up the balance sheets for the past year how many of our farms have been yielding ten and twelve per cent. dividends with an occasional bonus dividend thrown in?

Sheep breeders have decided to talk more "sheep" and less "dog" at annual meetings. This is a pleasant, and let us hope profitable, change. Much of the so-called "dog nuisance" is imaginary.

We are glad that it is admitted that the farmer must solve the problem of increasing production himself. The farmer knew this long ago, and all he asks is a little aid to secure the labor. Will he get it?

The farmer is urged to work hand in hand with other interests. He has been doing this long enough. The other interests have held both his hands until he has had no opportunity to assert his rights.

The "Financial Times" tells of answering thousands of enquiries mostly from town people about safe and satisfactory investments for their money. Were many of them turned in the direction of the slogan—"Back to the land"?

Unless a madman out and out or a fiend incarnate, what can the Kaiser be thinking in his hours of reflection, if he ever has any, of the dreadful havoc wrought by the war in which he plunged the world?

The Dominion Minister of Agriculture promises greater assistance to live stock at the larger shows. It seems too bad to let the smaller shows go down for lack of funds. Is it not possible for the Provincial Government to brace up with regard to this?

Unless all signs fail the city and town throngs that are daily and nightly crowding the moving picture shows and other resorts will have something more serious to do with their time and money before the great war is over and its bills paid.

The President of the Ontario Horse Breeders' Association hinted that some Army horse buyers were appointed on Government "pull." Is there anything strange about that? Government appointments are often made for the same reason, and the public gets the shot and takes the consequences.

The Contented Unemployed.

The towns and cities of this country have a problem to deal with for which they have no solution. The fact that 200 unemployed in the city of Toronto prefer the hospitality of the city soup kitchen rather than the honest employment on a farm in Huron County, is conclusive evidence that the unemployed are not a result of economic conditions which exist in this country. They are unemployed by choice, and will remain unemployed so long as they receive free meal tickets or free soup. Toronto does not stand alone as a city with this class of unemployed, they exist in every city in Canada, and the cities which harbor them are at present not altogether to blame. There is a certain class of manhood which has little ambition for work, and they are stealing from the working people just as much as the "honest" laboring man with a large family who steals a few bushels of coal with which to warm his home. The Provincial Secretary has initiated a commendable scheme in the northern part of this province where people out of work "may" assist in clearing waste lands and transforming it into productive areas. The word "may" should be changed to "must" in relation to these satisfied unemployed in our cities. They should be compelled to work or starve in a pursuit that will result in production in some shape or form.

Know, Then Talk.

Before a gathering of men representing diverse interests such as agriculture, transportation and finance, J. W. Flavell, of Toronto, remarked that every speaker should confine his words to the subject with which he was best acquainted. The speaker practiced his own doctrine in his few remarks that night, for the character of his speech revealed the fact that he knew something about finance, and that was the topic allotted to him.

Much has been said and much has been written by farmers and their friends regarding financial matters as they concern agriculture in general, and it may be easily seen that many of them are not any too well acquainted with the subject they make bold to discuss. The same is true, however, on the other side. Volumes and volumes of advice are handed out to farmers by people whose very words reveal the ignorance under which they are laboring, but exception must be made here for very often bankers or transportation officials make it their business to understand agricultural conditions. Their business depends upon it, and it is a part of their policy to understand the industries to which they cater.

At no time was the need of available money and labor more necessary in Canadian agriculture than it is at present. If farmers are to produce more they must be provided with two prerequisites, labor and money, and yet up to the time of writing there is no solution of the problems in sight. It will become the duty of some body of farmers to study finance as it concerns agriculture, and submit a scheme to the country and to the Government for approval whereby conditions may be alleviated.

It has been asked why do not the farmers of Ontario with \$100,000,000 deposited in the chartered banks lend it to their neighbors at a rate of interest much higher than what they receive from the banks. The apparently enormous sum of money which is deposited in the banks by

Ontario farmers is not money which one would expect to be put to this use. It is largely the accumulations of farmers who are now retired and who lack the ambition to invest it elsewhere, and who furthermore feel that the whole country will stand behind their deposit no matter what happens the bank.

The advice is sound that people should talk about that which they understand, but it is furthermore to be recommended that the farming element of Canada acquaint themselves with financial matters and draft some scheme whereby monies may be procured with which to finance agricultural operations. They need the money in their business.

An Important Parliament.

On first thought it appears rather far fetched to think of the meetings of the Live-Stock Associations, held recently in Toronto, as a parliament. But that term was applied to their deliberations with considerable appropriateness, and in normal times their actual significance and importance would compare favorably with many sessions conducted under more pomp and show, and whose doings are recorded in Hansard to be stored away in fire-proof vaults and carefully guarded in order to reveal to future generations the wisdom of their progenitors. The nation is first of all dependant upon its field crops and live stock, for on account of them or by them the wheels of all industries continue to revolve. There must be some governing body to control the destiny of the pure-bred stock industry, for upon it depends the entire enterprise which furnishes our tables with food or provides us with animals to do our work, and this body of legislators may well be termed the Live-Stock Parliament. The simile is all the more fitting when we consider the function of the Canadian National Live-Stock Record Board, which consists of representatives from all the various breed associations. It is in fact the Cabinet of the farmer's parliament. Their duty is to protect the live stock of the country and keep it pure. All the large breed associations in Canada except one are combined under a jurisdiction common to all, and the Canadian Records are the pride of all breeders of the Dominion, and an object of admiration for the entire world.

At a time when the Empire requires food no reasonable efforts should be spared to enhance the value and numbers of our live stock. This condition has applied to Canada for the last half century, but it appeals with more eloquence at the present time than ever before. Canada is particularly adapted to stock rearing, yet we have only one sheep and three cattle to every four of a population, and two swine to every five. We have, according to the last census, 2,000,000 sheep and 6,000,000 cattle. Roughly, Canada possesses 1-63 of the world's cattle, 1-47 of the world's horses, 1-28 of the sheep, and 1-58 of the swine. The United States boasts of a comparatively large number of the World's live stock, and the per capita number of animals in the neighboring republic exceeds the Canadian figures. It has been said that the Province of Quebec sustains fewer sheep than it did forty years ago, and the same may be said of Canada as a whole. However, this in itself does not indicate a falling off in all lines. In many cases sheep have been replaced by beef and dairy cattle, but the entire industry does not measure up to a standard which does justice to the country.

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

Published weekly by
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

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

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday.

It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.

2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries, 12s. in advance.

3. ADVERTISING RATES.—Single insertion, 25 cents per line, agate. Contract rates furnished on application.

4. THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.

5. THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid, and their paper ordered to be discontinued.

6. REMITTANCES should be made direct to us, either by Money Order, Postal Note, Express Order or Registered Letter, which will be at our risk. When made otherwise we will not be responsible.

7. THE DATE ON YOUR LABEL shows to what time your subscription is paid.

8. ANONYMOUS communications will receive no attention. In every case the "Full Name and Post-office Address Must be Given."

9. WHEN A REPLY BY MAIL IS REQUIRED to Urgent Veterinary or Legal Enquiries, \$1.00 must be enclosed.

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

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

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

13. ADDRESSES OF CORRESPONDENTS ARE CONSIDERED AS CONFIDENTIAL and will not be forwarded.

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

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (Limited),
London, Canada.

True it is, only matters pertaining chiefly to pure-bred stock are dealt with at the annual meetings of the associations, but this has its influence on the entire live-stock industry. Even those farmers or breeders who are not rearing pure-bred stock should have a registered sire at the head of the herd or flock, and he should be looking forward to that day when his entire stock will qualify for registration in the National Live-Stock Records of Canada. At present, 1.25 per cent. of the cattle, 1.04 per cent. of the hogs, and less than 1 per cent. of the horses in the Province of Quebec are pure-bred. Ontario may present more favorable percentages, but pure-bred stock is regrettably scarce in Canada. Now that we have some of the best blood on the Continent, and have been importing so long from the foundation herds of the Old Country, it is time that more farmers reached out for improved sires and dams, and aspired to better things in their herds and flocks. It is not necessary to have champion stallions and bulls or thirty-thousand-pound cows. Records are made for the purpose of testing certain strains, and as a means of advertising, but when one obtains the progeny of such parentage he goes a long way towards eliminating the misfits and undesirables that crop out as the result of all breeding operations.

It may appear autocratic on the part of the Canadian National Records at times when they refuse to register animals that have a number and a certificate which look quite official but have been granted by some association or society which has no standing, or it is not recognized by the Canadian National Records. Live-stock breeding is a world business, and our records must be recognized in all countries. The Committee in charge of this work have endeavored to make our standard second to none, and at the conclusion of the war, we are called upon for

foundation stock the breeders of this country will be proud that such vigilance has been maintained. The associations having the destiny of the various breeds under their control have been working with one end in view, and that is to keep them pure and in their pure state before the public. Breeders of all kinds of stock should look to their deliberations for council and advice, and aspire to better things through the assistance of the National Records and the sessions of the Live-Stock Parliament.

A Compromise Required in the Labor Market.

At this season of the year farmers will begin to look for labor, and when the question is put to the unemployed or to under-paid men in the city why they do not work for a good salary in the country, their reply too often is that they do not get fair treatment from the employer on the farm. There are two sides to every story, of course, and there are two sides to this question, but we fear that in too many cases farmers do not consider the rights of the laborer and expect too much of him. Every honest man will pay for his labor and will be willing to pay for what he receives, but the time of the eighteen-hour day is past. Labor unions and governments have stipulated a more reasonable period for work during each twenty-four hours, and although labor has been scarce in the country, for reasons different from these set forth in this case, yet if the farmers generally will be satisfied with a good honest day's work from the man in their employ, we venture to say that labor conditions will be improved throughout the country. If the laborer does not know his work and is not accomplishing much, it is not reasonable that he should work longer hours in order to perform a certain amount of work. It is more trying on the uninitiated to perform a small amount of work which he does not understand than it is to the experienced worker who does a commendable day's work. Shorter hours and better treatment will do something to make farm work appear more inviting to the under-paid or unemployed man who should be in the country to-day. Furthermore, if laborers could accurately estimate the value of their work in terms of production, in bushels or in pounds, the salary could be more easily adjusted.

Nature's Diary.

A. B. Klugh, M.A.

A sparrow which is common throughout Canada, wherever there are fields or open country, is the Vesper Sparrow. It may be readily distinguished from all other sparrows by the fact that it has white outer tail feathers, which show very conspicuously when the bird is flying away from one. Its name is derived from its habit of singing in the evening, though as a matter of fact it sings at all times of the day, as far as my observations have gone, quite as vigorously in the early morning as in the evening. Its song somewhat resembles that of the Song Sparrow, but instead of starting on three high notes its first three notes are much like "who-oo-who-oo-who-hee." To my ears this song is not at all hard to distinguish from that of the Song Sparrow, but to many the songs must appear very similar, for when conducting classes in bird study at the Macdonald Institute at Guelph, I found great difficulty in getting some students to discriminate between the songs of these two species. The Vesper Sparrow is often termed the "Grey-bird," a name which is applied to many small, ground-haunting birds. It builds a nest composed of grass-stems and rootlets on the ground in open places.

The food of the Vesper Sparrow for the year consists of sixty-nine per cent. vegetable matter, and thirty-one per cent. animal matter. If we consider its food for the spring, summer and autumn months, that is during the period which concerns us in Canada most directly, we find that the animal food is slightly in excess of the vegetable. This animal food consists entirely of insects, mainly of beetles and grasshoppers. As soon as beetles appear in the spring the Vesper is on the alert to capture them, and by May they constitute one-third of the total food, but as grasshoppers become more and more abundant with the progress of the season, they increase proportionately until they become its chief constituent. In July they form forty one per cent. of the food.

As soon as seeds begin to ripen they begin to appear in the menu of the Vesper. Of the seeds eaten one-half are those of noxious weeds, about one-quarter consist of grass seed, the seeds of those grasses which are weeds predominating, while some eleven per cent. is grain. The latter is eaten mostly in August, and consists of waste grain picked up in the fields at harvest time. We can readily see from its bill-of-fare

that the Vesper Sparrow is a very beneficial species.

A little sparrow which is a very common resident of the dooryard and garden is the Chipping Sparrow. Before the introduction of the House Sparrow this little bird was the commonest species about dwellings, and this fact has given it the scientific name of *Spizella socialis*, "the sociable little sparrow." The name, Chipping Sparrow, comes from its song which is a high trill, and which is usually rendered in syllables as "chippy-chippy-chippy-chippy-chippy." This species may be known by its chestnut crown and plain grey breast. It builds its nest in bushes and vines, constructing it of grasses and lining it with hair. I have sometimes heard it termed the "Hair-bird" from this well-lined nest which it makes. The eggs are from four to five in number, and are a pale blue in color, spotted with black at the large end.

The Chipping Sparrow ranges throughout Canada, from the Atlantic to the Pacific. As in the case of the Song Sparrow, Vesper Sparrow and all other species which have a wide range, the Chipping Sparrows from different regions show slight differences. When the birds of a certain species show these slight but constant differences they are termed a sub-species. In the case of some of these sub-species the difference between them are quite marked, so marked indeed that when they were first discovered they were described as distinct species, but as more careful study was made of bird-life right across the continent it was found that these so-called species gradually merged into one another, so that they were not distinct species. So they are called sub-species, or geographical races of the species. Thus, in the case of the Song Sparrows of the prairie region they are much paler than those of the east, while those of the Pacific Coast are much larger and darker, yet there is no sudden change as one goes across the continent, and all are races of one species. In the case of the Chipping Sparrow the Western birds lack the reddish-brown on the back which is characteristic of their Eastern relatives.

In its food habits the Chipping Sparrow is highly beneficial, as it feeds almost exclusively on insects and weed seed. It raises two broods of from three to five young in a season, and these youngsters require very large numbers of insects for their sustenance. Dr. C. M. Weed has seen a Chipping Sparrow carry fifty caterpillars to its young in twelve hours. The adults themselves eat great numbers of insects, among them being some of the most injurious forms, such as canker worms, tent caterpillars, army worms, and weevils. Its food, while with us, is nearly all insects, as most of the weed seed is consumed in winter.

The Need of Fruitgrowing.

Although cold-storage or ordinary storage plants some times act in restraint of trade it is necessary that more storage plants be established for carrying fruit over the seasons of abundant offerings on the market. The season of 1914 and 1915 will demonstrate this necessity very thoroughly. It is usually noticeable that a low price at the beginning of the season will be followed by more handsome figures during the closing of the selling season for fruit. High prices put a damper on the entire season's market, for people will not start to consume, and prices drop not to recover again during that year. Poor fruit is sure to go on the market, and it has the effect of weakening prices. It may be claimed that people are willing to pay the price of good fruit, but poor fruit or poor commodities of any kind tend to reduce the value of the better article. With some system of storage more extensively in use the fruit supply could be doled out more efficiently than is now being done. Fruit growers who stored their crop in the fall of 1914 are now receiving favorable prices for their product.

A Chancé for the Banks. I

The York Co., Ont., council at a recent meeting is reported to have adopted unanimously a resolution to the effect that the Dominion Government should require the banks to provide better financial accommodation for farmers, putting them on a parity in privilege with business concerns.

The Convention of the Fairs and Exhibitions Association did not relish the proposal to cut the Government Grants to Fall Fairs in half, but like many another organization of producers their pleas fell on deaf ears. Fall fairs have in the past been considered one of the best educational agencies in operation to aid the producer to increase his output, but they must suffer with the rest as a result of war.

The season of 1915 will afford an opportunity to all lines of industrial enterprise to demonstrate their actual value to the country, and where they are in dire need.

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THE HORSE.

The Actual Cost of Horse Labor.

Editor "The Farmer's Advocate":

In our cost accounting on our farm here, we have this year adopted a system which we believe would enable us to determine the cost of a horse-hour during our year. We have completed the year and have now worked out this cost, and you may be interested to know how we figure it.

As you are aware, we keep a detailed record of the hours spent by the horses on various crops on which they work, so that we know at the end of the year absolutely the total number of hours that our horses have been out of the stable working, and we also know the number of hours that was put on various crops to make up that total. We also know the cost of the feed, as practically all the feed this year was bought. Our proposition is an orchard proposition, and up to the present we have grown fruit and vegetable crops between the trees, and bought our horses' feed. Even if we were not buying the horse feed, it would be easy to know accurately what we are feeding the horses, and to know the value of the feed. We also know what it cost us for blacksmith bills, to keep our horses shod, and we have the cost of veterinary attendance.

We know the value of our horses, and can figure interest and depreciation, which is figured by the valuation of the horses at the beginning of the year, and another valuation at the end of the year. Then, we have a feeder, who does nothing but feed the horses and look after the barn, cleaning stables, etc. This goes as a part of horse cost. Added to this we have a foreman whose duty is to look after the horses and the men driving them, and whose time is not charged against the various crops as the teamster's time is, consequently, his time should go in with the horses' cost in order to enable us to cover the entire cost of the horses. Now, I think you will agree with me, that if we add these items together and divide into it the total number of hours the horses worked during the year, we get the exact rate per hour our horses have cost us for this year, which is figured from January 1, 1914, to December 31, 1914.

The following is a statement showing the way we have figured it:

Actual value of 29 horses.....	\$5,935.00
Interest on same	\$ 356.10
Oats and concentrates, including molasses meal	2,374.59
Hay and labor of drawing.....	978.90
Labor of feeder and foremen.....	1,153.02
Horse shoeing bill	155.15
Depreciation on horses.....	255.00
Veterinary bill	25.00
Total.....	\$5,297.76

Total hours worked by horses, 45,503. Rate per hour, 11.64 cents.

This is not an estimate, but an actual cost, representing actual operations. I believe that the rate per hour figures to a little less than horse-hour is ordinarily estimated at. This may be accounted for by the fact that I think we have obtained on the average more work per horse than is usually gotten out of a horse in a year. If you divide 29 into 45,503, you will find you have obtained 1,569 hours per horse, or an average of about 157 days per year per horse, which I am inclined to think is higher than the average. On the other hand, there are only 29 horses figured in the hours spent, while we actually fed 30 horses; the extra horse being the foreman's horse, which was used in connection with the work, which was not charged up in the hours. Still the feed bill includes the feed of this horse, and, therefore, the rate per hour will cover his work, but it would have a tendency to make the rate higher rather than lower. Whatever this rate may be I am not seeking to defend it, neither am I seeking to establish a rate. Our rate next year may be considerably higher. If feed keeps high in price, it is likely to be. On the other hand, if we can economize in labor, it may be lower, and this is where the value of these records come in. Knowing the extra high prices of feed and knowing where we stand, our hours this year and what determined the price per hour, we may be able to arrange our work so as to get even more hours per horse next year. Neither do I say that this is a safe rate for any farmer to charge for his horse hours; I am merely stating that we have for the first time adopted a system which I think has given us accurate information regarding our cost of horse-hours. I am merely telling you what we have found out. I would like to know what others have found out regarding the same thing.

Following is a copy of the record sheets we use to obtain the information I refer to, taken from our record for the week ending August 1:

Time Record for Horses.

	Development	Plowing Young Orchard	Drawing Manure	Harvesting Rye	Cultivating Cabbage	Drawing Pea Straw	Cutting Peas	Plowing Cherry Orchard	Potatoes	Pulling Stumps	Cultivating Tomatoes	Disking Wheat Ground	Total
	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	
Monday, July 27....				108	10		100	10	32				260
Tuesday, July 28...				210									210
Wednesday, July 29			40	30		80			40		20		210
Thursday, July 30.			100			120					10		230
Friday, July 31....			60			140			30				230
Saturday, Aug 1....	10	30				50				20		128	238
	10	30	200	348	10	390	100	10	102	20	30	128	

This is the same form of time sheet that we use for our men, and it holds the time for a man, or in this case of the horses, for one week, and these various totals are tabulated in a separate book weekly. We have 52 of these sheets, covering the year, and we have all the results tabulated in columns in a separate book.

Norfolk Co., Ont. P. E. ANGLE.

Do Stallion Owners Receive Fair Treatment?

Editor "The Farmer's Advocate":

Now that the season will soon be on us it is worth while comparing the methods in use in Scotland with those in vogue here. The use for good horses has never been so badly needed as it is at the present time. It now lays with Canadian horsemen whether they are going to take a grip of the world's markets or not. The breeders of this country may be classed in two kinds, namely, first, the farmer who watches his mares, and if they come back he promptly returns them to the horse until he is satisfied he has done his utmost towards doing himself and the stallion owner justice; then second, the indifferent breeder who never gives the business a second thought on the plea that if he gets no colts he does not need to pay any insurance. In Scotland when a breeder takes his mare for service he generally has to pay one-third or two-fifths of his in-

Horses Kicking in the Stable.

In our issue of Feb. 4 a subscriber writes asking for information regarding horses kicking in the stable. A few readers have been good enough to give their experience, and accompany it with some advice regarding breaking horses of this troublesome habit:

Editor "The Farmer's Advocate":

I see in your issue of February 4 a request for a means of making a horse stop kicking the partitions in the stable. The cure which I suggest may be looked on as a joke, or many may consider it too stringent. However, the plan proved successful in the case of a mare which stood in our own stable and wore out the better part of a six-inch-square oak post which was the end of her stall partition. A strong bag was hung from the ceiling behind the stall within nice kicking distance. This bag was filled with straw as padding, and, in our case, weighted with boat ballast, which consisted of lead sewed up in canvas, the ballast was carefully placed in the middle of the packing so that the mare could not possibly be injured. When the animal commenced kicking she set the bag swinging, and the return swing, which allowed the bag, which weighed about 300 pounds, to strike her full in the quarter, soon tired her of kicking in the stall.

Toronto.

A. B. C.

Editor "The Farmer's Advocate":

In reference to your inquiry for remedy for horses kicking in the stall, I may say I have a heavy mare which gave me a great deal of trouble from kicking in the stall. Having tried both short and long stall with no success, I then strapped below her fetlock a piece of logging chain 18 inches long, using one on each leg. In two weeks I had this mare completely cured, with no injury to her legs.

J. F. MCGREGOR.
Middlesex Co., Ont.

Editor "The Farmer's Advocate":

I herewith give you a remedy for horses kicking in the stable, as I have had experience with it and I have used it for a number of years. Get a piece of chain about six links long, and put a frame strap through it and buckle

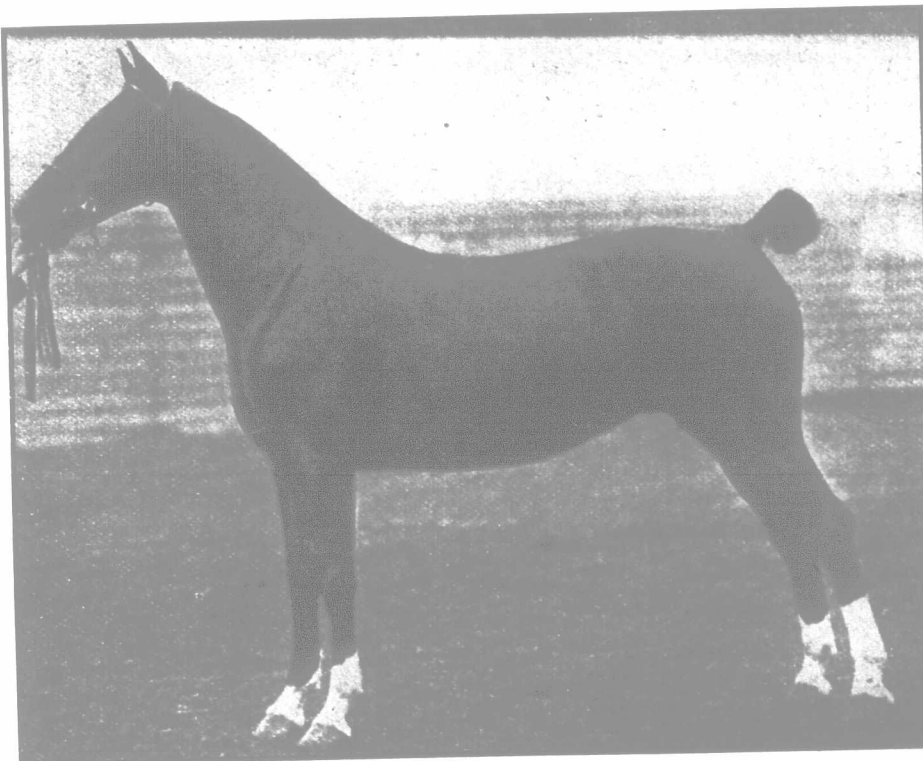
it to the horse's fetlock, and if it kicks with both feet use a chain on both feet. Put on a fairly heavy chain, and you will find this very effective on any kicker.

Grey Co., Ont.

GEO. WHITMORE.

Editor "The Farmer's Advocate":

I saw in a recent issue your invitation to write regarding horses kicking in stable. And strictly advise doing away with rope or chain, as an animal might easily be conquered by a more simple method. Take a short piece of trace chain about a foot long. Get a hame strap and run it through the link in one end of chain and buckle it around the hind leg near the fetlock joint. Every time the animal kicks he punishes himself, as the chain will either wrap around the leg he is kicking with or it will swing and hit the leg he is standing on. A few times will do him, as he finds that he will not receive punishment unless he kicks. This will generally break the worst of kickers. If he is inclined to paw



Adbolton St. Mary.

Best Hackney in band at the Highland and Agricultural Society Show at Hawick, Scotland, 1914.

insurance at time of service. By so taxing him the owner of the stallion takes the best precautionary measure, that if the mare comes round she will be promptly returned to his horse or forfeit the insurance paid. They have also Farmers' Societies which pay a premium for a horse to sire a limited number of mares, thus making sure of his service. If the stallion owners of Canada were to adopt these methods, would it not tend to bring horse breeding to a higher level. How many districts are lacking in good horses from the deplorable fact that it is all on the breeder's side of the argument, and men cannot be found to invest considerable money on the idea that they have too big a risk to run. Might I suggest that the managements of fall fairs cooperate with the Government on this important question, and have premium classes whereby the breeder can get a chance of having a good horse in his district, and at the same time give the stallion owner a chance if he has the right kind of horse.

York Co., Ont.

MAGREGOR.

place the chain on the fore leg. I would not advise whipping as this tends to excite the other horses in the stable, and unless you catch him in the act it will spoil your horse. There are more horses spoiled in breaking of habits by whipping than are cured. I have used the chain on a bad kicker, and a week cured him. The animal might try his old tricks after taking the chain off, and if he does put it on him again for a day; he will soon find out it pays to be good. And I find out that there is nothing will break an animal of bad habits quicker than placing on him an appliance so that he may punish himself. This holds good in halter breakers, balky horses, horses not wanting to stand, rolling in stall, etc. Of course one must use a rope in the latter cases, placed in different positions according to the habit you wish to break the horse off.

Dufferin Co., Ont. W. G. M.

Editor "The Farmer's Advocate":

As a means of breaking a horse from kicking in the stable, take a strap and put it around the neck to fit like a collar with a loose ring on the bottom. Then place a surcingle on the horse with a loose ring on the bottom of it, then take a rope long enough to place on the fetlock of one foot, carry it forward through the ring on the surcingle, also through the ring on the strap around the neck, and then back through the ring again on the surcingle to the other fetlock. Also tie the strap which is around the neck to the top of the surcingle so that when the horse drops his head the collar stays in its place.

Haldimand Co., Ont. R. H. IVEY.

LIVE STOCK.

Young Pigs Before Weaning.

Editor "The Farmer's Advocate":

When young pigs are farrowed an attendant should be on hand to see that everything goes well. If the pigs are strong and the sow lies quiet it is better not to interfere. Sows that have been properly fed and given sufficient exercise seldom have difficulty in farrowing. If the pigs are somewhat weak or if the sow is very restless it is safer to place the young pigs in a well-bedded box or basket to keep them out of the way until all are delivered. If the pen is chilly a bottle of hot water should be placed in the bottom of the basket and covered with a blanket, with another blanket over the top of the basket. This will help keep up the vitality of the pigs. The young pigs should be placed to the teat as soon as possible. The weaker the pigs, or the colder the pen, the more important an early nurse of the mother's milk becomes. If parturition is not unduly protracted and if the pigs are strong and lively, they may wait until all are farrowed for their first feed. But in such matters the attendant must use his judgment. In cases of difficult parturition a pig that is apparently lifeless may often be revived by opening its mouth and blowing into it. To be successful this operation must be performed as soon as it is farrowed. A chilled pig is sometimes revived by immersing up to the neck in water heated to a temperature of about ninety-eight degrees. When removed from the water it should be rubbed dry, and induced to suck if possible. As soon as the sow appears to have settled down quietly it is best to put the little pigs with her and leave them together. It is well not to interfere except when it is absolutely necessary.

By the time the pigs are about three weeks old they will have learned to eat. If at all possible it is a good plan to give them access to another pen in which is kept a small trough. Here they can be fed a little skim-milk with a very little middlings stirred into it. The quantity of middlings can be increased gradually as the pigs grow older. If they can be taught to nibble at sugar beets or mangels during this time, so much the better. A small amount of soaked whole corn, or almost any other grain, scattered on the floor of the pen will cause them to take exercise while hunting for it. If it is not possible to provide an extra pen the sow may be shut out while the pigs are being fed. Many people simply allow the young pigs to eat with the sow, and many good pigs are raised in this way, but better results will be obtained if the pigs can be fed separately. It is very important that young pigs get plenty of exercise, and every possible means of securing it must be adopted. If they are kept in a small pen with the mother, some of the best of them will likely become fat and probably sick and die. It is especially beneficial to give them exercise and to rub out with her piglets, and to let her have a very large tract of ground she is able to travel over and work. This is a very important point. Ont. Co., Ont. A. J. HOWE.

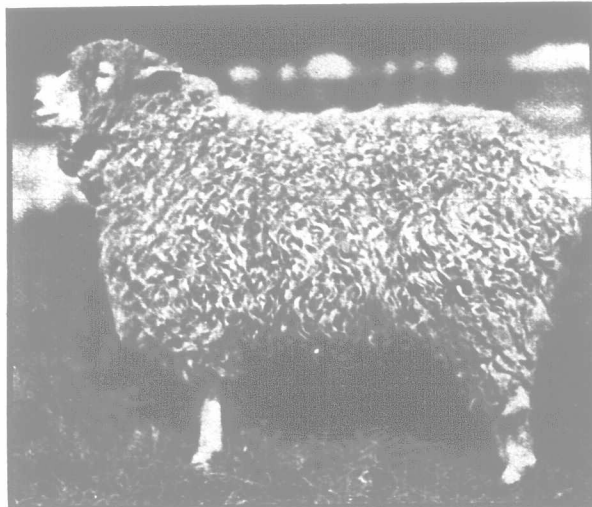
A New Method of Curing Meat.

Editor "The Farmer's Advocate":

I have read with a good deal of interest an article by Esbie Carter in a recent issue of your paper on "Butchering and Meat Curing at Any Season." Mr. Carter's plan of butchering appears to me to be a very good one, but I would suppose that meat cured as he suggests would absorb a great deal of salt, and consequently would, unless previously soaked, be very salty to the taste when cooked. However, as I have not tried Mr. Carter's plan, nor have I eaten meat cured in this way, I would not venture to say that his plan is not a good one. Here is the way we keep our meat through the summer, and find it so satisfactory that I would not care to go back to the old method.

Unlike Mr. Carter we do not butcher when it is "90 degrees in the shade," but always kill enough in the early spring to do us until the cool weather comes in the fall. Our method of butchering and dressing the pig is much the same as Mr. Carter's, except that we do not cut the meat up until the following morning after the butchering is done. This allows the meat to cool and harden, consequently it cuts up much nicer than it would before the animal heat is all out.

When the meat is cut up it is dusted lightly with pepper and rubbed with a very little salt, just enough to make it salt enough for eating, placed in a tub and allowed to drain for two or three days. At the end of that time we take it up, cut it in slices, cut off the rind and fry it, using ordinary frying pans, but being careful not to cover it while cooking, as the steam if kept covered might cause sufficient moisture to cause the meat to spoil. We do not fry it hard, but just lightly brown on one side, then turn it over and brown on the other. As it is cooked it is taken from the pan, and placed in layers in



Lincoln Ewe. Champion at Toronto and London. Exhibited by J. G. Lethbridge, Glencoe, Ont.

the vessels in which it is to be kept (glazed crocks are good, or 20-pound wooden lard pails will do very nicely to keep it in).

As the fat gathers in the pans, we pour it off into a vessel, kept on the stove for that purpose, and keep it in a liquid form until we are ready to use it. We usually put the sides, hams and shoulders each into a separate vessel, or vessels as the case may be, then when finished we label them, so we know just what we are getting out. When the vessels are full lay a plate over each and put a weight on it to pack the meat down solid, then pour over the melted fat until it comes up almost to the top of the meat, and set it in a cool place to harden. When it has hardened take off the weight and the plate, and pour over more melted fat until it is about two inches deep over the top of the meat. Again set aside to harden, and when thoroughly cooled tie thick papers over the top and put away in a cool, dark place; a dark closet upstairs is better than a cellar to keep it in, as it is not so likely to acquire a moldy taste. When you want to use it simply take a fork and dig it out of the lard. Of course a good deal of lard will come with it, but let what does melt in the pan and pour it back on again and tie up as before. Do not cook the meat any more but just heat it thoroughly, and serve fine summer's day when you sit down in front of a platter of golden brown ham with fried eggs on the side you will feel amply repaid for the little extra trouble it was to cook it while still fresh. We have kept our summer meat in this way for a number of years, and have never had any spoil, so I feel that I can heartily recommend the plan to others.

W. Hamilton Co., Ont. "HYACINTH."

Are these basement stable windows intended to let in day light or merely as a frame for col-

Peter, Use the Axe.

Editor "The Farmer's Advocate":

I see by the last issue of "The Farmer's Advocate" that Peter McArthur is having trouble with his corn stalks; why don't he take the axe and chop them in two or three and then he can get them in the manger, or do as I did 35 years ago, get a hard-wood plank 14 inches wide and as long as the corn, and set it on two blocks or put legs under it, and then bore four holes, two on each side of the plank near the centre, and put eight-inch pins in the same. Then take an armful of corn and lay it on the plank between the pins and take a sharp axe (broad axe best) and cut any length you want it. It will drop on the floor as you clip it off, and when you have enough cut take your chaff basket and carry it to the cows and you will have no corn stalks to bother you in the manure. Where was Peter's log when he had such trouble with the cows? If he had mine he would not need to go from the barn, just say, "Rover, bring the cows up from the orchard," and they would soon be at the stable.

Bruce Co., Ont. ALEX GOLLARD.

THE FARM.

Weight of Hay in a Mow.

Editor "The Farmer's Advocate":

In your issue of Jan. 28 there is an item asking any of your readers to give their experience with regard to the weight of hay in a mow. From my experience it is as follows: I should say at the outset that Mr. Angle, from Norfolk Co., Ont., knows something about the weight of hay. With regard to that particular mow of hay 24 feet by 13 feet by 10 feet, I should make it 24 by 13 by 10 equals 3,120 cubic feet, and the estimate I have always understood, when well pressed down was 500 cubic feet to the ton, this would give 6.24 tons. I have seen considerable hay bought and sold, and when pressed down in the mow, or having settled for some time in a stack, after the top was taken off in either case, by careful measurements, multiply the length by the breadth, then by the depth, and divide by 500, and I feel satisfied no one will have suffered by the transaction. Now, I do not wish to be misunderstood in this matter. If any one was buying hay from the top, or near to the top of a mow, where the pressure had not settled well, it would take more than 500 cubic feet to the ton, while down at the bottom where it had got well settled down it would not take perhaps more than 450 feet for a ton. I can assure you it would not pay one to weigh out very much hay with the old-fashioned "steel-yards," in these times of scarcity of help. In my boyhood days, my father had a set that would weigh as much as 640 pounds on one side, and 160 on the other side, and they were very seldom at home, people came from far and near to get them to weigh hay, and even their pork. But those days are past and gone, as platform scales, have sent the old-fashioned steel-yards to the scrap heap, however, I trust these few lines will help some who may wish to buy large quantities of hay in bulk, and bear out Mr. Angle in his theories, of how many feet are required for a ton of hay (not pressed).

Yours very truly, N. S. P. MACFARLANE.

Continuous Door for Silo.

Editor "The Farmer's Advocate":

What we consider one of the best features of our concrete silo is the continuous doorway. The doors of the silo, as usually built, are holes about two feet square, and are placed one above the other about every five feet. This necessitates pitching a lot of silage up three or four feet before the next doorway is reached. The continuous doorway extends from the floor of the chute to within five feet of the top of the wall, and is two feet in width. It is unnecessary to run the doorway all the way to the top as the silage always settles five feet or more. Across this doorway at intervals of two and a half feet, or at the bottom of each ring, a piece of 2-inch gas pipe four feet long is placed, with the ends bent by a blacksmith to form a short hook. The ends of the barbed wire are twisted into these hooks, so there is but little danger of the gas pipe pulling out. A depression of two inches is left at the inner edges of the doorway to receive the doors which are two inches thick. The doors are made of inch lumber doubled and should lap or "break joints" four or five inches on the next one. They can be made any height desired, the shorter they are the less pitching up you will have. The gas pipe should not be placed nearer than five inches from the inner edge of the wall. The reason for this is that these gas pipes make a very convenient ladder if they are far enough from the doors to give you toe room. We have

never had any other in our chute and don't intend to. The rungs are perhaps a trifle far apart, but we don't have to go up many steps, and it is very much handier to step into the silo from this ladder than any other we have seen. The expense of the gas pipe and a little extra lumber for doors, is offset by the saving in concrete and material for a ladder.
 Prince Edward Co., Ont. MORRIS HAFF.

Two Ways to Save Labor.

Editor "The Farmer's Advocate":
 Request was made in "The Farmer's Advocate" of Jan. 21st for suggestions from experience in economizing labor on the farm. I will comply briefly by citing two, but before doing so wish to express my appreciation of the reports which have been appearing in several issues past of important dairy and agricultural gatherings in different parts of Canada. These I consider a most valuable feature of the paper, and in fact I have seen nothing elsewhere to compare with them in completeness and freedom from verbiage. Five times the year's subscription price would be a modest valuation to place upon the issues for January alone. The pressing duties of the farm and distance in the majority of cases, prevent our attending these meetings, but your columns, like a cream separator, make the best of them available while they are fresh.

Pending the arrival of the farm labor policy of our now awakened Governments, "The Farmer's Advocate" renders the campaign for greater production real and immediate help, by publishing plans whereby two hands may perform the work of four. Many may be tempted to rush into the broad way of exclusive grain farming, but it will prove the pathway of folly, and I propose sticking to live stock as the foundation of operations, doubly so when, after the war, the inevitable collapse comes. Wherever the giant cereal thrives, corn and the silo solve the cattle feeding problem, and the windmill, in my experience, most economically provides the next great essential—water. The wind sends me no bills for its service, but day after day and week after week the mill goes whirling around with the application of a little oil and an occasional touch of the hand, a wonderful release from laborious hand pumping or driving stock to "the creek." The next and for nearly one-half the year a still greater saver of labor of the most disagreeable sort is the plan of applying fresh manure directly upon the fields, which I am glad to observe has the endorsement of farms connected with the agricultural colleges and experiment stations. No more valuable experiment or rather demonstration was ever conducted than that by the late Dr. Wm. Saunders and Prof. F. T. Shutt, at the Central Experimental Farm, Ottawa, showing that pound for pound, green manure was equally valuable as rotted (so persistently favored by some old writers), and that under reasonably fair conditions in no way would the loss of fertility (through heating and farmyard soakage) be so small as by immediate application to the land. In fact, if I remember correctly, it was shown by seven years' trials in applying fresh and rotted manure to various grain crops that pound for pound the fresh manure gave remarkably better results than the rotted manure. On behalf of fermenting and rotting manure the advantage of killing weed seeds is some times claimed perhaps more than is really warranted, but the preferable policy is surely one that aims at not having weed seeds in the fodder and manure to destroy. In winter there is time to spread the manure evenly upon fields where crops like corn are to be grown the following season, whereas in spring with little or no extra help available every hour is precious, and the hot weather makes re-loading manure a most arduous and disagreeable task. In the district from whence I write the snow this winter has been continuous and unusually heavy, but not enough to interfere with the manure going regularly to the fairly level fields. Some times in the soft spring weather it may be desirable to make a small, temporary pile not far from the barn, but in many year's experience this has been the only exception, and I would not dream of going back to the old plan of accumulating the winter's manure in a pile in the yard. Of course, for other dressings other than these referred to (corn, etc.) a portion of the manure produced may be stored or piled till required. Practically it cuts the labor of the season in two, and those who once try it continue to do so. Therefore, when plans are being made for the erection of new stables or the re-construction of old ones, about the very first point to be secured is sufficiently wide doors and passages behind the stall for a team to drive through. One may save a few dollars of initial cost by cramming down the stall space of a stable, and then suffer for it the next fifty years to come. Conversely the advantages of ample space begin multiplying like compound interest.

ALPHA.

War a Cleanser.

Editor "The Farmer's Advocate":

In one of your editorial notes in a recent number of "The Farmer's Advocate" you say, "Someone has said that war is a great cleanser, how?" Taking it for granted that you are looking for an answer and not that you are expressing a disbelief in the statement quoted, I am undertaking to point out, how, in some ways at least, war may act as a cleanser and a renewing agency in society, though in itself it be an undesirable thing.

Our case can best be proved by taking examples from history, ancient and modern. In Biblical times war was looked upon as an effectual means of bringing a degenerate nation to their senses and to a better mode of life. The elimination of idolatry and some of the other vices of the ancient Jews was finally effected by the reverses which they suffered in battle, and by the general discipline of war. Coming to facts dealing with a later period, we are met with a continual series of reforms due to war, from the time of Alfred the Great on through European history until the present time. The war we are now engaged in is no exception to the general rule. England, France and Russia, as we will readily admit, all left something to be desired when we come to judge them from standards of moral character and general efficiency. England was given up as a nation to commercialism, France to pleasure, and Russia to "vodka" drinking. What is the result after six months of war? In England this: the spirit of commercialism has given place to ideals of patriotism, national morality, and a sense of the rights of weaker nations and individuals. These ideas are inherent in the Saxon race, but they have been gradually getting into the background, and were in a process of being covered up with the accumulation of years of peace and prosperity. A cleansing ordeal was necessary, and I maintain that it has come.

As to France, the situation is well expressed by her Premier, who, speaking in the Chamber of Deputies, recently said, "In this war France has found her soul. Nowhere was it thought that she had such inexhaustible reserves or moral strength as she is now proved to possess. The war has revealed to the world a new France, regenerated, purged of dross, virile, enduring, capable of any sacrifice."

Truly, it would seem that war is something of a cleanser.

The matter appears to me in this light. The civilized portions of the world have for a considerable period been enjoying an amount of commercial prosperity that is almost without precedent in history. And drawing on history for proof, prosperity is one thing that mankind cannot stand up under. His spiritual fibre seems to weaken, and he sinks into the mire of moral and frequently physical debility. When man gets more of the world's goods than he needs, when to struggle for existence is no longer necessary, then he immediately begins to plan for his pleasure and for a life of ease. "Ill fares the land, to hastening ills a prey, where wealth accumulates and men decay." Luxury and degeneration go hand in hand, and this degeneration will continue until some drastic remedy is applied. Such a remedy I believe war to be.

The inevitable result of the world-struggle now in progress must be, in years to come, unimaginable poverty and hardship, for the waste of this war can bring no other result. Man will have to fight for the means of existence as he did in certain former periods of the world's history, the result being that some qualities necessary to perfect manhood, and to a great extent lacking in present-day civilization, will be developed, much to the advantage of humanity in general. If this world is not run by chance entirely, but has some outside controlling force to reckon with, as most of us believe, then I am confident that the "wrath of man" can be turned in the end to his benefit, and war made one of the means whereby he will finally reach his destiny. As things are, and have been for some time, in this old world, I think we will all admit that a cleaning up of some kind is necessary, and if war is not to be the "cleanser" what is?

Glengarry Co., Ont. J. E. McINTOSH.

Produce More.

Editor "The Farmer's Advocate":

Produce more! Doubtless a very timely sentiment! A very appropriate battle-cry for this country, and for every occupation and business in it at the present time! Perhaps even we may admit, what most of the newspapers seem to think, that this slogan is peculiarly suitable for the farmer. The farmer himself will scarcely be disposed to deny that. He may indeed reflect, made wise by past experience, that if he does

"produce more," there are plenty of other interests waiting to gobble up the lion's share of it, leaving him precious little better off than he was before. And so this exhortation so pointedly and unctiously directed at him from some of those quarters that are indeed "deeply interested" in the matter, may not always impress him in the most favorable way. But for all that he will not deny that in every view of the situation this is a time to increase production. And there is not a farmer in Ontario or in the Dominion of Canada anywhere who is not willing to try, who is not anxious to do everything in his power to swell the production of the country, and so enlarge the resources and confirm the strength of the Empire.

But how? It is easy to tell the farmer to produce more, but how is he to do it? He is no wonder-worker; he has no resources of magic upon which he can fall back, no philosopher's stone with the touch of which he can double his crops. Everything the farmer gets has, in the most literal sense, to be dug out of the earth. And if he is going to produce more, there will have to be more "digging" done in some shape or form. That is something we shall do well to keep in mind.

There are, in fact, just three ways in which the farmer may go about to increase his production:

One, by the application of increased labor. Two, by the application of more intelligent and scientific methods and management. Three, by the application of increased capital.

It is not meant, of course, that these are three entirely independent and exclusive lines of procedure. On the contrary they are closely interdependent. No one can be applied by itself



Moonstone III.

First cross-bred steer and reserve best steer at Norwich, 1914. Also first at Birmingham.

In the case of Russia the "cleanser" has operated more quickly, effectively, and we might say dramatically, than with any other power engaged. The absolute prohibition of the sale of "vodka," and the subsequent successful carrying into effect of the law, was a greater triumph for law and order and morality, in other words for the best there is in Russia's national life, than any victory on the battlefield would have been. From a condition of despair and comparative degradation she has been raised to one of hope and moral progress, and it was war that did it. The Czar knew he could never win battles with drunken soldiers. And what of the case of "our friend the enemy"? We are told that the transformation in Germany is no less noticeable than in other countries affected by the war. It is said that the religious life of the people has been deepened, that immoral plays have been taken off the stage, that books and post-cards that were, to say the least, not very elevating in tone, have been removed from shop windows and that a changed Germany is everywhere in evi-

alone. Each one carries with it in actual practice the necessity for some measure of both of the others also. But this division serves to map out the entire field in such a way that we can consider it intelligently, and determine where the chief present difficulty lies, and where also remedial effort may be put forth with best hope of substantial and far-reaching success.

One. The necessity for the application of increased labor in the agriculture of our country will not be disputed on any hand. It can hardly, however, be an increase in the labor of the farmer himself and his family. No doubt there are some lazy farmers. But it may safely be said that they form a negligibly small part of the farming population of this country. All who know the situation know well that the farmers and the farmers' families in this land are working as hard as human beings can work, and keep it up year after year. They know more; they know that in many cases the farmers and their families are working harder than men and women ought to work. This patriotic zeal for setting other people to work hard that has taken possession of some of our newspapers and other public exhortives is a wonderful thing in its way. But as a device for "speeding up" the farmer and getting more production out of him it is foredoomed to failure. In most cases the farmer is "speeded up" already, and "going it to the limit."

The question of hired labor on the farm is for our people as yet one of the unsolved problems. It bristles with difficulties. But in the end all these difficulties boil down to one decisive consideration, and that is the financial consideration. When agriculture is in a position to offer wages and conditions of work that are economically desirable, it will very soon begin to secure all the labor it needs. And until it is able to offer these, it will never secure the labor it needs, in spite of all the palliatives and coaxing devices suggested by our arm-chair experts. In the past agriculture has not been able to at all compete in the labor market with the more highly favored manufacturing, commercial and transportation interests. It is not able to do so to-day. The profits in the business will not stand it.

One other way there remains by which an increase of labor could conceivably be directed to agricultural production, and that is by reducing the size of holdings and so increasing the number of independent farmers. But here the whole tendency of events is against us. The startling figures of the last Census returns tell us of the wide-spread and serious decline in the rural population of older Ontario. The size of holdings is increasing, and the number of farmers instead of growing greater is becoming less. Here again the decisive consideration is the economic one. Agriculture, financially, is not a sufficiently attractive proposition, even to hold its own. The marked rise in prices during the last few years has possibly tended slightly to restore the balance in the right direction. But as a matter of fact a great part of that increase has been absorbed by the middlemen and manufacturers of foods, as distinguished from the farmer who is the original producer. There has been at any rate, as yet, no appreciable change in the general situation.

Before we can look for any considerable and effective increase in the labor applied to agricultural production, we shall have to have such a re-adjustment of the financial and economic situation as will give a decidedly more favorable balance to the farmer than he has ever yet enjoyed.

Two. Probably what is regarded by the general public as the most hopeful element in the situation is the prospect of increased production by means of more intelligent and scientific management. That opinion would seem to be well founded. This is one matter that has been taken up with vigor and intelligence by our Governments, Provincial and Dominion. The mass of scientific information in regard to every branch of agriculture gathered together and freely placed at the disposal of our farmers to-day is little short of marvelous. It is impossible to overestimate the value of this work, supplemented as it has been and is by the personal efforts of a most capable body of instructors and officials connected with our agricultural colleges and experimental farms, and the Agriculture Departments of our Governments; and supplemented further also by a number of ably conducted agricultural journals.

Let it be recorded too, that the farmers have not failed to respond to this educational propaganda. The interest is keen, widespread, and increasing year by year. There remain, do doubt, many who are still comparatively indifferent. But on the whole we are safe in saying that never before were our farmers so well equipped for their work both in the matter of general intelligence and in the possession of special scientific knowledge. They are admirably prepared, well equipped, in this respect, for a great advance, for a large increase in production. We have been waiting for some years now to see it

take place. We are still waiting. Individual instances there are undoubtedly of great improvement, of marked advance. But on the whole, on any large scale, on any scale at all commensurate with the prophecies of the optimist, or the expectations of the public, or our own hopes, the advance has not come off, the increase has not been made. We are left wondering about this promise of progress, and asking, "Why tarry the wheels of his chariot?"

Why? The farmers know why. Improved scientific management is a great thing if you have the labor and capital properly to introduce it, and maintain it. It will pay for itself—after a while. In the meantime the question is how to get it a-going. We can all do a little in a small way, and almost every farmer is doing what he can. But the great majority of farmers feel that to launch out in any adequate manner along new and improved lines would quite exceed the resources of labor and capital that they have at command, or that they can on reasonable conditions procure. Pure-bred stock, tile drains, more thorough cultivation, large implements, improved buildings—these are the things that make for largely increased production, and the absolutely essential prerequisite for them is capital.

Three. Our consideration of these first two points serves to bring us to our third point with something like added emphasis as to its importance, and with indications that in it may be found the crux of our present difficulty. There would be nothing strange about it if this should prove to be the case. Farming is often praised as a very healthy occupation. It is; but for all that there are not many farmers who are in it for their health. They are engaged in farming for the same reason that other men are engaged in other pursuits—it affords them means of livelihood. It is as the writers on Political Economy say a "gainful occupation," an "economic pursuit." The farmer wants to live; his occupation is his livelihood. And in these days he has a right to expect not only to live, but to live well, to prosper in his business. Small wonder then that financial considerations, the economic element should prove to be of critical and decisive importance in the matter.

And there is not only the question of prospective financial returns, but there is the even more urgent question of the initial capital with which to equip the business. And further, as we have already seen, all recent developments, the scarcity of labor, the need for improved methods and scientific management have greatly emphasized the importance of the part played by capital in agriculture. In these latter years, farming is beginning to be a capitalistic enterprise. Not so many years ago a man could start farming on almost nothing. We all know men who did that and prospered in their undertaking. To-day it is another matter altogether. In the older parts of this Province at least, without very considerable capital in addition to experience and technical knowledge a man is hopelessly handicapped. And further, in proportion as established farmers would improve their methods and extend their operations, the procuring of new capital becomes an immediate and pressing consideration. More capital is the prime necessity of agriculture to-day.

Where shall this capital be found? Why should not a productive and remunerative occupation like agriculture finance itself? Why, indeed? According to the figures quoted by C. E. Bailey, the Assistant Deputy Minister of Agriculture, in his very interesting and carefully written article in the Christmas Number of "The Farmer's Advocate," the farmers of Ontario in the fall of 1913, had on deposit in the Savings Banks \$100,000,000. Why in the name of all that is reasonable should there be any cry from agriculture for financial assistance?

Just before we undertake to answer that question there are one or two other considerations that call for notice. These very interesting figures, pleasant even to look at, are given in the aggregate. But farming after all, is not done in the aggregate. It is done by individual farmers, each on his own particular farm, and each limited to those resources that he is able to gather about himself. Let us look at it from that point of view. The returns from farming are always reasonably sure; but certainly also they are always very moderate. There is nothing dazzling about the dividends that agriculture pays. With careful management and a great deal of the hardest kind of work, farming may be made to pay moderately. Under these circumstances, even for a fairly well established farmer, the accumulation of extra capital that will permit any substantial increase in his operations and production will be a very slow business—painfully slow. The chances are that before a man has succeeded in making the necessary accumulation, he will have passed the adventurous and interesting age. When a man disciplined in the severe school of farm life reaches fifty years of age, he is not generally in the humor to take up eagerly enterprises that mean expansion, and

an increase of work and responsibility. He is beginning to think not of expansion but of retrenchment, of easing up, of simplifying his interests. The money that through all these past years of slow saving was put in the Savings Bank, because it drew some interest and was readily available for use if wanted, will be left there. It is an investment that gives its owner a minimum of anxiety and trouble. He will leave his money where it is and run the farm in the old way, and as the years advance, on a declining scale. That is the psychology that explains a great part of that \$100,000,000 in the Savings Banks. The money is there all right. It can be counted up in the aggregate, and looks very imposing. But it is owned by individuals, and those individuals not the ones who are most likely to give it active and profitable employment in farming.

In another way also the extremely moderate profits of farming exercise a deterrent influence on the application of capital. The average farmer if he can make things go in tolerable fashion at all on his own capital is unwilling to borrow. He knows that he will have to pay such a price for his borrowings, such a rate of interest that is, that any extra gain he may make on the employment of the extra capital will be almost absorbed in paying the interest on that capital, leaving him only his extra labor to reward him for his enterprise. At any rate the margin of profit will be so small that he is generally unwilling to assume the added anxiety and risk of making the venture.

And there is a still further element that has to be seriously reckoned with in this connection. The whole organization of the financial world tends, undesignedly perhaps, but none the less truly and powerfully to direct the investment of capital away from agriculture and into commercial, industrial and transportation enterprises. The past century has witnessed an enormous expansion in these last mentioned enterprises. Few people stop to realize how vitally and powerfully this expansion has been aided by the organization of the financial world, by the mere machinery of finance. When with the advent of modern discovery and invention these enterprises began to awaken to new life and activity, the first great want felt was the want of capital. Limitless possibilities seemed to open up before the pioneer captains of industry if only they could get hold of capital. It was to satisfy this call that the devices of the modern financial world were developed. The joint-stock, limited liability company came into existence, with its shares widely distributed, often over practically the whole world, in the hands of any man who has a few dollars saved. The banking system was further developed, stock exchanges and brokers' offices multiplied. The whole vast and complicated, but wonderfully effective machinery for gathering up capital and directing it towards profitable investment was gradually perfected.

We have come to see in these latter days how this wonderful financial machinery may sometimes, in the hands of unscrupulous men, be manipulated so as to work evil and not good. Against that sort of thing, to protect ourselves against the raids of financial buccaners, we must take such precautions as we can. But we must always remember the enormous economic benefit conferred upon the world by means of this organization. It is perhaps not an exaggeration to say that the great economic advantage accruing to mankind through the mechanical inventions and engines of manufacture is not greater than that which has come by means of these inventions and adaptations in the machinery of finance.

But from all this agriculture has received no direct advantage whatever. It has not been able to put itself in shape to benefit by this financial organization. Agricultural enterprise in the form of a joint-stock company, or on any such basis at all does not thrive. And so far as we can see it never will succeed in that way. It is not that kind of business. And so it comes about that the very means that have been instrumental in directing the flow of capital towards these other enterprises has left agriculture stranded, high and dry. Indeed the very facility with which capital is directed towards these other enterprises has in many instances meant the withdrawal from agriculture of capital that otherwise would have been forced to find occupation there. The financial world indeed, has not yet come to regard agriculture as seriously demanding new capital on any large scale. The theory of banking as developed and practiced in this country goes on the contrary assumption. In an address afterwards published in the form of a pamphlet by one of our most eminent bankers, the theory is deliberately set forth that the branch-bank system is designed to gather up capital the savings of the farmers and others in the rural parts of older Ontario, and to lend it for individual enterprises in the cities and in the newer parts of the Dominion. The thought of the farmers needing capital for their own business, never crossed his mind. So far as the farmer is concerned

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this might conveniently be described as the milch-cow theory of banking. That indicates the part he is supposed to play in it.

This then, is the situation. Agriculture is awaking to new possibilities. The situation of our Empire also, in this world crisis constitutes an urgent demand for increased production. To fulfil these possibilities, to meet that urgent demand, the pressing need is for a large increase in the amount of capital available, on suitable conditions, for agricultural enterprise. And finally, the present returns from farming, and our present machinery of finance seem utterly incapable of meeting that need.

Four.—And if this be the situation, what do the facts suggest by way of improvement and remedy? That is surely obvious enough. We need first of all such readjustments in the financial and economic situation as will give better returns to the farmer. All enterprise responds wonderfully to the magic touch of prosperity. Let the farmer have a good experience of it and see agriculture expand. Let the general public cease to delude itself any longer with the expectation that the farmer can be permanently beguiled into employing his capital and labor for inadequate profits. That state of affairs will not continue indefinitely. The sooner this is realized, and the sooner a change is made, the better it will be for all parties concerned. Let it be well noted too that better returns to the farmer need not always mean higher prices to the consumer. Better marketing arrangements, co-operative enterprises, transportation and storage facilities, not operated exclusively in the interests of the Railway companies and the middlemen—these are matters that in the interests of both producer and consumer alike demand immediate attention. If scientific production is a good thing why not scientific distribution too—scientific marketing? And if we wish to relieve agriculture of some of its unfair burdens why should we not insist on scientific—that is economically sound—taxation also? This if it did not actually give the farmer more, might at least leave him more, which after all is the important matter.

But leaving aside for the time being these important and urgent questions, there is one other matter that cannot be taken hold of too promptly and energetically. The situation calls for some re-arrangement or re-adjustment of our financial machinery, or very probably for the addition of some new parts to that machinery such as will make capital more readily available, in much larger quantity, and on more suitable conditions than at present. Yields in agriculture fluctuate considerably from year to year. We may have a gain due to a special spurt, or to unusually favorable conditions that will seem wonderfully promising, but it is useless to look for any substantial and sustained increase in our agricultural production until we have taken some really effective measures to meet the actual needs of the situation. You cannot dig ditches by talk. You cannot produce more merely by whooping about it in the newspapers and on public platforms. There is no use asking the farmers to "make bricks without straw." You cannot enlarge your farming activities and increase your production unless you provide means to supply the capital with which to set to work.

The anomalous and, at first sight, discouraging feature of the situation is, as we have already noticed, that if agriculture is starving for want of capital it seems to be starving itself. The farmers of Ontario have \$100,000,000 in the Savings Banks, and yet farming operations are crippled for want of capital. There is surely something wrong somewhere. There is; and it is not hard to say what it is. Let us remind ourselves again of the distinction to be made between figures that are totalled up in the aggregate, the aggregate savings of all the farmers, and the personal circumstances of the hundreds of thousands of individual farmers that are actually engaged in the work of production. The farmers as a whole may be rich; but all the farmers are not rich. Their circumstances vary between both extremes. Naturally the great bulk of these surplus possessions is in the hands of the older men, the men who have had the time to make the slow accumulations that alone are possible in farming. This money is deposited in the Savings Banks largely because its possessors do not know what else to do with it, because on account of age or for some other reason, they do not find in themselves the strength, or the enterprise, or the ambition or the skill that would give them confidence to employ it in extending operations in their own line. They are looking for something comparatively easy and safe.

On the other hand there is the great body of younger men, ambitious, enterprising, keen for work, anxious to expand, eager to adopt improved methods, but who are hampered by want of capital. They have no surplus capital of their own, and they find it impossible to secure capital at rates and on general conditions that would make the undertaking reasonably hopeful of success. The one class has the capital but is unable to use it. The other class could use the capital but is unable on satisfactory conditions

to get it. What is wrong is that we have made no suitable provision for bringing these two classes together in the relationship of lender and borrower, a relationship that would be not only mutually beneficial to both parties concerned, but would be also in the highest degree advantageous to the general public, would aid greatly in the development of our resources, and add enormously to the wealth and strength of the nation.

To organize a system that would bring these two classes together in this way, giving the borrower cheaper money than at present, and the lender better returns than he now secures as a depositor in a Savings Bank, and on better security too, would no doubt be a task of considerable difficulty. But there is nothing impossible about it. It is a thoroughly practicable scheme. It has been done elsewhere with most eminent success, under conditions not one whit more favorable than exist here. It has been done, for example, in the German Landschaft or land mortgage bond system, described by C. F. Bailey in the excellent article already referred to in the Christmas Number of "The Farmer's Advocate." In other countries also the same end has been attained more or less effectively by other devices. It has been done; that is the point. It is being done to-day. Why should not we do it, adapting from tried systems and modifying and developing according to our special circumstances and requirements? Why not?

Think what it would mean to this country. To the depositors of \$100,000,000, instead of 3 per cent. on their money it would mean 3½ or 4 per cent. On the other hand try to conceive what 4 per cent. money would mean to hundreds of thousands of our younger farmers in this Province who are only asking for a chance to expand and produce more. Try to conceive the impetus that the whole tremendous business of agriculture would receive, and as a further consequence also, the whole commercial and industrial life of the nation as well. Why should we not put our hand to this thing and carry it through?

It is scarcely conceivable that serious opposition would come from the chartered banks. They, no doubt, would stand to lose some of the deposits in their savings departments. But any injurious effect from that source would be vastly more than offset by the great increase that undoubtedly would take place in their business, due to the expansion of a revived and greatly strengthened agriculture. Everything that helps agriculture is certain to help every other legitimate interest in the land.

This is not the place nor the time to present detailed plans. They can be produced when they are required. What is needed now is to get our people seized of the main idea. We want constructive leadership, not negative criticism. Mistakes have been made, of course; dangers are to be run. That is the way with everything in this world. We do not want reckless experiment. We do want leadership. Sound, cautious, conservative, but at the same time progressive. We want to go on.

For our leadership where are we to look? A new Premier has recently taken over the reins of Government in the Province of Ontario, young, alert, ambitious. If he will make this question his own, if he will make his Government the instrument of establishing in this Province a sound system of rural credit suited to the needs, meeting the demands of these new days—that would indeed constitute a real contribution to the prosperity and happiness of his native land. To the honor of high office, it would add the nobler distinction of true service.

Renfrew Co., Ont. EDWARD B. HORNE.

Farming Problems in Great Britain.

Editor "The Farmer's Advocate":

At the moment, English farmers are "up against" several problems, just as are householders and others "up against" the rise in the price of foodstuffs, a subject which the Government has promised to enquire into. The farmer's problems are shortage of labor, consequent upon so many young men having gone to the war, and a shortage also of horses. These will be met, however, with Belgian refugee helpers on the farm; by the assistance of child labor, a special dispensation being sought to allow school boys and girls between twelve and fourteen years of age to do their little bit; and by the use of the Canadian mares which are being retained in the country and not sent to War. Many British-bred mares that had gone to the Front and have heard or been under gun fire have been sought out and brought back and are to be sold cheaply to farmers to breed from.—This is the outcome of the cry out against so many valuable mares having been sent out of the country in the first rush of troops abroad.

What has soared in England to well nigh sixty shillings per quarter of 504 pounds. It reached 59s and 58s-6d in London and in one or two places in the country just attained 60s and then fell back again. We over here feel sure that "The Pit" at Chicago has been responsible for

the rise in the price of British wheat and that "the squeeze" has been made by the German elements at work in the United States.

Still it was only as recently as 1877 that English wheat was sold as high as 69s-9d per quarter of 480 pounds. During the Crimean war the average price for the whole of 1854 was 72s-5d and in 1855, 74s-8d, but as much as 83s per 480 pounds was paid during several months of both those years. During the Napoleonic wars, the average price of native English wheat was 123s per 480 pounds. In 1813 it was 109s. At one time in 1812, however, it did reach 176s per quarter.

Since Canada has become a factor in the world's wheat growing countries, Britain's prices have enjoyed a long run of normal years. Wheat in the day of "Lester's Corner" was almost as high as it is to-day but flour was actually 2s to 3s per sack dearer and bread advanced to 8d per the four-pound loaf. Those were peace prices and occurred in a year when United States and Russia were both boasting abundant crops.

Flour at the moment in London, is selling at 46s-6d per 280 pounds and housewives are grumbling. People are blaming the shipping people for the rise allround in the prices of foodstuffs. The shippers say rates have gone up alarmingly. Well, if they have, it would look as if Germany really has got command of the seas even although she is doing very little beyond slaying babies and bombarding Saxon Ruins! But the Government is going to enquire into things. At the early part of the war, the Government fixed the prices of foodstuffs. The thing seems to have been forgotten and the shippers are having "a dip in." Canadian hams are selling at 74s to 78s and long Canadian hams realize 72s to 76s. Canadian cheese sells at 84s to 86s for finest, and 82s for undergrades. These prices may be useful for a comparison.

Perhaps, on serious consideration, there is something in the shippers' cry that dearness comes because of the great rise in freight prices, particularly from Argentina. A still more serious contributory cause, it is asserted, is the temporary prohibition of exportation of wheat from Russia, India and Australia. Russia formerly exported 30 million quarters of wheat per annum to the United Kingdom and the Continent. In normal times, Australia exported eight million quarters, which was more than we ourselves could grow; but last season's crop in Australia was quite ruined by drought. Thus our sources of supply from without are largely restricted to Canada and the United States.

Throughout the manufacturing districts of England, what wage-earners there are left to do work are being well paid for as much work as they can do, and can therefore as well afford to pay the higher prices for their food as any other class. As a matter of fact, ever since the war began there has been appreciably less unemployment in the industrial districts of mid and northern England than at this time of the year for many years.

Farmers, who breed remounts and other horses as well as grow corn, naturally remind the people who are pleading for minimum prices for wheat and other products of the land that they are still suffering seriously from the sacrifices they recently made in parting with both men and horses; that they are being requested to add every horse they can to the nation's stock; and that War Office buyers, armed with powers of impressment, might start another national levy, fixing their own prices, any time.

As not only wheat but most other classes of grain, as well as meat, potatoes, roots, hay and straw, and most other products for human or animal consumption have gone up and are still ascending, it is admitted that there is a case for enquiry by the Government as to whether they can divert more of the vessels in their possession for importing produce, and thus modify freights. But there is a fear that if, yielding to popular demands, they overstock the market by attempts to relieve the pressure, the minimum prices fixed might be a poor reward for all the sacrifices that English producers are being called upon to make. The increase of the wheat area at the recent sowings is officially estimated at 10 per cent. Farmers who were persuaded to add to their wheat acreage say they adopted the advice of the Board of Agriculture and other advisors partly in the belief that good-paying prices would be assured them for all they could produce.

So, arguing things out from all standpoints, everyone should be happy and should smile and pay up!

South Africa has just taken 61 head of Ayrshires from S.W. Scotland, and a host of making Shorthorns from all over England. Beef cattle in South Africa are also in much demand from the Old Country.

A suitable name for the farm is a great advantage to any farmer but more particularly for the breeder of live stock who wishes to register his animals in the Records of this country. It affords an opportunity to bring honor and fame to his efforts and his home.

Australian News.

Editor "The Farmer's Advocate":

The work of grading the seed wheat by the State Government, of New South Wales, which has undertaken to control this and next year's crop at a fixed price, is now going on. It will be a striking object lesson to the careless farmer who planted anything in years gone by. Though a great number grade, manure and fallow, there are many who do not do any of these things. It will be interesting to see if they will profit by the practical advice which will be forced upon them. Tests made in Victoria this season showed that graded seed increased the yield by fifteen per cent.

The year 1915 opens strangely. No one is even tolerably sure of their footing. The war has cast its shadow over everything. The changes which are forcing themselves upon the people are creating hardships. There is plenty opportunity here to launch out in the producing arena, but the disturbance is the trouble. When you ask bodies of men to change from one avenue to another the task is stupendous. There is great activity in the wheat districts, and scores are taking up farming as a loop-hole of escape from the dilemma. The State Governments are guaranteeing a fixed price for next season's grain, and bountiful rains have encouraged the enterprise of primary production.

The fruit-growers are wild at the treatment they are receiving from America, and they ask that the duty be increased five-fold to shut out the competition. They say that whereas the consumers here prefer the imported lemons to the local ones, owing to the get-up being better, that the Australian fruit is in turn boycotted on the American market. The excuse for refusing to handle the Australian stuff over there is that there is danger of introducing the fly, but they argue that there is comparatively little fly. It is for the American authorities to answer the charge that they are Trust-ridden, and for the Australian grower to say why it is that the imported fruit is so much better graded than his.

Australia has no practical knowledge of the consumption of horse-flesh, as in the countries of Europe, so it can be imagined what a surprise it was to hear that a company had made application to the authorities for permission to export this commodity—for use amongst the troops at the front. It seems that the application was made on behalf of a breeder who owns a large number of fat horses which are not of much use for ordinary purposes. It is against the law here to offer such food for sale, but there does not appear to be any reason why it should not go to those who care to eat it. There is a strong sentiment in Australia against this flesh for food purposes as well as an utter lack of taste, and people here cannot understand how any one could relish such a dish, but it is quite a different story on the Continent. When a horse becomes useless here in the cities he is slaughtered and sent to the Zoo, while in the country he is destroyed and buried with almost as much respect as that accorded a human being.

An Australian inventor has added another farm implement to the modern plant which bids fair to create a revolution in farm husbandry. It is a sub-soiler, or deep soil cutter, and a trial of it at the Hawkesbury College was witnessed by over 200 representative men of the land. The implement has a U-shaped blade, surrounded by a diamond-shaped frame, to which are attached plow-like handles, and which runs on three wheels. A lever raises or lowers the wheels to regulate the depth of the cutting blade. The latter is set at a particular angle, the effect of which drives it into the ground at starting, and continually lifts the disturbed soil as the machine moves along. In the trial six horses were hitched to the sub-soiler, which went through the soil at a depth of 18 inches as if it had been cutting cheese, and loosened it, raising the surface a couple of inches. A walking stick afterwards could be readily pushed to the full depth. Shovelling it out, it was found that the soil was thoroughly broken up. With another attachment a drain 9 inches deep was cut and cleaned out in the process, while yet another wing attachment to the blade threw the loosened soil on one side. The implement was afterwards attached to a double furrow plow, and sub-soiled the land to a depth of 10 inches below the furrow. There is no need to enlarge upon the value of an implement of this sort. Farmers were surprised at its efficiency. The inventor is Mr. Hoogr, of the Wagga State Farm.

The New South Wales Government is preparing to proceed with the construction of the Warra-gamba Basin Scheme, which will be the biggest thing in irrigation in the Southern Hemisphere. The water will be used by the City of Sidney and the farmers of Cumberland. The walls of the impounding dam will rise to a height of 275 feet, with a length in the widest part of 800 feet. This will conserve a total of 102 thousand million gallons of water. A tunnel of five miles in length will be employed to escort the water to the service mains. It is estimated that the scheme will cost £3,000,000. The land to be served is not of a high-class character, but being close to the city it can be very profitably used in the production of foodstuffs for the Metropolis. The science of irrigation is being made more attractive as a result of the success of other schemes in existence, and the recent dry spell which has created great hardships in the farming belts.

Australia J. S. DUNNET

The Experience of Experts With Corn.

Before an audience of corn growers assembled recently at Chatham, Prof. C. A. Zavitz, of the Ontario Agricultural College, gave an interesting address on the question of corn for fodder and the silo. Although conditions at Guelph are somewhat different from those which exist in various parts of Ontario, nevertheless, by testing different varieties year after year accurately, and in duplicate Prof. Zavitz has been able to arrive at conclusions which in a general way apply to corn growing in Ontario from Essex on the West to Prescott on the East, and Temiskaming on the North.

Another factor entering into experimental work with corn is the fact that corn cross-fertilizes and that the result of one year's crossing will very materially affect the results in future years. It is, therefore, necessary to procure new seed each year, as the cross-fertilization does not affect the season's crop further than making some change in the color of the kernels. Prof. Zavitz's words were directed chiefly to results obtained from experiments with the seven different varieties of corn which are being recommended for Ontario, namely, Salzer's North Dakota, White Cap Yellow Dent, Wisconsin No. 7, Compton's Early, Longfellow, Bailey and Golden Glow. Each of these varieties has been under test in the Ontario Agricultural College for a number of years along with a large number of other kinds. In these tests all varieties are planted under similar conditions, as to quality of soil, method of planting, date of planting, etc., and the tests were made in duplicate each year. The varieties were all harvested at the same time, and careful notes were taken regarding total yield, yield of ears, stage of maturity, etc.

The following table gives the average results in tons per acre per annum of ears, and of total green crop of the duplicate tests, for each of the five of the varieties for the period from 1905 to 1909 inclusive, and for each of six of the varieties for the period from 1910 to 1914.

Varieties	1st Period	2nd Period
Salzer's North Dakota.....	4.2	3.4
Smith's White Cap Yellow Dent.....	4.7	3.8
Wisconsin No. 7.....	—	3.7
Compton's Early.....	4.8	3.7
Longfellow.....	3.7	3.1
Bailey.....	4.4	—
Golden Glow.....	—	3.7

As Wisconsin No. 7 and the Golden Glow were not tested at the College previous to 1907 the results for these varieties are not inserted for the first period, and as the Bailey was dropped in 1912 the results of that variety could not be included for the last period. All seven varieties were under test at the College for six years from 1907 to 1912 inclusive. The following gives the average of twelve years in the six-year period of tons of ears and of tons of green crop per acre per annum. Salzer's North Dakota, 3.7 and 19.5; Smith's White Cap Yellow Dent, 4 and 18; Wisconsin No. 7, 4 and 17.8; Compton's Early, 4.1 and 17.4; Bailey, 3.8 and 16.7; Longfellow, 3.2 and 16, and Golden Glow, 4 and 15.2. The stage of maturity of the different varieties is very important. Very careful notes on this point were taken each year, and, as a result of the six-year test, it was found that the varieties came in the following order in date of maturity, starting with the earliest, Longfellow, Compton's Early, Salzer's North Dakota, Golden Glow, Smith's White Cap Yellow Dent, Bailey and Wisconsin No. 7.

In order to bring out the character of different strains of the same variety, investigation work was carried on with White Cap Yellow Dent corn secured from five different sources in southwestern Ontario, mostly in Essex County. These five lots were carefully tested in each of the

past five years. The average annual results of which are presented in the following table:

Strain of Corn	Height (Inches)	Tons of Ears	Tons of Crop	Size of Ear (Ozs.)	Days to Tassel	Comparative Maturity
Hammond.....	90	3.3	12.1	7.3	81	92
Zavitz.....	98	3.7	14.9	8.0	84	82
Thomas.....	94	3.5	14.7	8.2	85	75
Dawson.....	99	3.1	13.4	7.6	87	68
Smith.....	102	3.7	16.4	8.5	89	58

In comparing this table with what has already been said it will be seen that Wisconsin No. 7 corn is later than the Smith's strain of White Cap Yellow Dent corn which is the latest of the five different strains of White Cap Yellow Dent, which have been under test at the Ontario Agricultural College. Prof. Zavitz explained the fact that details in corn work must be worked out under existing conditions where it concerns the grower, yet in a general way these tests apply universally throughout the province.

The discussion of the corn question was continued at the same meeting by G. I. Christie, of LaFayette, Ind. Mr. Christie laid particular emphasis on the little attention given to the corn crop, which is of such enormous value to farmers. The operations of selecting the proper cob, testing the seed and preparing it for the planter, were thoroughly discussed in a logical way. The speaker recommended not only selecting the cobs but selecting the kernels by taking a small lap-board and shelling first the tip and butt kernels from the cob, and discarding them for seed purposes. Then shelling the remainder of the corn on the cob into this board where the observer may see at once whether it is good or not. If it is not likely to grow and give rise to vigorous plants it is discarded altogether, if it is suitable for planting it is then graded into short and long kernels which are used at different times in the planter in order to ensure a more uniform planting of the seed.

Mr. Christie remarked that many growers were seeking to increase their yield by selecting very large cobs of corn, but he denounced this practice as unwise and advocated the medium-sized cob, one which would probably weigh about twelve ounces, was best for his State. In tests which they have conducted in the State of Indiana it was found that the cob of corn which was cylindrical and somewhat rough in its denting gave an average yield of 50.9 bushels per acre in a test extending over five years. The cylindrical, smooth-dented corn was somewhat lower in yield, amounting to approximately 47.9 bushels per acre. These yields per acre, of course, are not what are expected in Ontario, but from a contest carried on in the State of Indiana larger yields are reported. The competitors endeavored to increase their crop economically through seed selection and thorough cul-

Varieties	Tons of Ears.		Tons of Total Green Crop.	
	1st Period	2nd Period	1st Period	2nd Period
Salzer's North Dakota.....	4.2	3.4	2.92	19.2
Smith's White Cap Yellow Dent.....	4.7	3.8	19.6	16.3
Wisconsin No. 7.....	—	3.7	—	16.3
Compton's Early.....	4.8	3.7	18.6	15.5
Longfellow.....	3.7	3.1	18.2	15.1
Bailey.....	4.4	—	16.7	—
Golden Glow.....	—	3.7	—	13.8

tivation. Following is a table showing the results of a number of contestants who carried on experimental work with corn.

COST OF PRODUCING CORN

Contestants	Yield per acre	Cost per acre, rental, fertilizer, and labor	Cost per bushel
No. 1.....	110.23	\$19.36	17.57
No. 2.....	106.65	18.99	17.81
No. 3.....	106.67	20.00	18.8
No. 4.....	100.34	19.52	19.4
No. 34.....	63.83	14.78	23.2
Average of 34 contestants.....	79.46	17.17	21.59
Ten-year average for Indiana.....	86.4	13.49	37.1

In this table it will be noticed that the cost per acre for corn in the State in an average test of ten years amounted to \$13.49.

It will be noticed from the table that it costs slightly more to produce a large crop of corn per acre than it does to produce a small crop, but the cost per bushel is less.

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A Farmer's Stand in This Conflict.

Editor "The Farmer's Advocate":

It is with mingled feelings that the great body of Canadian farmers becomes the audience in the "Patriotism and Production" Campaign. While we have been the object of criticism from the news press of the country for not flocking in greater numbers to the colors, and of the advice of all other classes to produce more, we have been stirred by our own loyalty to the Empire; and yet in the midst of these conflicting circumstances, we think, we understand the difficulties which confront us, as clearly as those who criticize and advise. It is no reflection on our loyalty if we ask, How?

At the live-stock banquet in Toronto, at which such prominence was given to the perplexing questions which confront present-day agriculture, there were many practical suggestions made, by which certain phases of agricultural effort might be encouraged and further developed. The keynote of all production, present as well as future, normal as well as increased, was that which was emphasised by J. W. Flavelle, of Toronto, when he said, "The primary instinct of what we do to-day is governed by the profit which we make out of it, whether we be farmers or not." This is the centre from which the fluctuations in production have taken place in the past; the various problems of agricultural production, labor included, centre around this idea. This is why the swine industry for instance, a large food-producing department of farm operations, is so uncertain in its results. The farmers produce bacon hogs in goodly numbers, the supply is increased, down goes the market price, off go the brood sows to the shambles. This is much the same principle which has been illustrated in some Canadian towns and cities not long since. Markets are overloaded or curtailed, demand lessens, profits cease, industries close down, men are thrown out of employment, and when the prospect of running the industries in these centres at a profit, or, at least, at no loss again appears, operations are re-commenced, and not till then. Yet there is a loud appeal to farmers, not only to relieve this unemployment, but to continue to produce, on a larger scale than ever, even if that production is carried on at a loss that most farmers can ill afford. For instance, where is the profit in converting mill-feeds, oats and corn at present prices into pork at \$7.50 per cwt.; or hay at \$16.00 per ton, bran at \$29.00 per ton, and oats at 60 cents per bushel, into butter at from 25 to 28 cents per pound, or what encouragement to stall feed beef cattle when the increase in weight will no more than compensate for the cost of grain used in finishing? A neighbor told me to-day he had started feeding a number of heavy cattle with a view to shipping in March, but had to change his purpose or lose his coarse feed and labor. Of course, we may be told the circumstances are extraordinary, that these prices will be better balanced if we produce more largely of the raw materials of the farm, and by increased production and greater supply reduce the cost by reducing the value of raw material entering into our finished products. This is the result that is always to be faced. Most farmers are now trying to produce the maximum according to their ability, therefore, most of us are seeking knowledge directly or indirectly of most approved methods and of all that is new in agriculture to keep our production at the maximum. Most of us are working 12 to 16 hours a day for 313 days in the year and part of the other 52 to meet, in the best way possible, the demands made on us, and the one fact looms large over all, viz., the instability of the relationship at prices of farm products. This is the serious factor in farm operations.

No doubt more land will be broken from pasture, more grain, corn, potatoes, beans and hay will be produced, and rightly so, but if the live stock and dairy products market continue to bear the same relation to raw products of the farm as at present, then the live stock and dairy farmers of Canada, who have been the strength of Canadian agriculture, will produce at a loss that will be serious, if they value their own raw material, produced on their own farms, at the prices they could receive for them, and this they have a right to do.

This is not a complaint. It is but voicing the difficulty, often uttered before, the farmers have to meet. We realize the part we have in the great Empire whose interests are at stake. We have not withheld our material offerings or our sympathy. Rural Canada, according to her ability, is responding equally well with urban Canada to the demands of these strenuous days. We cheerfully give ourselves in this crisis to the best we can render, to keep the Old Flag flying as the symbol of human liberty and world democracy; but when the last battle shall have been fought and won, and the nations take their places in the effort to recover the waste of war and reflect on its lessons, let us trust that one result for Canadian agriculture will be the larger conception on the part of other professions and industries, that while the farmers can and do

respond loyally in the hour of their country's need, they base part of the success of their calling on the principal "the primary instinct of what we do to-day is governed by the profit we make out of it."

There is another suggestion our centres of population have to contend with, the difficult problem of unemployment and charity is taxed to its limit. Within and about these cities and towns are large areas held for speculative purposes. We have seen these areas laid off in blocks surrounded by concrete sidewalks, but no building in progress, while war taxes are being talked and levied the suggestion is here offered, that as a war tax, not as single tax, the legislature tax or empower the municipality to tax, during the continuance of the war, at double or triple the rate of adjoining land, all such land capable of producing food that is not actually being built on or broken up and put under crop. This will relieve some unemployment, will help feed many hungry from within their own city's borders, and relieve much food otherwise produced to help keep the wolf of starvation from the door of the Empire's homes. Large areas of cultivable land are also held by the Railway Corporations, and an additional tax for war times on these large areas might stimulate these corporations to lend their great resources to the greater production of a food supply, responsibility for all of which cannot be consistently laid on an overburdened agriculture. Middlesex Co., Ont. C. M. MACFIE.

Radio-active Fertilizer.

Editor "The Farmer's Advocate":

Radium is one of the rarer elements that a great deal has been written about in recent years. So rare is this element that reliable authorities state that there is not more than 50 grams (28 grains in the ounce) of it or its salts in the world to-day and that it is valued at \$120,000 per gram. It has been used for various purposes; but possibly its use in treating cancer is the one we are most familiar with. In the treatment of this loathsome disease, evidence was obtained that a mild treatment with the radium rays caused a very rapid growth of the cancer. This led to the thought that if it increased the rate of growth of animal tissue, might it not also quicken the growth of plant tissue. It is, of course, evident that radium at \$120,000 per gram would be a very expensive fertilizer, but the idea is that the radio-active residues of the materials from which the radium is extracted may be sufficient value to warrant their use as a fertilizer.

At the request of the Minister of Agriculture and accompanied by Mr. Todd, Director of Farms in the Provincial Secretary's Department, it was my privilege to visit the laboratories of the Standard Chemical Company, in the United States, to investigate the claims made for this new material. The material they propose using as a stimulant to plant growth is the residue of the carnotite rock from which the radium was obtained. When it is pointed out that it takes about 400 tons of average rock to produce one gram of radium it is evident, not only that there is a great deal of work associated with the preparation of the radium, but, also that there will be a very large volume of the residues. These residues are still quite strongly radio-active and the owners of it are naturally anxious to get some returns from it.

It is not claimed that it is a plant food; but that it stimulates the growth of plants, and that, consequently, it can only give good results when applied to soils rich in available plant-food. To insure this the plan is to put it on the market mixed with a good fertilizer. To prove for their own satisfaction that the residue materials are of value, the Standard Chemical Company have spent a good deal of time and money on experiments. Their first work was done in pots in green houses and some very striking results were obtained. Last season very elaborate experiments were carried out on 1-20 and 1 acre plots in the open field. Most of the common grains and vegetables were included in the experiments. Each experiment consisted of five plots. The same mixture of fertilizer was applied to all five of the plots and 12 1/2, 25, 50, and 100 pounds of the radio-active residue was applied to plots 1, 2, 3, 4, respectively and plot 5 remained without treatment as a check plot. The increased yields of the treated plots over the untreated varied from a small percentage to about 80 per cent, and the average of all the experiments gave a little more than a one-third increase in the yield. A very satisfactory return for the material applied. The largest yield was not always obtained from the largest quantity applied, but 100 pounds appeared to be about the largest amount required. At this rate of application it is claimed the material could be sold at a rate that would leave a handsome profit.

The claim is made that the germination is quicker and stronger and that the plants in the treated plots get a way to a much better start. The claim is also made that the influence of the

radio-active material will be apparent for several years. But this has not been proven. Dr. H. H. Busby, Columbia University, New York, has also carried out extensive plot experiments with the material and reports large increased yields.

It is, I believe, the intention of the Company to put the radio-active material mixed with a good fertilizer up in small lots and offer it for sale for lawn and garden purposes. Whether there is any virtue in the material only time and experience will tell. But it appeared to be worthy of some experiments and we intend to at once start some experimental work in the green houses and follow it up with field work this coming season. There are at least two points to be settled, first, Will the radio-active residues increase plant growth, and, second, how long will the effect of its application be evident. As with all new products it will be well to go slow and experiment in a small way before buying in any quantity.

O.A.C., Guelph. PROF. R. HARCOURT.

Public Events.

By Peter McArthur.

It seems hard to believe that Sir Thomas Shaughnessy could possibly have given out the interview regarding the railroad policy of Canada that appeared in New York, but as Sir William McKenzie has replied to it the interview is probably authentic. Although I have not an exact copy before me the burden of the interview apparently was that Canada has been reckless in granting assistance to railroad builders, and that now the Federal and Provincial Governments may be embarrassed in making good their lavish guarantees. The statement is entirely true, but this is no time to make it, and it should not have been made in New York where the C. N. R. and the Government may need to borrow money in the near future. "The Farmer's Advocate" protested strongly against the latest guarantees made to the Canadian Northern, and dealt with the methods used to secure those guarantees with vigorous hostility. If Sir Thomas realized that the country was making a mistake he should have used his great influence at that time to check the folly. His present outspokenness suggests sinister motives. He dealt a severe blow to the credit of Canada and the Canadian Northern in the only market in which they can hope to float loans. It has long been rumored that the C. P. R. would not be averse to taking over such parts of the Canadian Northern as would fit into its own system, and allow the government to struggle along with the parts on which it is impossible to make a profit. In view of this it is reasonable to ask if this statement is made for the purpose of so embarrassing the Canadian Northern as to force it into the market. In any case it does not look well for the C. P. R., which is so fat with government bounty that you cannot feel its ribs, to oppose the granting of similar bounty to a rival. "The Farmer's Advocate" opposed the rapacity of the Canadian Northern, but not through any love for the C. P. R. When I read of Sir Thomas' interview I was reminded of the reply made to a public official by a clerk he was scolding.

"Folks are talking about you," said the chief. "Humph!" said the clerk, "Folks are talking about you, too."

But outside of any effect that his statement may have had on the future of the Canadian Northern it was certainly not patriotic of him to say anything that would injure the credit of Canada at a time when the country is being so severely pressed as a result of the war. But it is perhaps like looking for figs on thistles to look for patriotism in a certain class of Canadian millionaires. * * * *

Parliament is now in session, and everything is running so smoothly that it fairly takes one's breath away. The Government makes a proposal, the Opposition assents, and it goes through so quickly that we have no chance to find out what it is all about. It may certainly be said of our representatives just now that

"When they are unanimous Their unanimity is wonderful!"

It would never do to make any objection when public business is being transacted so rapidly at a time when expedition is necessary, but I cannot refrain from remarking that the unanimity being shown reveals a further defeat of partisan Government. The Government supporters have been so drilled to defending Government measures that when they do not encounter opposition they have nothing to say. In the same way the Opposition considers its chief duty to be to oppose, and when opposition is forbidden it has nothing to say. The result is that there is no discussion of any kind. Friendly discussion would help to prevent hasty and insufficiently considered legislation, and members of all parties should feel themselves free to offer helpful suggestions. As the business of the country is being conducted during this political truce the members of the

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cabinet are practically wielding absolute power without checks of any kind, and that is dangerous, no matter how well-intentioned they may be. Surely the members on the Government side can discuss matters without always being on the defensive, and members of the Opposition can offer opinions without always opposing. At a time when our representatives should be giving us the benefit of their best and sincerest thought they are all silent. I wonder how long this strange silence will last. It seems to me somewhat ominous, somewhat like

"The strange silence that before a storm
Shakes the forest leaves without a breath."

The present mysterious silence suggests deals and other arrangements that are always dangerous to the public welfare. I hate to seem suspicious, but long experience of the ways of politicians makes me doubt their goodness when they are too good. It is too much like the wonderful good behavior of children just before Christmas. And while the politicians are being so "very, very good" a lot of the party papers are being "horrid." It strikes me that this is a time for "watchful waiting" on the part of ordinary citizens.

This week someone sent me the following clipping:

"The Bank Baiters should have an illuminated poster pasted on their editorial walls, to this effect.

THE BANKS SAVED CANADA.

If they (the Baiters) do not admit that the Banks Saved Canada, we will be glad to send particulars, on receipt of a post card if, indeed, they desire such particulars as to the true state of affairs."

Unfortunately he did not send me the name of the paper, and I cannot write for this wonderful information. I have a fairly well-grounded opinion that the Government saved the banks, and that they are not responding in the public-spirited way we have a right to expect, but if there is another side to the story I should like to know it. If I knew the name of the paper that published this paragraph I would not only ask the editor to send me his inside information, but also to tell me his age, the color of his eyes and send me a lock of his hair, and I would read his fortune for him.

THE DAIRY.

The Male Calves of the Dairy.

Editor "The Farmer's Advocate":

Our last article treated of the general points in feeding and rearing dairy calves. In this we shall discuss the question of male calves on the dairy farm. It is often a problem to know what to do with this class of stock. Pure-bred, we do not like to sacrifice to the butcher, yet there is no assured remunerative market for these. Among the smaller dairy breeds it does not pay, as a rule, to make beef of the bull calves. Those who have animals belonging to one of the larger dairy breeds claim that it pays to raise the steers for beef, especially in the case of grade Shorthorn cows, bred, say to a Holstein bull. We have seen some very good fat steers, bred in this way. Right or wrong, there is a prejudice in the minds of dealers against dairy-bred stock for beefing purposes. We attended an auction sale of dairy stock recently, where a number of the ring-side spectators were dealers in stockers and fat cattle. It was amusing to hear some of the comments on the stock offered—"Rats," "Cats," "Goats," "Pick him up and carry him around the ring," etc., were expressions used by these men.

Probably, because of this, some dairymen are turning their attention to the "dual-purpose" breeds, more particularly the dairy Shorthorn, which in the opinion of many will solve the problem of what to do with the male calves on the dairy farm, especially since the rise in the price of beef. However, the writer's advice, if it were asked, would be to go slow before making a change in the right class of stock on your dairy farm. Pope's advice is very good at this point:

"Be not the first by whom the new is tried
Nor yet the last to lay the old aside."

Speaking generally, we believe the best plan to make profit out of dairy male calves is to rear the calves and sell them when 4 to 6 or 8 weeks old. At the present time veals are worth 8 to 10 cents a pound, and there is never a time when a such profit can be made from dairy males, or when sold under two months old. We have a good deal from people who do not understand dairy farm conditions, about the profit to be had from selling calves which ought to be sold for beef, but from a dairy farmer's viewpoint, such animals sold young are likely to make more money for

the owner. (Readers will please bear in mind that we are discussing this question from a dairy farmer's standpoint, not that of a beef farmer). The advantages of this plan, especially when handling male calves dropped during the winter are—it saves the risk involved in castration, lessens the labor for the summer, and allows more feed and time for proper feeding and care of the milk cows and females to be reared as future milkers.

Some follow the plan of allowing the veal calves to suck their dams until ready to sell. As pointed out previously, this is not a good method for developing the milking qualities of the cow, although it is probably all right for the veal calf, and where a cow will "mother" one calf after another as soon as fat, men who have tried it, claim that a cow will make more money raising calves than can be got for her milk or cream, and the owner is saved the labor of milking the cow and caring for the milk or cream.

As a rule, however, it is better to remove the veal calf from the dam in one to three days and hand feed on whole milk for at least one to three weeks—better new milk for the whole fattening period if the milk is cheap and can be spared, and the calf likely to make a profitable use of the milk. Warm, sweet, skim-milk may be used at the end of one week, to gradually replace the whole milk and some ground flaxseed may be added to replace the fat or cream removed by the separator. A calf fed in this way ought to gain 1½ to 2 lbs. or more daily. Assuming that the calf weighed 80 lbs. when dropped and gained 1½ lbs. daily for six weeks, selling at that time for 10 cents per lb., we have, 80-gain of 63 lbs. =143 lbs. @ 10c.=\$14.30. As previously stated, it is doubtful whether such a calf will at any future time make more profit to the owner. It is but fair to point out that if this calf were fed on whole milk during the whole period and milk were worth \$2.00 per 100 lbs., there would be no profit, because the calf would probably consume 20 lbs. (2 gallons) daily, which would be 840 lbs. in six weeks, which at \$2 per 100 lbs. =\$16.80—a loss of \$2.50. It is because of this that in winter it is seldom profitable to feed a calf for any length of time on whole or new milk. For the first week after freshening the cow's milk is more or less abnormal and decidedly so, for at least four days, hence the new milk for this period may be given to the calf; after that, its profitable use for vealing purposes is doubtful.

One other phase of the question may be discussed briefly. How shall we best rear male calves which are pure-bred and are likely to prove profitable dairy bulls for heads of herds? At this point many of my readers are likely to disagree with what I am about to write. On the one hand we have the demand of buyers who like to see a fat, sleek, nice-appearing male calf; and many owners and sellers pride themselves on always having their stock in "show condition." On the other hand, we have the experience of a growing number of purchasers of dairy bulls, which have proved to be more or less impotent—not sure-getters. After a man has paid, in some cases a fairly "long" price for a bull, either young or mature, and then finds the females bred to him are not getting in calf it makes him feel sore, as it is a serious loss—not only in the price paid for the bull, but far more serious in loss of young stock and milk. The owner is compelled to do one of three things: buy another bull, which the small breeder cannot afford to do; use an inferior sire; or carry a number of dry females in the hope that eventually they will get in calf. This is an important matter which deserves the careful attention of all breeders of pure-bred dairy stock, and especially of those who are making a specialty of breeding and rearing bulls for sale. This ought to be a profitable line of work for men with capital and who appear to have a special gift in the selection and mating of dairy animals.

The causes of sterility among dairy bulls are probably many, but one or two common causes we shall mention. First, the feeding of too much starchy and fatty foods that give a nice appearance to the animal, but we believe are more or less injurious to the reproductive organs. More of the muscle-forming or proteid food substances like clover hay, bran, oats and a little oil-cake (not the ground flaxseed) with a few roots after the skim-milk period of feeding to keep the bowels loose, would be better than feeding foods like corn or corn silage, barley, and flax, which are chiefly foods of a fattening nature. Grow more bone and muscle and less fat on dairy bulls.

The second probable cause, is lack of exercise for the dam while carrying the fetus or calf, and lack of exercise for the young bull calf and even after it is more or less mature. The hot-house bull, no matter how well he may be bred, is likely to prove a disappointment to the breeder and to the purchaser. If the breeding is right, better buy an animal that is a little rough in form and coat, rather than a fat, sleek, impotent bull.

O. A. C.

H. H. DEAN.

About Dairy Utensils.

Editor "The Farmer's Advocate":

I have read with a great deal of interest the article in your paper, by H. H. Dean on the "Creaming of Milk." But in the one in the January 14 issue, I think he made one mistake. He says, "On the whole we prefer the tin pan pressed from block tin." I very much doubt if Mr. Dean ever saw such a pan, or if there was ever such a pan made, as it is too soft a material for pans. Pressed tinware, or more properly speaking tinned ware, is made from sheet iron, or sometimes from mild steel, and coated all over with tin to keep it from rusting.

New Ontario.

GEO. SWITZER.

Tinware in this country is nearly all made from tinned iron, but occasionally from tinned copper. When we speak of "tinware," "tin pans," "tin pails," etc., we always refer to iron which has a more or less thickness of tin coated over the iron. This is what was referred to in the article on shallow pans for creaming milk, which are stamped from these squares or blocks of tinned material, instead of being made from two or more pieces, soldered at the seam. We were not referring to the pure metal tin.

H. H. DEAN.

HORTICULTURE.

Growing Young Tomato Plants for Early Use.

Editor "The Farmer's Advocate":

One of the most interesting parts of our farm work has been the growing of small stuff, and particularly tomato plants. There is all the rush and nicety in it, that there is in conducting a factory contract that must be completed on a time limit. For the plants must be built on time and ready by a certain date. You must not start too soon, the date to start your contract is fixed; Nature says just when and no sooner, for if your plants are too large they are too expensive, or, as a merchant would say, "your overhead charges will be so large that profit is cut down too much."

Last season was an extra bright season, and rushed the plants a little too fast. We prepared our foundation, if you like, on the second of March by getting our fires on in the small cold frame (a cut of which appeared in "The Farmer's Advocate" a short time ago). We mixed up two trays of earth, using 3 parts surface soil, 1 part rotted manure, and 1 part leaf mold. We sifted this fine to plant our seeds in. Sifting is necessary because the young seedling's roots will take hold of sticks and stones in this and will be torn and lacerated, possibly doing serious damage to many individual plants.

Previous to putting the seed in the soil we make sure the soil is moist enough all the way through. If it is dry we pour on water and mix it as we would a batch of cement, turning it over and over. The ground is in right condition when you can take a handful of it, squeeze it and it will just hold together and no more.

We use good seed, and even though it costs more the results warrant the price. We got our tomato seed from a firm in New York State. It is a strain they select specially, known as the Northern Aderondach No. 3, and for which we pay \$3.00 per ounce.

These seeds are plump and full, the fruit is smooth, even, flat, and has a large portion of pulp. The fruit consequently is firm and stands up well under shipment. It also slices better and has a very pretty pattern, showing the hard pulp part up very plainly in contrast to the bright red of the softer pulp, and that is the contract the truck man has to meet. The public is the other party to your contract, and they demand a higher percentage of firm pulp, less seed and water, and a smoother fruit than the general stamp of tomato.

Since our contract is run on time and nature can't be persuaded to alter the dates we must rush our construction, for the plants must be in flower by the 15th of May and ready for the field should the weather permit, hence we must be at it by the first week of March, with less than three months in which to build our plants.

With the seed soil ready we fill two or three trays or shallow boxes—12 by 24 by 6 made of inch surface wood. Put the surface side in so the roots cannot get hold of the slivers on the rough surface and level it off, then with a stick the width of the tray and about the thickness of a lath we press the soil in a number of V-shaped troughs and spread the seed evenly in these. The seed should not be buried deeply, that is not over one-half inch. We just take a handful of soil and pour it over the seeds.

No plant can get a "foothold" unless the soil is firmly packed about its roots, hence it is necessary to press the soil down tightly about the seeds (and in transplanting tightly about the plant's roots). To press it about the seeds we

use a brick and press the surface we is to prevent after water caking of the bake, and wise to cold sack to baking and ly, because first trans off. As s warm water seeds, such more than late germin they need will get b about 80 thermometer have a g easily, but keep the t grow good come out through th to a great baking th air and h

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Editor

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use a brick or a piece off the end of a 2 by 4, and press it down pretty tightly. Then over the surface we sprinkle a light layer of sand. This is to prevent the surface from becoming sloppy after watering, thus effectively forestalling the caking of the soil, which would, if not prevented, bake, and then smother the seedlings. It is wise to cover the trays with a piece of paper or old sack to still further prevent the possibility of baking and also to get out of watering frequent-baking and the fewer waterings they get till the first transplanting the less danger of damping off. As soon as the seeds are in, we water with warm water, not boiling as is done with some seeds, such as egg plant, but it also should have more than the chill taken off. This will stimulate germination, and as we are on a time limit they need pushing. Place the trays where they will get bottom heat, and in a temperature of about 80 in the day and 75 at night. Keep the thermometer down close to the trays. If you have a green-house you can control the heat easily, but with hot beds it is more difficult to keep the temperature even, yet it is possible to grow good plants, and there are many fine plants come out of beds. After the plants are up, go through the rows with a table fork and stir, not to a great depth, the surface, to prevent any baking that may have started and also to allow air and heat access to the ground.

In this stage you may have trouble with your plants in the form of damping off, which as a rule, is caused by excessive moisture and impure air. Hence it is better to err in light watering at this time and use it warm. When watering, see that the moisture goes right to the bottom of the trays, for the roots, even of these small plants, if the soil is rich will spread and run all over in a most surprising manner. As soon as the plants show the first true leaves they are ready and should be moved along to the next stage, otherwise the roots will begin to crowd and you will be behind with your contract.

We thought when we were told this the first time that the fellow who told us was decidedly off, but because we had never seen transplanting, except when the plants were about 8 inches high, and we tried it on the seedlings and lost them all. But it was because we didn't know how.

The how is this way: wet the plants the night before transplanting is to be done. This will allow them to fill up on water enough to carry them over till they get a fresh rooting. From this stage on I have given the process in detail in "The Farmer's Advocate" of December 31, page 2245.

We used nitrate of soda to stimulate a quick growth. This comes in crystals and may be applied in two ways, by sprinkling a little of the crystals on the soil, say a teaspoonful to 18 plants after the second transplanting. Never let the soda touch the leaves, for it will destroy them. The soda will dissolve when watering the plants. It may be applied by dissolving in water and sprinkling it on, which is slower, and you must make a weak solution in order to prevent burning of the foliage, say 1 teaspoonful to a gallon of water. One application is all that is advisable.

British Columbia WALTER M. WRIGHT.

The Dark, Dark Side Of It.

As the time is approaching to commence work in the orchard again I must say the discussions we have had on spraying and results we have had therefrom do not suit me at all. Let me give you my experience for the last four years with the different kinds of sprays. On the first year we used lime-sulphur for the first spray, and Bordeaux mixture for the second and third. The fruit was 99 per cent. clean. On the second year all three sprays were lime-sulphur, and the fruit was two-thirds clean. On the third year we used lime-sulphur and the fruit was one-half clean. On the fourth year the first spray was lime-sulphur, and the second and third Bordeaux. The results were nearly a failure on account of fungus. It should be mentioned, however, that during the first year we slaked the lime each time we filled the tank. The fourth year it was run off in a trench and measured for each tank. We are constantly hearing the bright side of farming, let us have a few facts about the other side and see if we cannot benefit by them.

Norfolk Co., Ont. ROBERT CHAMBERLAIN.

For Forty-five Years.

Editor "The Farmer's Advocate":

I have taken the Advocate for forty-five years. I quit farming nine years ago, but I still stick to the paper and I would feel lonesome without it.

Ontario, Canada JOHN NICHOLLS.

When and How to Fight San José Scale.

Editor "The Farmer's Advocate":

The old adage, "A stitch in time saves nine," stands more than true in the control of that most destructive of orchard pests, San José Scale. Whereas the average scale, insect or fungous disease is content with marring fruit, destroying foliage and sapping a modicum of vitality from the tree tissues, San José, uncontrolled, makes a finished job of its depredations and kills ruthlessly. Yet there is no reason in the world why its appearance should affright the orchardist. It is easy to identify, and presents no insuperable difficulties in its control. Observation, perseverance, attention to detail, promptness, and lime-sulphur are the safeguards of the apple grower.

In spite of the fact that it is more than twenty years since the first Canadian ancestor of these little wax-covered Chinese demons stole a ride into Ontario on nursery stock; in spite of the fact that one of the yellowish-brown females no larger than a crumb can act as mother and grandmother to several million of her kind in one season, the pest has progressed no further north than a line drawn from Sarnia to Toronto, and even in the tender fruit districts which it affects as a residence, by no means all the orchards are affected. That this is the case affords evidence that in the severity of our winter lies a check to the rapid progress of the enemy, part of whose Latin name, "pomicinus," shows the disfavor with which it is looked upon.

The fact that the climate of Ontario is not all that it should be from the point of view of the pest that has invaded the southern orchards of the Province may be cheerful news to orchardists as a body, but brings no joy to the heart of the fruit-grower who already has the scale well established on his property. He wants to know

commercial mixtures are on the market at reasonable prices, and fair results will attend their use. But the good, old-fashioned lime-sulphur has as yet met no victor. Lime-sulphur, whether home-made or sold commercially, is safe, effective and absolutely dependable. It is warranted, if used at the right strength, at the right time, to leave the trees uninjured and to kill the scale with which it comes in contact.

Some orchardists use gasoline sprayers, some the less up-to-date barrel outfit. Good work can be done with either if care be taken that the outfit is in good condition, and that the pump plungers are carefully repacked before the spraying season commences. Though there is some argument as to the most desirable form of nozzle to use, practice has shown the disc nozzle to be as reliable a form as the orchardist can desire. It should be used with a moderately coarse opening.

If the whole outfit is working well a high pressure should be obtained—a very important point in dealing with the pest under consideration. Every portion of the tree should be thoroughly drenched till the whole tree from the outermost twig to the central trunk is dripping with the mixture. Too often the twigs and the undersides of the branches are neglected. Loss of spraying material is inevitable and should cause no anxiety. The cheapest job is seldom the best.

STRENGTH OF THE MIXTURE.

Timidity as to the effects on the tree has so far led growers to use lime-sulphur somewhat weaker than is desirable for the best results. Those who know recommend the use of slightly stronger sprays and assure us that no harm has resulted from their use. When using the commercial lime-sulphur, not more than seven gallons of water should be added to one gallon of the liquid. Strength 1.035 will perhaps best meet

all requirements, and no ill effects to the tree have been observed with strength 1.040. When the home-made mixture is used, it should always be tested as to strength by means of a hydrometer.

TIME FOR AND NUMBER OF APPLICATIONS.

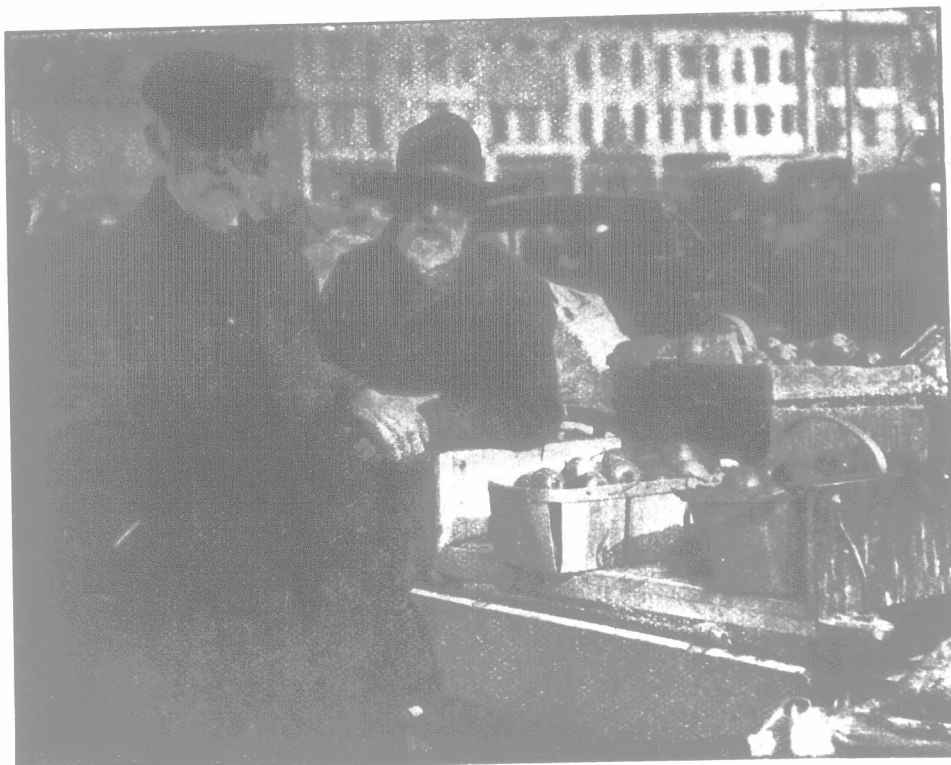
One application thoroughly applied will usually have the desired effect in the case of any but badly infested trees, but it is far safer to give two applications. Even the most expert of sprayers is liable to miss out spots unknowingly. In any case it is best to give the outer twigs a thorough re-spraying after the tree has been sprayed. The twigs are perhaps more likely to be missed out by a conscientious expert than by the hired man in a hurry. Excess of zeal leads to too close an approach to the tree, and though the boughs and branches may be running with the mixture, many of the twigs may remain untouched, as may the underside of the branches. When the time for picking comes the sight may be seen of a tree apparently otherwise free from scale bearing badly-infested fruit. Even when spraying of the twigs has missed none of them, their pubescence or downiness impedes the penetration of the mixture to the scales on the young bark unless considerable force and pressure are applied.

Presuming that the safer course of giving two applications is to be followed, the first spray should be applied as soon as the weather is bright and warm, as will generally be found during some portions of March. Temperatures at or below freezing point do not seem to allow of the best results, though the reason why this should be the case is as yet unknown.

The second application should be given as near as time will permit to the bursting of the buds. In many cases the buds will burst before the entire orchard has been sprayed, but this is no reason to stop spraying. Orchardists as a class are far too timid about applying the mixture to young foliage. Until the leaves are larger than ten-cent pieces, no harm can result with the strength suggested, at least on apples.

CAUSES OF FAILURE TO GET GOOD RESULTS.

Many conscientious fruit-growers, after reading thus far, will feel inclined to put down the paper



Two Experienced Marketers.

how to get rid of it before a few years leave his trees dry skeletons of their former beauty. The control of San José is no longer in the theoretical stage. Much practical investigation by Provincial Entomologist L. Caesar, B. S. A., and his assistants, by the Bureau of Entomology at Washington, D. C., and by various United States Experimental Stations, has given to the orchardist a simple method of effectually ridding his trees of the pest.

PREPARATIONS FOR SPRAYING.

First and foremost to be considered is the preparation of the orchard for spraying. Old, neglected orchards are usually the worst sufferers from, and the most prolific breeding grounds for, the scale. The tall tops of old, rough trees should be headed back, dead branches removed, unnecessary boughs pruned out, the tree centres opened to the sun, and the rough bark under which the scale may breed and thrive untouched by the spray mixture, scraped off with a hoe or any other handy instrument. The tree, when pruned, should be low enough to be sprayed economically, and should have every portion open to the free application of the mixture. In younger or less-neglected orchards the above advice holds good in so far as in their case such preparation is needed. This topping, pruning and clearing should be begun not later than the end of February.

MATERIAL AND MANNER OF SPRAYING.

Next must be considered the spray material to use, and the manner of applying it. Some good

with the remark that they tried these remedies last year without success, and to some extent their contention may be correct. Two factors encouraged an abnormal growth of the scale in 1914 not found in the average year: First, heavy rain came soon after spraying and materially decreased the killing power of the lime-sulphur through dilution, and, second, warm weather continued so long into the fall of the year that San Jose scale reproduced itself into November. This means that the small amount of scale apparent on an affected tree in September had reached and passed the million mark before another month was over. The mistake in calculating reproduction is often made by farmers and others. "If," says the farmer, "I have one thousand scale insects hatched in one month, I'll have four thousand hatched in four months." The conclusion is entirely wrong. Take one female scale and allow that she produces four hundred young. Allow half of these young, or two hundred, to be female and presume that each of these also produce four hundred young, half of which are female. We will then in two generations have 40,000 female scale insects. These two generations are about the average number for ordinary years, but in 1914 two and a half or even three broods were hatched. The 40,000 females from the one original female gave birth to 8,000,000 young. In other words, one extra brief month of warm weather multiplied the number of scale insects some hundred fold above the average.

The unsuccessful sprayer can console himself with the fact that in 1914 he had to contend with unusual conditions, but he should not lose sight of the possibility that he did not allow for the pubescence of the twigs, and, therefore, neglected to spray these as thoroughly as he might have done. It is advisable, therefore, to take heart, and if at first you don't succeed "try, try again."

Space does not permit the giving of directions for home-made lime-sulphur making. These, which have been given several times in this paper, may also be obtained by applying to the Department of Agriculture for Bulletin 198. Mr. Caesar, Provincial Entomologist, O. A. C., Guelph, has expressed his willingness to answer all queries that may be put to him concerning control measures for this and other pests. He has also kindly reviewed and approved this article.

O. A. C., Guelph.

ANDREW CORY.

Preparing Hot Beds and Cold Frames.

A correspondent recently inquired about the difference between hot beds and cold frames, and their advantages. The following may be of some interest to many of our readers just now:

The essential difference between a hot bed and a cold frame is that artificial heat below is created in the former usually by the use of horse manure. Both require a plentiful supply of rich, mellow earth, preferably black vegetable mould, such as that procured from low spots in the bush, or swampy creek bottoms.

The hot bed is for the purpose of starting vegetables and flower plants, and the cold frame for transplanting them into before putting in the open garden or for the early growth of such plants as lettuce, radish and onions; both should be in a sheltered position from north or other cold winds. After clearing away ice or snow begin the hot bed by laying down a bed of fresh horse manure, well worked together, forked over and solidly tramped down about twenty inches deep, and a foot wider all around than the frame which rests upon it. The latter is made of two-inch by twelve-inch planks, or sound inch boards of the length to suit the sash. The back end should be a couple inches higher than the front sloping toward the south. About 2½ feet to 3 feet by 5 feet is a handy size for the sashes which are especially made to use without putty for holding the glass in position. Use good heavy glass, which is less liable to breakage and will keep out frost better.

The frame should not be laid on the manure until the latter is settled and heating evenly. Some manure should be packed around the outside of the frame also in case of severe weather. Then fill in and tramp down evenly on top of the manure about five inches of the mould in which the seeds are to be planted. The sash should be lifted several times to let off the steam and excessive heat which will generate particularly on a sunny day. The little plants are some times ruined by too great heat, and bad results also occur from the use of wet earth instead of mellow mould. Where frosts are severe it is some times necessary to lay a canvass above the glass sash at night. Such plants as tomatoes and certain flowers are very tender. The vegetables commonly started in hot beds are tomatoes, cabbages, cauliflowers, celery and peppers, and such flowers as asters, balsams, pansies, nasturtiums, canterbury bells, fox gloves, etc.

In a location, like central Western Ontario,

and for farm gardening, operations may begin on the hot bed about the end of March. Very satisfactory results have been obtained by sowing seeds from about April 10th to 15th, some a few days later, others like cabbages, which are very hardy, earlier. Celery seeds and very fine flower seeds should not be covered deeply. Just a light sprinkling of mellow, moist mould, being sufficient. Tomatoes, cabbages, etc., can be covered with more soil, but the seeds should not be sown too thickly or the plants will be crowded and spindling. Scatter the seed in a row about an inch broad and have the rows about 3½ or 4 inches apart, so that the soil between can be stirred occasionally. Keep the weeds out and the soil and plants moist, using a fine-nozzle sprinkling can as frequently as required to maintain a healthy growth. In three or four weeks tomato plants can be transferred to the cold frame, where they are put far enough apart to give them room to grow till in blossom before finally removing to the open garden from June 10th to 20th. By keeping the soil bottom low down or having a frame made of wider boards greater depth will be secured, necessary in case of tomatoes which grow large before setting outside. In case of both hot beds and cold frames it is well to have several inches clear space between top of plants and the cover.

The cold frame is protected with glass like a hot bed, or may be simply covered at night with coarse canvass or cotton to resist frost. The subsoil should be first well forked up, manured and then covered with about 6 or 7 inches of mellow soil or mould. Very early lettuce is easily grown in a small hot bed or cold frame, and putting a layer of horse manure underneath the mould will hurry it along. It is a good plan to put a glass sash over a few hills of rhubarb, applying some extra manure also. In this way lettuce and rhubarb can be ready for the table three or four weeks before that grown in the usual open way and with very little trouble. Hardy flowers started in the hot bed can be brought on several weeks ahead of those sown outside. In case of cabbage for farm table, use a few of an early sort, like Early Jersey Wakefield, or a little later, Early Winningstadt, sown in the hot bed, and a couple of weeks later more for winter like Danish Ball Head. Celery should be transplanted at least once when very small in the hot bed to three or four inches apart and when 4 or 5 inches high to the open trench. With these few hints anyone can start a farm garden hot bed, according to location and needs, and one season's experience will supply additional information better than a whole book of rules. Make a start in a small way.

POULTRY.

Success With Turkeys.

Editor "The Farmer's Advocate":

Each season of the year brings its work on the farm. If there is any slack time we will say it is the middle of winter or the beginning of February. This is a time we may add a little knowledge to our experience in raising fowl and especially turkeys, as they are the most profitable, in fact they are nearly all profit, not counting the time expended on them. As we have often said, they are beneficial in the number of grasshoppers and other injurious insects they consume, and the grain we feed at fattening time we justly owe them for their good deeds, and I may say here, thoroughly fattening any kind of poultry intended for market not only increases the weight but greatly improves the appearance and quality, and helps make a demand. It pays well.

When the little turkeys are hatched the first to break the shell are taken away, so they will not get crushed in the nest, and placed in a warm basket with warm flannel covering near kitchen stove or in sun if not too hot, leaving hen on nest until they are all out. The first food is a little dry bread, rolled out meal with very little hard-boiled egg chopped fine. Oatmeal with sour milk curds, and a little black pepper is also good with common sting nettle and camomile chopped fine and mixed with any or all of the food. After two or three days they are able to pick a little for themselves if the weather is fine. They are more tender than chickens and require more attention while young. Lice is one enemy they have which multiply with astonishing rapidity if not checked and tended to from time to time until the birds are large enough to dust and look after themselves. If they have lice, grease under the wing; give lots of ashes to dust in; put them away from the other fowl in a field they cannot get out of easily, preferably a hay field. They need shade from the hot sun, and sour milk to drink agrees with them. Keep young birds out of the wet as much as possible. Dampness and filth are two things to be avoided.

When the young turkeys are four or five weeks old and the feathers begin to disappear from the

head, the most critical period is at hand. At that time put tincture of iron, a few drops to a pint in their drinking water two or three times a week if the birds appear droopy or languid, as soon as their heads become covered with red they regain their vigor and alertness. If allowed range and fed once or twice a day they will grow rapidly enough to pay well for the little extra care they require during their tender age. When the cool weather comes and insects are not so easily found, they require extra feeding to get them ready for market. All sizes sell well if well fattened. The laying hens are better not too fat; if too fat during winter they may lay soft-shelled eggs or lay too early. April 1 is plenty soon enough for laying to begin. The first eggs may be set under common hens, the last clutch being given to the turkey hens. The turkey hen makes the best mother, and is better protection for them under a shower of rain.

Lambton Co., Ont.

WM. EDWARD

Overcome White Diarrhoea.

Editor "The Farmer's Advocate":

Millions of incubator-hatched chicks are raised every year, and thousands of poultrymen are successful who, in spite of the ravages of white diarrhoea, continue to rely upon artificial hatching and brooding. That some means of controlling the disease must be known to insure success will readily be admitted by those who have had experience with its deadly work amongst incubator chickens. Yet many who find poultry keeping on the farm profitable and who desire to increase their flocks by the use of incubators and brooders are stopped, and unable to raise the chicks so hatched, because of difficulties, of which white diarrhoea is the chief; and while it is by no means the only obstacle to success, those who are able to overcome it generally find the other difficulties comparatively easy to vanquish.

Although white diarrhoea has been directly responsible for a very large share of the mortality amongst incubator chicks, a study of the conditions of artificial hatching and brooding during the last few years reveals the fact that many large poultry farms are not, and never have been, seriously hampered by it. The losses it has caused have been heaviest among beginners' flocks, and any flocks which for some reason have become low in vitality. During late years the poultry departments of various experiment stations and agricultural colleges of Canada and the United States have been investigating the causes and means of prevention of white diarrhoea, and it is to them we are indebted for locating the bacillus or germ which is directly responsible for the trouble and for giving us the most intelligent methods of keeping it out of our flocks.

It must not be surmised, however, that it is now an easy matter to raise chickens; that all one has to do to keep them healthy is to put some druggist's preparation in the drinking water or feed according to certain rules. No, indeed; if the investigations in this work have made anything plain at all, it is that more care, and more intelligent care, in breeding, hatching, feeding and raising chicks, must be given than has generally been the practice heretofore. In no other way can the ailment be prevented. "What is worth doing is worth doing well." Lacking the broader knowledge which the experiment stations have now gained from years of extensive study of the subject over all the land, many poultry keepers devised ways of their own for checking the spread of white diarrhoea among newly-hatched chicks, a peculiarity of the disease being its rapid dissemination through an entire hatch once its victims number a few. Among these precautions might be mentioned: One, do not let the temperature of the incubator get too high; two, do not let the temperature of the incubator get too low; three, do not give the chicks water the first three days; four, do not give the chicks food for 48 hours from hatching; five, give as drinking water that in which rice has been boiled.

The list might be greatly extended; many of these remedies were beneficial to some extent, though at best they represented the efforts of those who were somewhat in the dark concerning the real nature of the disease. Indeed the experiment station experts themselves have only within the last two seasons found a satisfactory solution of the problem. Of better purpose than to rely entirely upon any of the above methods of control is to acquire a good general idea of the whole subject from the information now available as a result of the investigations of the college poultry departments.

Modern treatment of disease is always preventive when possible rather than awaiting to cure until after the disorder becomes established, the latter being but the second line of defense; and prevention is only assured when the causes and nature of the disorder in question are understood.

NATURE OF THE DISEASE AND PREVENTIVE MEASURES.—There is some confusion pertaining to the name "white diarrhoea" for

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there are other forms of bowel trouble amongst chicks which may be mistaken for bacillary white diarrhoea, the latter being the most serious and the one which is most correctly referred to by that name. The genuine white diarrhoea is frequently called "bacillary" because it originates from a specific bacillus or germ, and thus it is distinguished from other bowel troubles which may be merely the temporary effects of improper feeding.

In common with most germ diseases bacillary white diarrhoea is very contagious. It generally makes its appearance when the chicks are between five and ten days old, and if they can be brought through this critical period without contracting the disease, they are safe as far as white diarrhoea is concerned. The characteristic appearance of the infected chick is weak and sleepy; a whitish discharge is generally to be observed around the vent. The chick is small for its age, and spends most of its time dozing near the heat, or if it runs out with the others it is continually being jostled around by the stronger, healthier chicks. An affected chick will often run to where others are scratching as if to work with them, but as a rule his ambition fails when he gets there, and he will stand and doze while the others get the grain. Sometimes an affected chick will show an inordinate thirst and stand drinking, drinking, until thoroughly saturated within and without; and then, chilled, and still standing by the water, off he goes to sleep instead of running under the hover to get warm. At other times such a chick will stand with head back and eyes almost closed, continually sounding a pitiful "peep-peep-peep."

When a chick shows any of these symptoms despatch him promptly and burn the remains. It pays to watch the chicks a few minutes each day to discover and remove any new cases. Every morning the space under the hovers should be examined for chicks which may have died during the night, and the litter should be changed if it is at all foul or damp. Drinking water must be pure and should be changed four or five times daily the first three weeks; after that less frequently will do, though it should never be allowed to become dirty. Nothing is worse than dirty drinking water, and disease germs are left in the fountains by sick chicks to be taken up later by healthy ones if the water is not changed before it becomes polluted.

During the first four days in the brooder great care must be taken that the little chicks do not pick at the droppings, for at this age chicks are most susceptible to infection and will pick at anything in sight. To prevent this, the space under and around the hover must be kept scrupulously clean. If the chicks are kept in the dark while resting they will not pick at anything, and while they are out exercising, a little chick-size scratch grain scattered in the litter will keep them out of mischief.

Other possible sources of infection are dirty incubators, brooders, drinking or feeding vessels, droppings from mature birds which have previously had the disease, eggs used for incubation from hens previously affected with white diarrhoea, the hands of the attendant if he has previously come into contact with infected matter. Much of the danger from such sources may be removed by cleanliness and the liberal use of disinfectants about every place and vessel with which the little chicks are liable to come into contact. One of the most trying features of suppressing the disease is how to avoid the consequences of incubating infected eggs. It is impossible to tell by the appearance of the egg whether it is infected or not, and it is equally impracticable to disinfect the contents of a suspected egg without destroying its usefulness for hatching.

Chicks may be mildly affected by white diarrhoea, recover, grow up apparently healthy, but they still carry the germs within them. If these birds are used as breeders they may in turn pass the disease on to the next generation by laying infected eggs. For the germs are often present in the oviduct of the hen and may be transferred to both the contents and the outside of the egg. Disinfecting the outside of the egg reduces the danger somewhat, and it may be very quickly accomplished without harm, by dipping the eggs in alcohol just before incubating. The eggs will quickly dry off and may be placed directly on the egg trays. The operator's hands must be clean and the inside of incubator, and the egg trays should previously be disinfected with a 10 per cent. solution of zenoleum and allowed to dry before placing the eggs. The zenoleum is not only valuable as a disinfectant, but, as was found by experiments at the O. A. C. by Prof. Graham, the fumes or odor given off appear to have a beneficial effect on the eggs during incubation. It is sometimes the case that a bird which has never suffered from white diarrhoea may yet be a germ carrier and a means of spreading the disease if used as a breeder. It is very seldom that these recovered white-diarrhoea chicks ever suffer from the active disease after they attain growth, but in any case they are seldom good layers or of as strong vitality as totally unaffected birds; and the dan-

ger is evident of spreading the disease amongst future hatches, if, for any purpose, these germ carriers are retained on the premises. They are not, however, unfit for table use, as the internal effects of white diarrhoea in mature fowls are confined to the parts commonly rejected. The giblets should not be used. Hence the wisdom of immediately killing off all chicks which show symptoms of the disease; for even if they recover, they will but grow up to be germ carriers.

When one considers the widespread prevalence of the disease, it is natural to conclude that the germs which cause white diarrhoea are to be found in some members of almost every flock; and such is indeed the case. Even on poultry farms where white diarrhoea has never been a serious menace, there are almost invariably a few cases each year. It does not necessarily follow that all chicks which are exposed to the infection succumb. Even in a badly affected hatch there are almost always a number which escape infection, and these are without exception the strongest, most active chicks, apparently they have no time to be sick.

This shows that apart altogether from sanitary measures, such as pure drinking water and the liberal use of disinfectants, vigor in the chicks is a most important element in the control of the disease. Vigorous chicks can only come from vigorous breeding stock—another important point. The power of vitality in strong chicks to resist disease is what spared many large poultry farms from serious loss before the control of the disease was as well understood as at present. These men kept vigorous stock and they raised vigorous chicks, hence white diarrhoea never got hold. But strong breeding stock alone will not prevent trouble. The best eggs possible for hatching may be so weakened by improper incubation that the chicks will be predisposed to disease from the time they hatch; proper incubation is a necessity. Quite as important are good brooding and feeding.

Provided then with the right kind of breeding stock, proper incubation, brooding and feeding, little difficulty will be experienced with white diarrhoea or any other disease.

STAMPING OUT THE DISEASE FROM INFECTED BREEDING FLOCKS.—The above measures will answer very well for anyone starting in afresh with a new flock of thrifty, vigorous breeders, but what can be done with an established flock in which white diarrhoea has been prevalent among the chicks for several years, and is therefore carried by and spread annually from the breeding stock? Keeping the disease out is easier than stamping it out after it becomes established, but the latter can also be accomplished with patience.

The first step is to make the rule to use for breeders only the most vigorous and healthy stock; avoid in-breeding; be particular to secure strong male birds. Raise chicks only at the time of year when eggs are most fertile and the germs strong—from April to June. Give the chicks every chance to do well, being especially careful during the first three weeks. Anybody can do this much and it will result every year in a decrease in the percentage of affected birds.

A second step securing still quicker results, if properly carried out, is the following: As soon as the hatch is cleaned up and the hatch dried off, remove to a darkened brooder where they should remain for 48 hours, first giving each bird three or four drops of clean sour skim-milk (or buttermilk) of good flavor, administered with an ordinary fountain pen filler before placing in the brooder. The chicks must be kept quite comfortable, and if at any time they become restless before the allotted time is up, give them light and allow them to run around the brooder for a few minutes, the floor of which should be covered two inches deep with fine-cut alfalfa or clover hay, or if neither is available, cut straw. Upon the least signs of weariness they should be put back under the hover, starting with the idlers and leaving the most lively ones to the last. Then darken the brooder again and they will remain quiet for some time. No food should be given during this time. It is not advisable during the first 48 hours to force any chicks to run about which would sooner remain under the hover, but from then on, if any remain continually under cover and seem weakly, they should be killed as they will only give trouble later on. Never try to raise the crippled chick which hatch occasionally from incubators—they are worthless.

It is believed that the sour milk treatment of newly-hatched chicks prevents the disease from gaining a hold because the lactic acid in the milk hinders the development of white-diarrhoea germs. While it has long been known that sour milk is good for chickens this method of treating newly-hatched chicks was originated only last spring on the farm of the Hon. Seth Law, in the State of New York.

In 1913 the mortality on this farm among the 5,000 odd chicks hatched was 50 per cent. white diarrhoea prevalent. Last season, when for the first time the chicks were given the sour-milk treatment the mortality was only 25 per cent.,

and practically not a case of white diarrhoea was observed. The manager believes that somewhat better results are obtained by the use of pure culture than from ordinary sour milk, although both are satisfactory.

Another valuable asset in the war against white diarrhoea is the "blood agglutination" test. This corresponds in some respects to the well-known tuberculin test for tuberculous cattle, though the method of making the test differs in some particulars. The test is made by drawing two or three drops of blood from the wing vein of the bird and to this is added a prepared serum which shows a certain reaction if the bird is infected. The test is said to be 98 per cent accurate, and it enables the disease-carrying birds to be detected and removed from the breeding flock. Last season the Poultry Department at Storrs, Connecticut, gave free tests to poultrymen in that State, and guaranteed that names and results would not be made public,—the poultryman was permitted to do so if he desired. This enabled poultrymen to reject all reacting birds, and then advertise his flocks as free from infection.

In the many "blood agglutination" tests made the past season in different states the majority of flocks had some infected birds. Probably if advantage is to be obtained the "blood agglutination" test will be introduced extensively in Ontario, unless, as is quite possible, the sour-milk treatment will answer the same purpose.

York Co., Ont.

F. R. WALLIS.

Poultry Products will be Dear in Canada

Speaking in London, on February 11, on the question of "Patriotism and Production," Prof. F. C. Elford, Poultry Husbandman, Central Experimental Farms, Ottawa, gave expression to some alarming, yet, to poultry keepers, pleasing statements regarding the poultry situation in Canada. To the uninitiated in the poultry business to-day the outcome is indeed discouraging. The high price of grain and the comparatively low price of poultry products has had the effect of dampening the ardour of many an enthusiastic poultryman. However, by referring to conditions past and present with well founded predictions regarding the future, Prof. Elford showed a silver lining to the clouds on the horizon of the poultry business. In this regard, said Prof. Elford, Canada is not feeding herself.

In 1891 the Dominion of Canada exported 11,000,000 dozens of eggs besides dressed poultry. Contrary to this, even as far back as 1911, the tide was turned and Canada imported 11,000,000 more dozens of eggs than she exported. Canadians are eating more eggs. In 1901 there were two and one-half hens to each one of the population. In 1914 there were 4.1 hens to each one of the population. In 1914, Canadians ate 30 dozen eggs per capita. This may seem large at first sight, but when we take into consideration the 365 days in each year the amount of eggs eaten by each one per day is very small indeed. A census in the State of Iowa showed that there 58 dozen eggs were consumed by each person in the state in one year. Continuing with the question regarding eggs, Prof. Elford said that the 11,000,000 dozen eggs imported last year from the United States are not in sight for the season of 1915, and it appears that Canada is not going to be able to supply the demand. There is yet Great Britain to be taken into consideration. Britains eat 12,000,000 eggs per day and they only produce one-third of that amount. Four and one-half million dozens of eggs go to the Britains each year from Canada and the United States, while the remainder of their enormous importation has been coming from Russia, France, Germany, Denmark, Austria-Hungary and the Netherlands. The circumstances at present makes the situation peculiar for the people of Great Britain. Many of the countries and in fact the countries supplying the greater amount of eggs to Great Britain are now at war and the speaker furthermore explained that in consequence of this there was a future for Canadian eggs in the Old Country after the demand was supplied here at home. There would be a call for a greater production of eggs even apart from any patriotic sentiment which might be urged in Canada. If every hen could be induced to lay one dozen eggs more per year it would mean about 40,000,000 dozens more eggs in Canada or eight to ten million dollars worth.

Prof. Elford was awake to conditions in Canada, at the present time, and explained why dressed poultry was so cheap during the fall of 1914. He explained it in this wise: In the fall of 1913, dressed poultry was very dear, dealers filled up their storerooms with high-priced stuff and in consequence of the high value placed upon that commodity, consumption was decreased, in the season of 1913 and 1914 so a bigger stock was held over than ever before. During the fall of 1914 dealers did not take a chance on purchasing dressed poultry with the result that it sold at a low figure but dealers in the larger cities

who are in the habit of accumulating large quantities of this product in their store-rooms say that never before were their houses so empty of this commodity. Furthermore, the high price of grain and foodstuffs forced many to sell their fowl even in an unimproved condition. The result of all this is that there is not the amount of laying and breeding stock in the country to-day that there was one year ago. The speaker was emphatic in his denunciation of the system of selling poultry products in this country. He remarked that 90 per cent. of the poultry was marketed in Canada in the brief period of two months. If producers would extend their marketing operations over the entire season they would obtain a much greater revenue. Consumption would be increased and the results would be far more satisfactory to both producers and to the consumer. With reference to broilers, Prof. Elford said that 30 cents to 50 cents per pound could be obtained for broilers during the months of April and May, whereas if those same birds were allowed to continue to grow until fall they would only command from 8 cents to 11 cents per pound. The speaker was cognizant of the high price of feeds and what it meant to poultrymen yet he advocated cutting out oats, at the present time, and feeding some corn, during cold weather, with a mixture of barley, buckwheat and if possible a little wheat.

Guineas on the Farm.

Editor "The Farmer's Advocate":

It has been said that guinea fowl will drive away and keep away rodents. That was the reason that grandfather bought three, two hens and a cock. The theory on which these birds keep away rodents—at least so it is explained—is by the noise they make, but I have found by experience that it takes something more than the not unmusical though constantly repeated "buck-wheat," "buckwheat" to frighten the persistent rats and mice.

We had the guineas and kept them; they are rather wild in their nature and wander all over the farm, usually coming up to the barns at feeding time. They hide their nests away under buildings in the groves and other places not easily reached. The hens are great layers, especially if the eggs are taken from their nests regularly. The eggs are smaller than hen's eggs but of good flavor, and since the hens are such prolific layers it would be a good thing for farmers to keep a few to supply eggs for general cooking. The guineas roam about and gather the bulk of their food afield, so that it costs very little to keep a flock, to say nothing of the benefits they are to crops at a distance too great to be within range of the chickens eating bugs, insects and weed seeds galore.

Guineas make fine birds for the table, their appearance and flavor is not unlike that of game birds, for which they are often substituted. Guinea eggs may be incubated by hens, and when the young arrive, if they are well and carefully fed it does not take the "kooks" long ere they tip the scales at a pound or a little less, and these "squabs" if you like to call them such bring fancy prices in every city market. They are simply delicious. Try keeping a few guineas. It is a good hobby. Guinea feathers are very ornamental and are used in millinery for dusters and various other purposes.

Welland Co., Ont. Ich Wien.

FARM BULLETIN.

Annual Meeting Canadian Ayrshire Breeders Association.

The 11th annual meeting of the Canadian Ayrshire Breeders' Association was held in Montreal on February 19th, 1914. There was assembled a larger number of members than at any previous gathering. The meeting was ably presided over by P. D. McArthur, of North Georgetown, Que., who, in his report, fittingly referred to the painful conditions in Europe caused by the terrible war. He also referred to the noble part taken by Canada in fulfilling her duty to the mother land, by giving of her sons and otherwise assisting in this critical time. He expressed gratification at the progress made by the Association during 1914, under the severest financial stringency experienced for many years. This indicated the stability of the Ayrshire business. He advised breeders to continue to develop their herds, as he was of the opinion that immediately the war was over there would be a great demand for choice Ayrshires, not when there was a growing demand, as Ayrshires were proving to be great producers, and the most economical stock breed. He called special attention to the growing popularity of the Ayrshire in all the foreign countries, especially Quebec, where 75 per cent. of the registered herds to the Department were of Ayrshire blood.

The Secretary, W. F. S. (phonetic), of North Georgetown, in his report also referred to the serious conditions caused by the European war. He re-

ported the Ayrshire business on a good solid basis, and that Ayrshire breeders were doing well, considering the financial stringency. The members list totalled 1,222, an increase of 138 during the year. There have been 26 registrations and several deaths.

Registrations numbered 3,496, an increase of 238 over 1913, Quebec Province making the greatest gain. Ayrshires had made splendid showings at all the leading exhibitions in Canada, and good records in the dairy tests. Applications to the Record of Performance Test numbered over 40 during the year, and 121 diplomas were issued for cows and heifers that had given sufficient milk and butter fat to qualify. The following cows and heifers now hold the records in their respective classes: Mature class, Milkmaid 7th, with 16,696 pounds of milk and 729 pounds fat; Four-year-old class, Fairy of Ferndale, with 15,534 pounds of milk and 539 pounds of fat, this cow has also a two-year-old record of 30,064 pounds of milk and 4,114 pounds of fat; Three-year-old class, Hazel of Bonnie Brae, with 13,917 pounds of milk and 488 pounds of fat, this heifer has a two-year-old record of 22,124 pounds of milk and 834 pounds of fat; Two-year-old class, Briery of Springbank 2nd, with 14,131 pounds of milk and 520.49 pounds of fat. In all twenty-six bulls, having four or more progeny qualify, have been registered, Scotch heads the list with 13 of his progeny registered.

The Secretary urged the breeders to enter their cows in this test, as they would find it profitable to do so.

Volume 23 of the Herd Book was issued containing 3,574 pedigrees of Ayrshire cows and heifers, and 1,418 transfers besides other valuable information to Ayrshire breeders.

The annual contained 188 pages of interesting information, and 2,000 copies were printed in English and 700 in French, and sent out to all Ayrshire breeders in Canada and to a number in the United States and other countries, and to others on inquiry.

Ten thousand copies of the records of 426 Ayrshire cows and heifers were published and widely circulated. Both the President and Secretary stated that the new United States regulations, which came into effect on July 1, 1914, had seriously stopped our trade in dairy cattle with the United States. This regulation requires that the Department Veterinarian give a certificate with every shipment of dairy cattle going to the United States, that no tuberculosis has existed on the premises from which the cattle are taken, for a period of 60 days previous to shipment.

There are now five Ayrshire Clubs in Canada in Menie, Southern Counties, Brockville, Alberta, and one in British Columbia. These Clubs were doing good work for the breed by encouraging community breeding, and otherwise fostering the breed in their respective districts.

Thirty-two breeders during the year and 151 in all had registered their herds. This gives them the absolute use of the name in connection with the registered certificates of their stock. The Secretary paid a high tribute to the press for the manner in which the most important papers, published the copy sent them from time to time, and which was usually published. This refers particularly to the publishing of the records of cows and heifers qualified in the Record of Performance Test.

In closing his address the Secretary referred to the increased work of the Association, which indicated the demand for Ayrshires was increasing at a considerable rate.

The financial statement showed receipts to be \$8,851.92 and expenditure \$7,792.94, and a balance on hand of \$5,712.15.

W. F. S.

The Best Known.

Editor "The Farmer's Advocate":

I have been a subscriber of the "Farmer's Advocate" for the past year and find it to be the best farm paper known. It is always full of good stories and valuable information for all good farmers.

Welland Co., Ont. EDWIN A'ENN.

Why should a farmer lend money at five per cent. when the banks would charge seven or eight? It was brought out at the stockmen's banquet in Toronto that farmers with money should lend it at a low interest to other farmers. Even if it would be preferable to depositing it in a bank, but surely the farmer's money loaned on note or mortgage is worth as much as the bank's money loaned on the same basis.

An Essex County correspondent, Wm. S. Patrick, states that he finds it requires about 512 cubic feet of hay for a ton in an ordinary mow without other pressure.

Farmers of Alberta Get Together.

The United Farmers of Alberta in their annual convention, held recently in Edmonton, discussed in full their position in the agricultural field.

The Chairman, D. W. Warner, introduced Hon. Duncan Marshall, who referred to the back-to-the-land movement and to the European war. He said: "I have been besieged with schemes from divers sources of putting the people back on the land." These had come chiefly from real estate brokers. His recommendation had always been to suggest to those men desiring to farm to first hire out and see whether they really wanted to get back to the land or get the land to their back. "The Government," Mr. Marshall stated, "intends to assist not real estate brokers but men who are now on the land." In reference to the war, he mentioned that when the day of reckoning came the American Continent would be pointed to as the great example of democracy and harmony where 1,000 miles of boundary line existed, and not a cannon or a warship pointing either north or south. The American countries realized that the homes of the nation were its strongest fort, and the United Farmers stood for no higher object than better homes on the prairies.

P. P. Woodbridge, Secretary of the United Farmers of Alberta, presented his report, which on the whole indicated progress. In part it read:

"I am able to report once more another substantial increase, both in the number of local unions and in our total membership, though as will be shown later a closer analysis of the situation will cause us to somewhat modify our earlier enthusiasm. During the year more than 100 new unions have been formed with a total paid up membership up to December 31, of approximately 2,500 men. Our total membership fully paid up has only increased by some 1,600 men, which would indicate a falling off in our old unions, of nearly 900. These figures constitute a serious loss and the cause and remedy for same must receive our very careful consideration, if our association is to continue to make progress in the future. Some of our unions have developed in a truly remarkable manner, notably the Cowley and Veteran branches. The former with nearly 250 members, its own monthly bulletin (paid for by the advertisers therein), its semi-annual sales and regular course of lectures to say nothing of many other features, is a union of which we may rightly be proud. A few words must also be said here of our District Association consisting of unions clustered around a common shipping point. Prominent among these groups are the Ponoka, Crossfield, Consort and Manville District Associations, with several others running very close. At least two of these, the first mentioned, are rapidly developing the marketing of live stock and farm products by their own organization, thus keeping the profits at home for the development of their own farms and giving a practical illustration of the possibilities of 'self-help' to which we are apt to pay too little attention. I am more than ever convinced that it should be one of our most important duties as an association to standardize and further develop such organizations which are the surest means to a full realization of that good old aim of agricultural co-operation the world over. Better farming, better business, better living.

Almost every day the truth is thrust upon us that not all the legislation in the world can save a man from his own foolishness and that the only true preventive is organization, education and co-operation through the unions of the United Farmers of Alberta.

There are three things which occur to me as being of vital importance if we are to keep our unions in a good healthy condition, the secret of which is, of course, a good healthy attendance of the members at the regular meetings of the Union. The first of these is a good programme of subjects suitable for the purpose of debate. The second, a good system of handling the business of the Union, whereby each man can be made to realize his own responsibility, particularly in financial matters. The third, a modern and effective system whereby practical organizers, well tried where a local union exists at least once a year, and in the troubles of a local union, and competent to supply a remedy, can visit every district."

In the year which has just closed there have been held four meetings of the full Board of Directors, and five meetings of the Executive Committee. Their report reads in part:

At the Board meeting immediately following the last convention, various committees were appointed to look after certain work and of these the Legislative, Park Parkway, and War and Transportation Committees will report separately, as will also the members of the Canadian Council of Agriculture. The past year has been a very busy one and many important problems

have had to mediate and

"Your division union stocks both at Calgary promising last and in Calgary the franchises Stockyards C. The principal traced to a greatly agr

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REVIEW o The tota City and U week were

Cars Cattle Hogs Sheep Calves Horses

The tota two marke of 1914 w

have had to be met by our Board, requiring immediate and vigorous action.

Your directors regret that the outlook for union stockyards and public-owned abattoirs, both at Calgary and Edmonton, which looked so promising last year, is now far from satisfactory, and in Calgary the by-law for the purchase of the franchise at present held by the Alberta Stockyards Co., was defeated by the ratepayers. The principal cause for this may probably be traced to the financial stringency which was greatly aggravated by the outbreak of war.

Your Board note with pleasure the success achieved by the rural, municipal, or co-operative system of hail insurance and hope to see this plan largely extended within the next few years. There are doubtless a number of details which will have to be improved on and doubtless will be, as the system continues to develop and grow financially safer and stronger. Meanwhile, the principle is a sound one and our members wherever possible, should find it to their advantage to give the scheme a fair trial.

Your Board regret sincerely the unfortunate conditions prevalent in certain sections of our province and in Saskatchewan. As soon as it was seen that some distress was inevitable, representatives of the Central office met with officials of the Dominion and Provincial Governments, also the C. P. R., and we believe that the arrangements for granting relief and assistance by all three parties resulted very largely from the representations made to them on behalf of your Board at that time."

The Revision of the Tariff.

The budget speech of Hon. W. T. White, brought down on February 11, provides for an upward revision of the tariff as has been expected for some time, due primarily to the war. Briefly the increase is 7 1/2 per cent. all round, and 5 per cent. in the British Preferential Tariff. The tariff hits all articles with the following exceptions: fish from Newfoundland, animals for the improvement of stock, cocoa and chocolate products, tea, salt for the fisheries, Indian corn, except for distillation purposes, wheat, wheat flour, sweetened biscuits, squid, oysters, sugar, tobacco, wines from South Africa, printed books, newspapers and magazines, news printing paper, matrix paper, nicotine sulphate, ores of metals, bells for churches, gold and silver coin, and gold and silver ingots, blocks, bars, drops, etc., type setting and type casting machines, newspaper printing presses, mowers, binders, harvesters and reapers, traction ditching machines, surgical and dental instruments, material for ships, binder twine, and articles for the manufacture of binder twine, fish hooks, lines, twines, and nets for fisheries, artificial limbs, artificial teeth, (not mounted), and articles specified in tariff for schools, hospitals and charitable objects, settlers' effects. The customs duty on the above remain unchanged.

It will be noted that of these only five specific agricultural implements or machines are exempt under the new tariff, namely, reapers, binders,

mowers, harvesters, and traction ditchers. All of the others are subject to the 7 1/2 per cent. increase, which means an increase from 20 to 27 1/2 per cent. on such machines and implements used on the farm as plows, cultivators, harrows, disk harrows, threshing machines, wagons, etc. Binder twine, tea and settlers' effects, wheat, flour, sugar, and the agricultural matters mentioned as well as tobacco and printed books, are the other important articles not affected by the boost.

The new tariff hits everyone. The banks must pay a yearly sum equal to 1 per cent. upon their note circulation, this is to be turned in quarterly. It is hoped that this will raise the revenue \$1,000,000. Trust and Loan Companies, incorporated under any legislative authority, must also turn into the Government a sum of money equal to 1 per cent. of the gross income derived in Canada. As with the banks this is payable quarterly. Insurance corporations, societies or associations, carrying on business of insurance, other than life fraternal, benefit and marine insurance, must pay a sum of 1 per cent. upon all premiums received in Canada, this money to be paid quarterly. All this applies to business transacted after Jan. 1st, 1916. Every cable and telegraph company using telegraph, cables or wires, within the jurisdiction of Canada must pay a sum equal to 1 per cent. upon each dispatch or message originating in Canada, and for which a charge of 15 cents or more is imposed. These returns are also to be made quarterly. Companies are authorized to make the additional charge to the person sending the message. Every person purchasing a railway or steam boat ticket in Canada for any point within this country, Newfoundland, the West Indies, or the United States, will be obliged to pay 5 cents extra for a ticket costing over \$1.00 and not more than \$5.00, and 5 cents for each additional \$5.00 or fractional part thereof which the ticket costs. Parlor and sleeping car seats and berths will be taxed 5 cents for the former and 10 cents for the latter. The companies selling the tickets referred to are authorized to collect taxes and transmit it to the Government. Tickets to foreign countries will be taxed \$1.00 for tickets of \$10.00 or over; \$3.00 for tickets exceeding \$30.00 in cost, and \$5.00 for tickets exceeding \$60.00, the company to collect from the passenger.

There will also be placed stamp taxes on all checks, receipts to banks by depositors, on bills of exchange, passing through a bank, the amount to be in each case 2 cents. The stamp tax of 2 cents will also be placed on express and post office money orders, and 1 cent upon postal notes. Besides this every letter and postal card, posted in Canada will be subjected to a war stamp tax of 1 cent, this means that it will require 3 cents in place of 2 cents to send a letter, and 2 cents in place of 1 cent to send a postal card. A tax of 2 cents will also be placed on every bill of lading. All proprietary or patent medicines and perfumery sold in Canada at a price per bottle of 10 cents or less must pay a tax of 1 cent, and an additional cent for each 10 cents above this amount. Wines, non-sparkling sold in Canada,

must pay a tax of 5 cents on each package containing one quart, and 5 cents for each additional quart. Champagne and sparkling wine must pay 25 cents upon each pint. These special taxes go into effect at a date to be fixed in the Act with the exception of the taxes on wines and champagne, which go into effect at once. The tariff charges, according to the usual custom, go into effect immediately on announcement. The total amount of increase revenue expected from the special tax is estimated at from \$8,000,000 to \$10,000,000. While the increased revenue to be obtained as a result of the proposed tariff changes is estimated at from \$20,000,000 to \$25,000,000. The special taxes will be incorporated in a bill entitled "The War Revenue Act, 1915," covering both the tariff taxes and the special taxes.

The Hon. W. T. White, in speaking of the special war expenditure hinted that the Government may borrow \$100,000,000 to fill the gap between revenue and expenditure. He proposed to the House that this should be borrowed; and backed up his belief by stating that public borrowing for capital account is always justified on the principle that expenditure upon enterprises permanent in their nature works to the benefit and advantage of future generations, who may in all fairness be asked to pay interest upon the debt contracted. This being true, he saw no reason for reluctance in borrowing to meet the expense of this war. Because such borrowing is for the purpose of preserving national and individual liberty and constitutional freedom. An arrangement for procuring the funds necessary from the Imperial Government will be followed out.

Robert Thompson Passes.

Ontario lost one of its foremost fruit-growers through the demise of Robt. Thompson, of St. Catharines, which occurred suddenly on the morning of Feb. 9th, while enroute to Grimsby. The deceased was President and General Manager of the St. Catharines Cold Storage and Forwarding Company. For many years Robt. Thompson was a prominent fruit-grower in the Niagara district, but his efforts were not only along the line of production, for he was a pioneer in all efforts of shipping tender fruits to the far West or to Britain. He has occupied the highest seats in the Fruit Growers' Associations of the Province, and he was well known to fruit-growers not only in the Dominion of Canada but in Horticultural circles in the United States as well. Improved methods in packing, shipping and handling fruit date back, in many cases, to the initiative efforts of Robt. Thompson. In all educational work and endeavors for the betterment of social conditions the deceased was a conscientious worker. He was born at Ballahinch, County Down, Ireland, 59 years ago and arrived in the Niagara district with his parents on his first birthday. Fruit-growers and Ontario's agriculture in general will lose a staunch supporter through the departure of Robert Thompson.

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

Receipts at the Union Stock-yards, West Toronto, on Monday, February 15, were large, especially of cattle. There were 134 cars, comprising 2,921 cattle, 415 hogs, 412 sheep, and 152 calves. Trade was dull, and the market was very slow, not more than a third of them being sold up to noon. Choice heavy steers, \$7.50 to \$7.75, and only one load at the latter price; good steers and heifers, \$6.75 to \$7.25; medium, \$6.50 to \$6.75; common, \$5.75 to \$6.25; cows, choice, \$5.75 to \$6.25; good, \$5 to \$5.50; canners and cutters, \$3.50 to \$4.50; bulls, \$5 to \$6.25; feeders, none selling on account of embargo in New York State, and few wanted here; milkers and springers, \$60 to \$100; calves, \$6 to \$11. Sheep, \$4 to \$6.25; lambs, \$7 to \$9. Hogs, easier, at 88 weighed off cars, and \$7.75 fed and watered, and \$7.40 f. o. b. cars.

REVIEW OF LAST WEEK'S MARKETS
The total receipts of live stock at the City and Union Stock-yards for the past week were:

	City.	Union.	Total.
Cars	16	484	530
Cattle	195	5,435	5,900
Hogs	1,160	17,633	19,093
Sheep	601	1,374	1,975
Calves	33	354	387
Horses	30	47	77

The total receipts of live stock at the two markets for the corresponding week of 1914 were:

	City.	Union.	Total.
Cars	5	213	218
Cattle	48	2,518	2,566
Hogs	62	3,944	4,006
Sheep	179	596	775
Calves	39	236	275
Horses	—	162	162

The combined receipts of live stock at the two markets for the past week show an increase of 312 cars, 3,334 cattle, 15,087 hogs, 1,200 sheep and lambs, 112 calves, but a decrease of 85 horses, compared with the corresponding week of 1914.

Receipts of live stock were moderately large, especially cattle and hogs. There was a good steady trade in nearly all of the different classes of cattle, with few changes in values from our last letter.

Butchers' Cattle.—Choice heavy steers, \$7.50 to \$8.15, and a few extra quality at \$8.25; good, \$7 to \$7.25; medium, \$6.25 to \$6.50; common, \$6 to \$6.25; choice cows, \$6 to \$6.25; good, \$5.50 to \$5.75; common, \$5 to \$5.25; canners and cutters, \$3.75 to \$4; bulls, \$5 to \$6.75. Stockers and Feeders.—Steers 800 to 900 lbs., sold at \$6 to \$6.40; steers 700 to 800 lbs., at \$5.75 to \$6; stockers, at \$5 to \$5.75.

Milkers and Springers.—Choice milkers and forward springers sold at prices ranging from \$60 to \$100, and more would have sold at these figures, although there was a fair delivery during the week. The bulk of sales were made between \$70 and \$85.

Veal Calves.—Receipts were light and prices very firm. Choice veal calves, \$10 to \$11 per cwt.; good, \$9 to \$10; medium, \$7.50 to \$8; common, \$4.50 to \$6.50.

Sheep and Lambs.—Receipts were not large, and prices remained about steady all week. Light ewes, \$5.75 to \$6.25; heavy ewes and rams, \$4.50 to \$5.50; light lambs, \$8.75 to \$9, with a very few Shropshire-bred about 80 to 90 lbs., at \$9.25; heavy lambs, \$7.50 to \$8.

Hogs.—Receipts were liberal all week, several shipments having arrived from the Northwest, but prices were firm all week.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, \$1.55 to \$1.60; Manitoba, No. 1 northern, \$1.60 1/2, track, bay points.

Oats.—Ontario, No. 2 white, new, 61c. to 62c., outside. Manitoba oats, No. 2, 74c.; No. 3, 71c., lake ports.

Rye.—Outside, \$1.23 to \$1.25.

Peas.—No. 3, \$2 to \$2.05, outside.

Barley.—For malting, 78c. to 80c., outside.

Corn.—American, new No. 3 yellow, 85c., track, Toronto.

Buckwheat.—No. 2, 85c., outside.

Rollod Oats.—Per bag of 90 lbs., \$3.40 to \$3.50.

Flour.—Manitoba flour—Prices at Toronto were: First patents, \$8; second patents, \$7.50; in cotton, 10c. more; strong bakers', \$7.30; Ontario, 90-per cent. winter-wheat patents, \$6.85 to \$7.10, Montreal.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$17 to \$17.50; No. 2, \$16 to \$16.50 per ton.

Straw.—Manitoba, \$26 in bags, track, Toronto; shorts, \$28; middlings, \$33 to \$35.

Straw.—Baled, car lots, track, Toronto, \$8 to \$8.50.

COUNTRY PRODUCE.

Butter.—Prices were unchanged. Creamery pound rolls, 33c. to 35c.; creamery solids, 30c. to 31c.

Eggs.—New-laid eggs sold at 33c. to 35c., by the case; cold-storage, 29c. to 30c.; selects, 32c. to 34c.

Cheese.—New, large, 18c.; twins, 18 1/2c.

Honey.—Extracted, 12c.; comb, \$2.50 to \$3 per dozen sections.

Beans.—Hand-picked, per bushel, \$3. primes, \$2.75.

Potatoes.—Per bag, 55c. for car lots of Canadians, track, Toronto; New Brunswick, 60c., track, Toronto.

Poultry.—Turkeys, per lb., 16c. to 18c.; spring ducks, 12c. to 14c.; hens, 12c. to 13c.; spring chickens, live weight, 12c. to 13c.; squabs, per dozen, \$4; geese, 10c. to 12c. per lb.

HIDES AND SKINS.

City hides, flat 18c.; country hides, cured, 15 1/2c. to 18 1/2c.; calf skins, per lb., 19c.; kip skins, per lb., 17c.; sheep skins, \$2 to \$2.50; horse hair, per lb., 40c.; horse hides, No. 1, \$3.50 to \$4.50; wool, unwashed, coarse, 17 1/2c.; wool, unwashed, fine, 20c.; wool washed, coarse, 26c.

THE ROYAL BANK OF CANADA

Capital Authorized - - \$ 25,000,000
Capital Paid up - - - 11,500,000
Reserve Funds - - - 13,000,000
Total Assets - - - 180,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province
of the Dominion of Canada

Accounts of Farmers
Invited
Sale Notes Collected

Savings Department at all
Branches

wool, washed, fine, 28c.; lamb skins and
pelts, \$1.15 to \$1.50; tallow, No. 1, per
lb., 5½c. to 7c.

FRUITS AND VEGETABLES.

Apples—Spies, \$4 per barrel; Baldwins, \$3.25 per barrel; Russets, \$3.50 per barrel; Talman sweets, \$3 to \$3.50; Ben Davis, \$2.75; Greenings, \$3.25 per barrel. Bananas, \$1.25 to \$2 per bunch; cranberries, \$5.50 to \$7 per barrel; \$2.25 per box; Malaga grapes, \$5.50 to \$6.50 per keg; grape fruit, \$2.25 to \$2.75 per case; limes, \$1.50 per box of 100; lemons from Messina, \$2.50 to \$3.50 per case; California, \$3 to \$3.25 per case; oranges, Florida, \$2.75 to \$3 per case; Messina, bitter, \$2.50 to \$2.75 per case; pineapples, Porto Rico, \$3.25 to \$3.50; rhu-barb, 90c. to \$1.10 per dozen bunches; beans, \$5 per hamper; beets, 60c. per bag; 50c. to 65c. per dozen bunches of new growth; Brussels' sprouts, American, 23c. per box, and 20c. per lb.; cabbages, 25c. to 40c. per dozen, and \$1 per barrel; carrots, 50c. per bag; new, per hamper, \$1; celery, California, \$4.50 to \$4.75; Canadian, 20c. per small box; cauliflower, no good on the market; onions, Spanish, \$4 per crate; \$1.35 per small box; Canadian, \$1.25 to \$1.35 per bag; parsnips, 50c. per bag; turnips, 30c. to 35c. per bag.

TORONTO SEED MARKET.

The following are the prices quoted by Toronto seedsmen, to the trade, for re-cleaned seed: Red clover No. 1, \$20 to \$21 per cwt.; red clover No. 2, \$18.50 to \$19 per cwt.; red clover No. 3, \$18 per cwt.; alsike clover No. 1, \$19 to \$20 per cwt.; alsike clover No. 2, \$17.50 to \$18.50 per cwt.; alsike clover No. 3, \$16 per cwt.; alfalfa clover No. 1, \$19 to \$22 per cwt.; alfalfa clover No. 2, \$18 to \$18.50 per cwt.; alfalfa clover No. 3, \$17.50 per cwt.; timothy No. 1, \$10 to \$11 per cwt.; timothy No. 2, \$8.75 to \$9.25 per cwt.; timothy No. 3, \$8 per cwt.

Montreal.

Live Stock.—The past week was uneventful so far as the market for live stock was concerned. Demand was fairly good all the way round, but the scarcity of choice steers still manifested itself, and the bulk of the stock offering was of a somewhat inferior grade. Good steers were selling at 7½c. to 7¼c. per lb., and medium quality was 6½c. to 7¼c., common stock ranged down to 6c., and fractionally less. Cows and bulls were also of a somewhat inferior grade, and prices ranged from 4½c. to 6½c. per lb., to include all qualities, except culling stock, the latter ranging generally from 3½c. to 4½c. per lb. Demand for sheep and lambs was very fair, and supplies were none too large. Ontario lambs were bringing 8½c. to 8¼c., Quebec stock being about ¼c. less. Sheep sold at 4½c. to 5½c. per lb. Calves showed practically no change, ordinary grades selling at \$5 to \$6 each, and better qualities up to \$12 each. A fairly active trade was going on in hogs, and selects sold at 5½c. to 5¼c., while heavies brought about ½c. to ¾c. less, weighed off cars.

Horses.—Farmers were still in the market for horses, but the demand was not at all active, and supplies were ample. Mostly cheap horses ranging around \$125 to \$150 were asked for. Heavy draft

horses, weighing from 1,500 to 1,700 lbs., were quoted at from \$275 to \$300 each, and light draft, weighing from 1,400 to 1,500 lbs., at \$150 to \$200 each. Broken-down, old animals, were quoted at \$75 to \$100 each, and fancy saddle and carriage animals sold at \$300 to \$400 each.

Dressed Hogs and Provisions.—Demand for dressed hogs was good, and everything offered was being taken at steady prices. Abattoir-dressed, fresh-killed hogs were still selling at 11½c. to 11¼c. per lb., and country-dressed at 10½c. to 10¼c. per lb. for light, and 9c. to 9¼c. for heavy. Smoked meats were practically unchanged. Breakfast bacon was 17c. to 19c., and Windsor, 21c. to 22c., Windsor boneless being 23c. to 24c. Hams were steady, at 16c. to 17c. per lb. for medium weights. Pure leaf lard was 12c. to 12½c., and compound, 9½c. to 10c.

Poultry.—The sale of poultry went quietly on. Turkeys ranged from 17c. to 20c. per lb., wholesale, while chickens and ducks were 12c. to 15c., and geese and fowl, 10c. to 12c. per lb., according to quality.

Potatoes.—Potatoes were unusually low in price, and consumption continued quite large. Green Mountains were still sold here at 52½c. for 90 lbs., in car lots, track. Jobbing prices were 10c. to 15c. above these figures.

Honey and Syrup.—Maple syrup was not in large supply, and prices were steady, at 85c. in small tins, and up to \$1.35 in 13-lb. tins, while sugar was 10c. per lb. White-clover comb honey was 16c. to 17½c. per lb.; extracted, 12c. to 12½c.; dark comb, 14c. to 15c., and strained, 6c. to 8c. per lb.

Eggs.—The price of fresh eggs was lower again. Storage stock was steady. Fresh-laid eggs were 38c. to 40c. per dozen. Selected cold-storage stock was steady, at 31c., and No. 1 was 28c. per dozen, No. 2 being 25c. to 26c.

Butter.—With Lent at hand, creamery was firm and slightly higher. Demand was quite active. Choice creamery was 31c. to 31½c. per lb., while fine was 30c. to 30½c., and seconds were 29c. to 29½c. Dairy butter was also 1c. up, Ontario being 26c. to 27c., and Manitoba, 25c. to 26c. per lb.

Cheese.—The market for cheese was firm, but prices were again steady. Choice September Ontarios were 16½c. to 17c. per lb., while October makes were 16½c. to 16¾c. per lb. Colored and white were on a parity.

Grain.—The wheat market was fluctuating widely. White oats were firm, at 65½c. to 66c. for No. 2; 64½c. to 65c. for No. 3; 1c. less for No. 4 per bushel, ex store. Canadian Western were steady, at 71c. for No. 3; extra No. 1 feed were 71c., and No. 1 feed were 70c., and No. 2 feed, 69c. American corn was 87c. for No. 3 yellow, and Argentine, 87½c. to 88c.

Flour.—Flour again advanced. Ontarios were \$8.30 per barrel in wood, and \$7.80 to \$8 for straight rollers, bags being \$3.75. Manitoba first patents were \$8.10; seconds, \$7.60, and strong bakers', \$7.40 in jute.

Millfeed.—Feed was also bringing higher prices. Bran was \$27 per ton in bags, shorts, \$29; middlings, \$32 including bags. Mouille sold at \$36 to \$37 per ton for pure, and \$33 to \$34 for mixed.

Hay.—Hay was easier. No. 1 pressed hay, Montreal, ex track, was \$19.50 to \$20 per ton; No. 2 extra was \$18.50 to \$19, and No. 2 was \$17.50 to \$18.

Hides.—Beef hides were 18c., 19c., and 20c. for Nos. 3, 2 and 1, respectively. Calf skins were 16c. and 18c., and sheep skins were \$2 each. Horse hides were \$1.50 for No. 2, to \$2.50 each for No. 1. Tallow was 6c. per lb. for refined, and 2c. to 2½c. for crude.

Seeds.—Dealers were offering \$7 to \$8.50 for timothy per 100 lbs., and \$7.50 to \$9.50 per bushel of 60 lbs. for red clover, and \$7 to \$9 for alsike, at shipping points.

Chicago.

Cattle.—Beeves, \$5.45 to \$8.70; cows and heifers, \$3.15 to \$7.75; calves, \$7 to \$10.25.

Hogs.—Light, \$6.60 to \$7; mixed, \$6.65 to \$6.90; heavy, \$6.50 to \$6.90; rough, \$6.50 to \$6.60; pigs, \$5.50 to \$6.85; bulk of sales, \$6.75 to \$6.90.

Sheep and Lambs.—Sheep, native, \$6.25 to \$7; yearlings, \$7.25 to \$7.50; lambs, native, \$7 to \$8.60.

Buffalo.

Cattle.—Buffalo has not witnessed as bad a cattle market in many moons as was experienced last week. To begin with, Eastern killers were loaded to the guards with both dressed beef and live cattle. Steers were laying around awaiting slaughter several days afterwards, and New York especially reported about as bad a situation as has prevailed there in many months. Industrial conditions continued bad, large numbers of laborers are out of employment, the bread-lines are being added to in numbers each day, and general conditions are very unfavorable. Added to this, is the fact that on account of the quarantine and the inclination to ship as soon as counties are released, are a large number of medium-fat steers being rushed to market, with very few that are well finished. Last week, on Monday, around sixty cars of this class of steers were offered. Some of the big killers wanted no cattle at all, others would take a few loads if they could get just what they wanted and at their prices. Competition was so light that sellers generally wound up by accepting the bidder's price, and this represented on Monday a decline of mostly 25c. to 35c. Days following Monday, when a number of loads of shipping steers went over, showed even worse conditions, and by Friday prices were showed a full half-dollar to, in some cases, as much as seventy-five cents take-off, as compared with a week ago, and in plenty of cases on a medium and warmed-up kind of steers it looked as much as a dollar. On medium and common butchering stuff the trade was not so bad, most of the medium and decent kinds of butchering cattle bringing within a dime to fifteen cents of the previous week, while canners and cutters and commonish kinds of bulls looked about steady. With Pennsylvania being unable to buy here, heavy bulls took a full quarter tumble in prices. Best steers offered the past week ranged from \$8.50 to \$8.75, with a load of good, fat Canadians running at \$8.25. Best handy steers sold from \$7.50 to \$7.80, yearlings making \$8.10. Receipts were 3,800 head, as against 4,875 head for the previous week, and 3,775 for the same period a year ago. Quotations: Choice to prime native shipping steers, 1,250 to 1,500 lbs., \$8.25 to \$8.50; fair to good shipping steers, \$7.75 to \$8; plain and coarse, \$7.25 to \$7.75; Canadian steers, 1,300 to 1,450 lbs., \$8 to \$8.25; Canadian steers, 1,100 to 1,450 lbs., \$7.50 to \$7.75; choice to prime handy steers, natives, \$7.50 to \$8; fair to good, \$7 to \$7.50; light common, \$6 to \$6.50; yearlings, \$7.75 to \$8; prime, fat, heavy heifers, \$7.25 to \$7.40; good butchering heifers, \$6.50 to \$7; light butchering heifers, \$5.50 to \$6.25; best heavy, fat cows, \$6.25 to \$6.50; good butchering cows, \$5.50 to \$6; medium cows, \$4.50 to \$5; cutters, \$4.25 to \$4.50; canners, \$3.50 to \$4; best bulls, \$6.75 to \$7; good killing bulls, \$6 to \$6.25; light bulls, \$4.75 to \$5.25.

Hogs.—Market was on the up-and-down order last week, prices being higher one day and lower the next. On the opening day of the week, best grades sold at \$6.95 and \$7, with lights bringing up to \$7.15, and Tuesday, packers' grades sold from \$7 to \$7.10. Wednesday no light hogs brought above \$7.10, pigs going mostly at \$7, and packers got their kinds from \$6.90 to \$7, while Thursday best grades moved from \$6.80 to \$6.95, and while Yorkers reached \$7, buyers got most of the pigs down to \$6.75. Friday's run figured 25 loads, and values were 20c. to 25c. higher, best grades being landed mostly at \$7.15, with the bulk of Yorkers, lights and pigs going at \$7.20, few pigs reaching \$7.25. Receipts the past week figured 36,185 head, being against 60,107 head the previous week, and 28,800 head for the same week a year ago.

Sheep and Lambs.—On the opening day last week top lambs reached up to \$9.60 and \$9.65, and the next four days values were considerably lower, buyers getting best handy lambs Friday down to \$8.75. Cull lambs the fore part of the week sold up to \$8.75, and the last day or two sales on these were made from \$8.25 down. Sheep were active all week, and prices on these were firm. Choice wether sheep made \$7.25, and while some very desirable ewes sold up to \$7, most of the ewes went from \$6.75 down, it taking a handy kind to bring above \$6.50. Receipts the past week totaled 28,190 head.

as compared with 32,365 head the week before, and 39,400 head for the same week a year ago.

Calves.—Approximately 1,496 head were marketed the past week, being against 1,819 head the previous week, and 1,375 head a year ago. Top veals the first four days ranged from \$12 to \$12.50 with culls \$9.50 down, and Friday best veals jumped up to \$13 and \$13.25, with throwouts going from \$10 down. General range on fed calves the past week was from \$5 to \$6.

Gossip.

Some confusion has arisen among our readers in relation to the advertisement of Hervey Smith. The Holsteins and Shorthorns advertised are not pure-breds. They are grades.

A catalogue setting forth the breeding of the animals that will be offered by F. E. Pettit at his sale on Wednesday, March 10, 1915, is ready for distribution. A card addressed to F. E. Pettit, Burgessville, Ont., will insure one of these catalogues being sent to you.

Fungus and insects must be fought, and it is not too early now to begin making preparation for an onslaught on these troublesome pests. The Ontario Seed Company Successors are awake to this fact, and have made their announcements on page 271 of this issue.

R. M. Holtby, Port Perry, R. R. No. 4, writes "The Farmer's Advocate" that he is going to devote his attention entirely to Holsteins, and is consequently offering for sale his Clydesdale stallion, Acme (imp.), by Baron's Pride. He stood eighth in the breeding list in Scotland. Mr. Holtby writes that he is sound, sure, right, and broken to harness. He is also offering Torr's Type (imp.), rising five years.

Attention is called to the advertisement in this issue of T. I. Thomson, Ltd., Owen Sound, of Langford Horse Collars. This is an entirely new collar in the Canadian market, although the great success of the collar is assured by the fact that over one million collars were sold in the United States alone in 1914. This collar is sold at a popular price, viz.—\$1.75. The usefulness and price should make a strong appeal to the farmer.

SALE DATES CLAIMED.

Feb. 24, 1915.—S. E. Findall's Short-horn sale, Brighton, Ont.

Feb. 25, 1915.—McConkey's Holstein Sale, Stratfordville, Ont.

Feb. 25, 1915.—A. Watson & Sons, St. Thomas, Ont.; horses and Holsteins.

March 3, 1915.—F. H. Jones' sale of Holsteins, at Bowmanville, Ont.

March 3, 1915.—Annual Provincial Sale of pure-bred stock (beef breeds), at the Winter Fair Buildings, Guelph, J. M. Duff, Guelph, Secretary.

March 3, 1915.—Richard Clarke, Atwood, Ont.; Holsteins and Clydesdales.

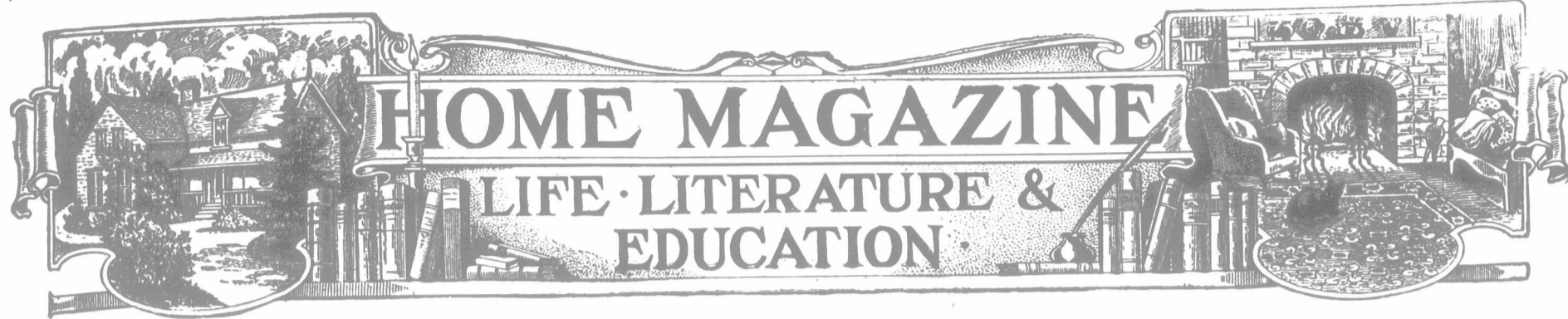
March 9.—W. H. Mancell's sale of Clydesdales, etc., Fletcher, Ont.

March 10, 1915.—Dispersion sale of pure-bred Holsteins, F. E. Pettit, Burgessville, Ont.

March 24, 1915.—Oxford District Holstein-breeders' Club, W. E. Thomson Sec.-Treas., Woodstock, Ont.

Thirty-four British aeroplanes, on Feb. 12th, raided Zebrugge, Ostend and Blankenberghe, with a view to preventing the development of submarine bases, and are reported to have done considerable damage by dropping bombs. All the air-men returned in safety. Claude Graham White fell into the sea with his machine, but was rescued by a French vessel. . . . On the same day, five French aviators dropped bombs on the German military aerodrome at Haschem.

Special taxes have been proposed by the Minister of Finance to raise an additional \$30,000,000. Among the proposals are an all-round increase of 7½ per cent. in the general, and 5 per cent. in the British preferential tariff, and the abolishing of the free list except for certain specified articles, every letter and post card to bear a one-cent war stamp, bills of lading a two-cent stamp, and postal notes one cent. An extra tax will be placed on wines and champagne.



Self-sacrifice.

By Samuel Waddington.

What though thine arm hath conquered
in the fight,—
What though the vanquished yield unto
thy sway,
Or riches garnered pave thy golden
way,—
Not therefore hast thou gained the sov-
ran height
Of man's nobility! No halo's light
From these shall round thee shed its
sacred ray;
If these be all thy joy,—then dark thy
day,
And darker still thy swift approaching
night!

Hath if in thee more truly than in others
Hath dwelt love's charity,—if by thine
aid
Others have passed above thee, and if
thou,
Though victor, yieldest victory to thy
brothers,
Though conquering conquered, and a
vassal made,—
Then take thy crown, well mayst thou
wear it now.

"The Dollar Chain"

"The Dollar Chain," through which the
readers and subscribers of "The Farmer's
Advocate and Home Magazine" are able
to help so greatly the suffering in Europe,
continues to lengthen. From every part
of Canada expressions of sympathy with
and approval of the scheme are arriving.
We take the liberty of publishing a few
of these:

"I send my contribution heartily.
Hope you may reach the \$30,000 or
more."—Allison Peacock, Woodbridge,
Ont.

"I pray your fund for the soldiers and
sufferers may reach a million dollars."—
Miss R. Wylie, Mountain, Ont.

"Please find \$1.00 from mamma and
me to help your Dollar Chain. It is a
grand scheme. My Daddy has gone to
the front, too."—Agnes Remington, Moss-
ley, Ont.

"Success to our arms."—"A Patriot,"
Stella, Ont.

"Yours is a noble effort to help the
needy and our protectors, and I trust
you may have unbounded success."—Wm.
Ward, Kirkton, Ont.

"I wish you all success in your com-
mendable and much-needed effort on be-
half of the brave sufferers."—A. F. Cam-
eron, Pembroke, Ont.

"I think the Dollar Chain is a splendid
idea, and I am only too pleased to be
able to help in a small way."—Fred
Russell, Kerwood, Ont.

Wm. Mackintosh, Southampton, Ont.,
sends an appropriate quotation from
Burns:

"The one who feels our deepest needs
Recks little how men count their deeds,
For righteousness is not in creeds or
solemn faces,
But rather lies in kindly deeds and
Christian graces."

"For the help of brave, martyred Bel-
gium."—Louise Sissons, Ilderton, Ont.

"As the leading agricultural paper of
the Dominion, it is seemly that "The
Farmer's Advocate" should inaugurate a
campaign among its subscribers to make
somewhat easier the conditions for the
"man at the front." Your appeal should
receive enthusiastic support from all.
"While the producing of food is impor-

tant, it may, to a large extent, be left
to those who unfortunately do not come
within the military standard, and to
neutral peoples. The sacred duty and
privilege of every physically-fit Canadian
is to offer his services (giving his life if
necessary) to assist in the destruction of
military despotism, and to re-establish
international good faith. As for the
rest of us, we can but stay up the hands
of our leaders in every way possible.
Your Dollar Chain is one way, and I am
pleased to contribute."—J. N. Chambers,
Woodstock, Ont.

Amounts over \$1.00:—

- J. H. Morrison, Seaforth, Ont., \$2.00;
- Rudolf Thomson, Carling, Ont., \$2.00;
- John A. Beckett, Smith's Falls, Ont., \$2.00;
- Alfred G. Smyth, Vittoria, Ont., \$2.00;
- Mrs. Wilson Henry, Spencerville, Ont., \$2.00;
- "A Friend," P. O. not given, \$2.00;
- "A Shut-in Friend," Berlin, Ont., \$2.00;
- "Quilp," Merlin, Ont., \$5.00;
- E. Herbert Smith, Blenheim, Ont., \$2.00;
- Wm. Thorn, Reahoro, Ont., \$3.00;
- "One of Your Readers," Newbury, Ont., \$5.00;
- Mac E. Coburn, Puslinch, Ont., \$3.00;
- "W. T.," Cayuga, Ont., \$5.00;
- Wm. R. Reid, Blytheswood, Ont., \$1.50;
- "R. W. G." and Family, Oshawa, Ont., \$15.00;
- "D. D. S.," Huron Co., Ont., \$2.00;
- Russell Ballentyne, St. Paul's Station, Ont., \$2.00;
- Louise Sissons, Ilderton, Ont., \$2.00;
- Lillie Wood, Pana, Ont., \$5.00;
- M. Gentleman, Middlemiss, Ont., \$2.00;
- Wm. J. Harper, Oak Bay Mills, Que., \$5.00.

Contributions of \$1.00 each:—

- F. Jary, Ilderton, Ont.; P. Jary, Ilder-
ton, Ont.; Dr. F. H. Mitchell, Komoka,
Ont.; Jack Lea, Victoria, P. E. I.; Jas.
R. Bain, Loring, Ont.; Glen H. Benson,
Cobourg, Ont.; John W. Clifford, Put-
Ont.; "A Friend," Navan, Ont.; "A. T.

- Unknown Quantity," Bailieboro, Ont.;
- "A Friend," Woodstock, Ont.; Agnes
Remington, Mossley, Ont.; Mrs. Johnson,
Bickford, Ont.; "A Friend," Newboro,
Ont.; Fred W. Muir, Wallenstein, Ont.;
- Wm. McBain, Gamebridge, Ont.; Miss M.
B. MacLeod, Lucknow, Ont.; Jas. E.
Manson, Clayton, Ont.; Mrs. J. H. May-
hew, Combermere, Ont.; Wm. Partington,
Magog, Que.; Mary McLennan, Summers-
town Station, Ont.; Mrs. Wm. R. Reid,
Blytheswood, Ont.; J. N. Greenlees, Allis-
ton, Ont.; "J. S. H.," King, Ont.; "M.
L.," Burford, Ont.; "A Contributor,"
New Hamburg, Ont.; H. Orchard, White's
Cove, N. B.; "Jack," Vellore, Ont.; A.
A. Rogers, Woodford, Ont.; Arthur Bell,
Ora Station, Ont.; "M. H.," Elgin Co.,
Ont.; Wm. Summers, Copetown, Ont.; "D.
C.," Brantford, Ont.; "J. G.," Brant-
ford, Ont.; Master Stanley Henderson,
Blair, Ont.; George McLaren, Franktown,
Que.; Mrs. Archie Graham, Grenville,
Que.; Mrs. E. McCallum, Kingston, Ont.;
- Geo. A. Mumley, Stirling, Ont.; Hugh
Weir, Elphin, Ont.; J. C. Reid, Varna,
Ont.; Mrs. J. C. Reid, Varna, Ont.; Geo.
Ferris, St. Williams, Ont.; R. W. Ballah,
St. Thomas, Ont.; Mrs. R. W. Ballah,
St. Thomas, Ont.; "E. R.," P. O. not
given; "Billie," Canfield, Ont.; Mrs. Det-
willer, Monkton, Ont.; J. W. Hatch, Dry-
den, Ont.; J. A. Lawson, London, Ont.;
- "Farmer Boy," Uxbridge, Ont.; John
Studiman, Branchton, Ont.; S. Cameron,
Pembroke, Ont.; Wm. Read, Cargill, Ont.;
- H. W. Scovil, Queenston, N. B.; E. Gil-
bert, Kimberley, Ont.; A. C. Wilson, Oak-
ville, Ont.; M. McNaughton, Ilderton,
Ont.; Mrs. W. S. Jamieson, Dutton, Ont.;
- John Buskin, Markdale, Ont.; Mr. Frank
Hellyar, Rothsay, Ont.; Mrs. Frank
Hellyar, Rothsay, Ont.; Jno. Broadfoot,
Brussels, Ont.; W. R. Broadfoot, Brus-
sels, Ont.; Alex. Thomson, North Gower,
Ont.; "A Friend," Navan, Ont.; "A. T.

Browsings Among the Books.

EXTRACTS FROM "KING ALBERT'S BOOK."

"King Albert's Book," produced in
aid of the Daily Telegraph Belgian Fund,
is truly a remarkable volume, beautiful
to eye and touch, strong in its appeal
to the heart. Edited by Mr. Hall Caine,
contributed to, without charge, by nearly
all of the foremost statesmen, clergymen,
writers, artists and musicians in the
world, it forms a vast and impressive
monument to the greatness of "Little
Belgium" and her heroic king. Already
half a million volumes have been ordered,
and all the proceeds go to the help of
the Belgians, whom it is an honor to
help during these long months of their
adversity. The book is published in
Canada, by Hodder & Stoughton, 17
Wilton Ave., Toronto, at the low
price of \$1.25 net.]

"It is our first duty to relieve their
sufferings as far as possible, and when
their territory is once more free from the
invaders, to help them to restore their
devastated cities."—Sir Thomas Brock,
British sculptor.

"We must ease the strain upon Belgium
by every means in our power."—A. O.
Benson, C. V. O., English essayist.

"Belgium counted upon us; she has not
counted in vain; we remain true to our
word. The righting of her wrongs has
become our sacred duty."—Lord Reading,
Lord Chief Justice of England.

"The needs of the Belgians appeal to
all lovers of their fellow-men."—Dr.
Lyman Abbott, American divine, editor
of "The Outlook."

"No more woeful and terrible spectacle
of a country in utter desolation ever
came from earthquake, eruption or other
convulsion of Nature in her wrath than
has been produced in Belgium by the
hand of man. A complete nation is in
ruins. A whole country is in ashes. An
entire people are destitute, homeless, and
on the roads. A little kingdom, dedi-
cated to liberty, has kept the pledge
and died for it."—Hall Caine, English
novelist.

"The Belgians have won for themselves
the immortal glory which belongs to a
people who prefer freedom to ease, to
security, even to life itself. We are
proud of their alliance and their friend-
ship. We salute them with respect and
with honor. Belgium has deserved well
of the world. She has placed us under
an obligation, which, as a nation, we
shall not forget. We assure her to-day
in the name of the United Kingdom and
of the whole Empire, that she may count
to the end on our wholehearted and un-
failing support."—Premier Asquith.

"A small nation found herself suddenly
confronted by one of the most formidable
armies in the world. They asked of her
merely permission to pass through; they
would restore to her, so they said, her
territory untouched; they would respect
her independence. Would they have done
so? I know not, but the small nation
was free to believe them. And if she
had declared that she yielded to force
and accepted the inevitable, we might
have pitied, but we should not have
dared to blame. Far otherwise! She
has resisted what seemed irresistible; she
has sacrificed at once all that she had,
all that she was: her towns and her



Tired Out.

A Russian infantry regiment resting in a small Galician village after desperate
marching and fighting.—Photo, Underwood & Underwood.

- nam, Ont.; Mrs. Wm. Battle, Sarnia,
Ont.; C. Wood, Seaforth, Ont.;
- L. Rabbits, Seaforth, Ont.; "Charlie,
Douglas, and Allan," Fenelon Falls,
Ont. ("To buy milk for the Belgian
babies"); "M. M. D.," Carleton Place,
Ont.; May and Clara McDermid, Batteau,
Ont.; "Leeds County" Contributor; "R.
M.," Carleton Place, Ont.; Mary I. Gates,
Kingston, Ont.; James R. Gates, King-
ston, Ont.; Francis Durrant, Mitchell,
Ont.; Wm. C. Strong, Maplewood, Que.;
- D. McAleer, Balaclava, Ont.; Mrs. S.
Kyle, Chesterville, Ont.; Eric S. Purvis,
Ethel, Ont.; M. Spencer, Wilton Grove,
Ont.; "A Reader," Kintore, Ont.; "An

- B.," Westminster, Ont.; Percy March-
bank, New Annan, P. E. I.; Chas. M.
Shore, Wilton Grove, Ont.; "H. B.,"
Thornhill, Ont.

Miscellaneous Amounts:—
Little Marjory C. Weir, Elphin, Ont.,
25 cents; Little Laura Mae Reid, Varna,
Ont., 25 cents.

Previously acknowledged.....\$261.75

Total up to Feb. 12th.....\$418.25

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

villages, her wealth and her life, she has given all for an idea, for the heroic belief that it was done for honor.—Glory to her! Glory to her king!—Henri Bergson, French Professor of Philosophy.

At evening in one of our southern towns, a train full of Belgian refugees ran into the station, and the poor martyrs, exhausted and bewildered, got out slowly, one by one, on the unfamiliar platform, where French people were waiting to receive them. Carrying a few possessions caught up at random, they had got into the carriages without even asking whether they were bound, urged by their anxiety to flee, to flee desperately from horror and death, from unspeakable mutilation and sadic outrage—from things that seemed no longer possible in the world, but which, it seems, were lying dormant in pietistic German brains, and had suddenly belched forth upon their land and ours, like a belated manifestation of original barbarism. They no longer possessed a village, nor a home, nor a family; they arrived like jetsam cast up by the waters, and the eyes of all were full of terrified anguish. Many children, little girls whose parents had disappeared in the stress of fire and battle; and aged women, now alone in the world, who had fled, hardly knowing why, no longer caring for life, but moved by some obscure instinct of self-preservation.

Two little creatures, lost in the pitiable throng, held each other tightly by the hand, two little boys, obviously brothers, the elder, who may have been five years old, protecting the younger, of about three. No one claimed them, no one knew them. How had they been able to understand, finding themselves alone, that they too must get into this train, to escape death? Their clothes were decent, and their little stockings were thick and warm; clearly they belonged to humble but careful parents; they were, doubtless, the sons of one of those sublime Belgian soldiers who had fallen heroically on the battle-field, and whose last thought had perhaps been one of supreme tenderness for them.

They were not even crying, so overcome were they by fatigue and sleepiness; they could scarcely stand. They could not answer when they were questioned, but they seemed intent, above all, upon keeping a tight hold of each other. Finally the elder, clasping the little one's hand closely, as if fearing to lose him, seemed to awake to a sense of his duty as protector, and, half asleep already, found strength to say, in a suppliant tone, to the Red Cross lady bending over him: "Madame, are they going to put us to bed soon?" For the moment this was all they were capable of wishing, all that they hoped for from human pity; to be put to bed.

They were put to bed at once, together, of course, still holding each other tightly by the hand, and nestling one against the other, they fell at the same moment into the tranquil unconsciousness of childish slumber.

Once, long ago, in the China Sea, during the war, two little frightened birds, smaller even than our wrens, arrived, I know not how, on board our iron-clad, in our admiral's cabin, and all day long, though no one attempted to disturb them, they fluttered from side to side, perching on cornices and plants.

At nightfall, when I had forgotten them, the admiral sent for me. It was to show me, not without emotion, the two little visitors, who had gone to roost in his room, perched upon a slender silken cord above his bed. They nestled closely together, two little balls of feathers, touching and almost merged one in the other, and slept without the slightest fear, sure of our pity. And those little Belgians sleeping side by side made me think of the two little birds lost in the China Sea. There was the same confidence, and the same innocent slumber;—but a greater tenderness was about to watch over them.—Pierre Loti, French novelist.

During the masterly retreat of the allied forces after the battle of Mons, a young British officer was ordered to round up stragglers in a small town, which had just been evacuated by our troops.

There was no time to lose. The enemy, in overwhelming force, was sweeping down upon the defenceless place. Shells

were falling on all sides. The distant rumble of a relentless approach drew every moment nearer. The young officer, marching his little company rapidly along the deserted streets, crossed a cobbled square, and came upon a municipal building temporarily converted into a hospital.

He stepped within. "Any men here able to march?" he began—then paused abruptly and looked around him.

There was no question of stragglers here. Scores of wounded and of dying lay helpless upon the floor, each where he had been hurriedly placed.

A little party of British Red Cross nurses moved among them, doing their utmost to tend, relieve, and comfort.

While the tall youth in khaki stood

take a message through for you? I'll send back help, if possible."

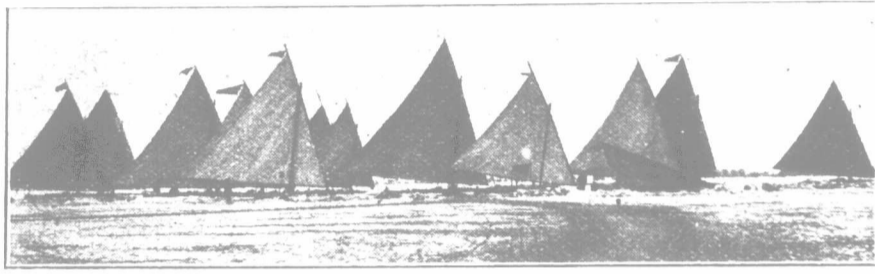
Kneeling there, with the dying boy's head upon her arm, she looked steadily at him, and it struck him that he had never before met eyes so full of a calm and steadfast courage.

"We are all right," she said, slipping a folded jacket beneath the head she was supporting, "quite all right—doing famously!"

But the next moment she was beside him in the doorway, and had caught him by the arm.

"Don't go!" she whispered. "For God's sake, don't go! I need help; and you must help me."

"Do you want to get out of this?" asked the young officer, speaking hurriedly, and very low.



Good Winter Sport.

A line-up of some of Toronto's ice-boats.

silent in the doorway, a shell shrilled over the building, crashed into a house close by, and burst with a deafening noise. A moment of tense silence. Then a Tommy laughed.

"I'll save the doctors trouble if a few of them things come in here," he said. "Do our amputating for nothing, they will!" The Sister in charge of the little band of English nurses chanced to be kneeling near the door, supporting the head of a dying lad. He pushed away the cup she was holding to his lips and gazed into her face, sudden terror in his eyes.

"They won't shoot on the Red Cross, will they, nurse?" he whispered. "Ain't we safe under the flag?"

Her quiet smile was reassuring. "Perfectly safe, my lad. Don't you worry. Drink this, and lie still."

Then, looking up, she saw the young officer standing in the doorway.

He raised his hand in salute.

"I suppose there is nothing I can do," he said. "I am rounding up stragglers and marching them out. But nobody here could do any marching. Shall I

The Englishwoman looked at him.

"Oh, I say, I beg your pardon! Of course I know you wouldn't leave them. Tell me how I can help. What can I do?"

"Listen," she said. "There is not a moment to lose. Did you notice the roof of this building as you crossed the square? There's a flagstaff and cord, all complete, but no flag. Do you understand? No Red Cross flag. And the Germans are beginning to shell the town. You must find a Red Cross flag and hoist it before you go."

The young officer stood beside her, uncertain, perplexed, dismay in his honest eyes.

"I'm awfully sorry," he said. "But I have no Red Cross flag, and for the life of me, I don't know where to get one."

"Then you must make one," she urged. "We have over a hundred wounded men under this roof." She shook him by the sleeve. "Can't you contrive something? Can't you MAKE me a Red Cross flag?"

The boy stood for a moment in stern thought. All the man in him awoke, eager to meet this woman's desperate

need. His eye travelled slowly round the bare, unfurnished hall. At length it rested on the floor. Suddenly he started. She saw him hesitate. Then his face grew firm and purposeful.

"Give me half a sheet," he said, "and some bandages."

He helped her to tear the sheet in two. At the sound of the sharp rending, many eyes turned their way.

He spread the sheet upon the floor, and held out his hand for the bandages.

"Give me some pins," he said, huskily, "plenty of them. Then leave the rest to me. This is my job."

All at once she knew what he was going to do; and she, who had times without number faced unspeakable sights without flinching, turned away while, stooping, he dipped the bandages in the blood which lay in pools upon the floor.

When she looked again, he was on his knees, carefully pinning the crimson strips across the white sheet.

Her hand flew to her throat, striving to control an irrepressible sob.

And now . . . as he knelt in his stained khaki, dying eyes watched, in the quiet calm of a strange detachment, the making of that Red Cross flag. Wounded men rolled over, raised themselves on their elbows, and smiled in grim approval.

After that one choking sob she also smiled bravely back at them.

Her flag was ready.

He rose to his feet. "Now, then! Show me the way to the roof, please. No—I can carry it. No need for you to touch it, Sister. This is my show."

She stood beside him on the roof.

As he drew the cord taut and fastened it, the breeze caught and unfurled the heavy folds of the sheet, and, slowly opening out, the Red Cross flew, clear and unmistakable, in the sunshine.

She laid her hand once more upon the khaki sleeve.

"God bless you," she said, a tremor of emotion in her quiet voice. "And when you write home, don't forget to tell your mother of this thing which you have done."

Half an hour later, as he marched his men, under cover of a wood, over the crest of the hill, the young officer stepped out for a moment into a clearing and looked back upon the little town.

German shells were falling to right and left; but above the hospital flew the Red Cross flag, brave in the breeze, bright in the gold of the sunset; and the wounded lay beneath, sheltered by the crimson of their own life-blood.—A true story, by Florence L. Barclay.



Tivoli, Italy.

One of the cities that suffered in the recent earthquake.—Photo, Underwood & Underwood.

Special Work of the Women's Institutes of Ontario.

When a woman conceived the idea of having a woman's organization for the farm homemakers of Ontario and founded the first society at Stoney Creek, the skeptics said, "It's a pleasant enough diversion, but it will soon die out." That was seventeen years ago. To-day the Women's Institute of Ontario has a membership of 25,000, with 840 branches and many places about ready for organization. What is quite as important, the movement has been extended to every Province of the Dominion, and never has it shown such intelligent and enthusiastic activity as during this last year.

Unlike almost any other women's organization, the Institute is composed almost entirely of homemakers who do most of their own work. They have no time for interests outside their homes and their families unless these interests are going to benefit some other women's home and family. Perhaps that is why their efforts have been so serious and practical and well directed. Perhaps that is also why they have shown such perseverance and unity and ready sacrifice during the months since the war began. We might quote the numbers of socks and shirts and pillows, and bales of clothing and provisions forwarded to the Red Cross and Patriotic Societies,—they have run up to amazing figures,—but figures do not mean so much as the fact that nearly every branch responded, from the most prosperous of the old settled districts to the poorest hamlet of the pioneer north, and every branch is still working. Without some organization of this kind it would have been impossible to reach the people of the rural districts so promptly and thoroughly.

While the primary objects of the Women's Institute were to improve the home and social life of the farm women, the scope of the work has broadened from these beginnings to undreamed-of possibilities. The exchange of recipes and little talks on housekeeping methods has led to a systematic study under qualified teachers. Demonstration-lecture courses in cooking, sewing and home nursing are arranged for by the Department, and the work is developing rapidly. The Department is also having special literature prepared for the Institutes on the health value and preparation of common foods, labor-saving devices in the home, and other topics of interest and value to the housekeeper.

The early meetings together for a cup of tea and some little pleasant programme of entertainment, have developed a broad community of neighborliness. The popular printed idea of the "isolated life of the farm woman" has no meaning where there is a live Women's Institute, but the movement has extended away beyond the limits of the members themselves. It has led to the planning of neighborhood entertainments, to putting pianos in public halls, to establishing reading-rooms, skating rinks, tennis courts, and swimming pools, to keep the young people from undesirable places of amusement. In one town it is responsible for the founding of a People's Institute, with rest-rooms, a reading-room, gymnasium, kitchen, and assembly hall, where socials and meetings may be held. A matron is kept in charge, and the place is a pleasant, wholesome, evening rendezvous, as well as a convenient place for public entertainments.

Most of the Institute members are mothers, but whether they have children of their own or not, we have found the ranks full of women with the universal motherhood spirit, so child welfare has been perhaps the most outstanding feature of the last few years' work. Naturally, most of this work is done through public schools. School grounds have been improved, school fairs and school gardens encouraged, proper seating, lighting, heating, and sanitary drinking fountains secured, bells, pictures, games, and supervised playgrounds have been given, while the bringing of medical and dental school inspection to the rural

districts promises to be one of the most important child-welfare movements that has ever come to the country.

The influence of the Women's Institute in an educational way is being felt in every district, perhaps not so much where they have taken up reading courses and study of literary works, as where they have established or improved public libraries, or brought high-class entertainments and lecturers to the village. In most sections it is possible to get excellent material from local talent, and the Institutes excel in getting the co-operation of every specialist or professional person in the district. Especially has this been helpful in getting demonstrations in horticulture, bee culture, etc. Several Institutes have taken advantage of the University Extension Lectures, and a few have worked through the local school board to form technical classes for the people.

It has been gratifying to note that in the face of the present hard time, the Institute contributions to philanthropic causes have increased. Grants to hos-

pital, children's shelters, old people's homes, the travellers' aid, and general relief work have not been neglected, even when the demand for the Red Cross and Patriotic Societies was so pressing. Perhaps the civic improvements, which have always been very popular with the Institutes, will receive less attention, although during the past year they have been as enthusiastic as ever in building sidewalks, improving public halls, paying for street lamps and drinking fountains, planting trees in parks, distributing flower bulbs, etc. One Institute last year gave a prize of a ten-dollar lawnmower for the best-kept lawn in the town. Another way in which several Institutes have been doing a much-needed work, and one which we hope will not

be neglected, is the care and beautifying of country cemeteries. It is almost impossible to outline the scope of the various lines of work undertaken and carried out successfully by the different branches of this organization. In one town, the special feature is a neighborly and uplifting attention to the foreigners. In a few Institutes, where most of the members are farmers' wives, co-operative e.g. circles have been formed. Several Institutes have made a specialty of helping with the fall fairs, and of holding Institute fairs to encourage various lines of domestic art and to raise money for philanthropic causes. In some places this winter the Institutes have found all they could do to take care of the needy families in their own locality, and no work could be more important than this. The special lines of work to undertake are left to the best judgment of the individual societies, and they have proved this year, as never before, the high ideals and the stamina of their organization.

GEORGE A. PUTNAM,
Superintendent.



A Girl in Serajevo, the Capital of Bosnia.

Serajevo was the scene of the murder of the Crown Prince of Austria-Hungary, which precipitated the most terrible war the world has known. For centuries before it was noted chiefly for the loveliness of its surroundings and the beauty of its women.

Hope's Quiet Hour.

Master and Servant.

And he trembling and astonished said,
Lord, what wilt Thou have me to do?
And the Lord said unto him, Arise, and go into the city, and it shall be told thee what thou must do.—Acts ix: 6

They who tread the path of labor,
Follow where My feet have trod;
They who work without complaining,
Do the holy will of God.

—Henry Van Dyke.

Saul of Tarsus, fiercely intent on his self-imposed task of persecuting the followers of Christ, was suddenly stopped by the Lord Himself and changed from an enemy into a friend. He was then "out of work"—a sad position for anyone, and most of all for one of his enthusiastic and energetic temperament. He was travelling to Damascus, having started on that eventful journey with the avowed purpose of seizing as prisoners all the Christians he could find. Now that he owned Christ as his Master, of course his old task must be discontinued. He cannot bear to live an idle life, and at once asks for work. He is told to go on his way, and the special work appointed for him by the Great Master will be shown in good time.

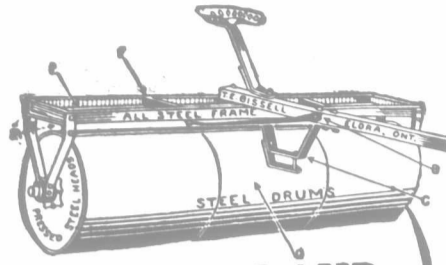
Canon Langbridge reminds us that we are all servants seeking work. He says: "It is good to find duties; it is better to have duties find us. Things that are made are well enough, but they are not beautiful as things that grow. I would have duties to come up like daisies in our walks. We rush abroad to knock God's angel up, and all the while he is sitting beside our bed. Duties should not be fetched home in a parcel, nor tinkered together with lath and tacks. They should be a bright creeper, slowly covering the house."

It is a sad condition to be out of work, to be forced to sit with idle hands in the midst of the rush of the world's business. It is a sad thing to waste our Master's time by being "busy here and there," and yet leaving undone the work He has given us to do. We are all servants, and should be careful to ask our Master each day: "Lord, what wilt Thou have me to do?" He has work prepared for each of us, to-day and every day; let us try to do His Will even though we may be set the difficult duty of patient suffering, or of joyful trust during the darkness of anxiety.

When the keeper of the prison in Philippi was convinced that JESUS was his rightful Master, he at once showed great kindness to the men he had despised and ill-treated. He did not wait until the morning, but "the same hour of the night" washed their bleeding wounds, took them from their dungeon into his own house, waited on them himself, and rejoiced in the glory of service. He was told to believe on the Lord Jesus Christ and he should be saved; but he knew that any profession of belief would be a mockery unless it blossomed out in obedience. A man who says: "I believe in Christ!" and then makes it his chief object in life to win riches or admiration for himself, is evidently not speaking the truth. Saul of Tarsus could not be a real disciple of Christ and yet continue his former task of persecuting the Church. One who really believes in Christ must be trying to obey and follow Him.

Many people say, mockingly or despairingly, that this war proves the failure of Christianity. It only proves the failure of earth's boasted learning, culture and common sense, and the great need there is of real Christianity in the world. The war was certainly not caused by love to God or love to man, and Love is the Master's great command to His disciples. Those who called themselves by the sacred Name of Christ started the war, but no one would venture to say that it was caused by their obedience to Him. They chose their own will, and terrible ruin and desolation proved what a mistake they made.

What work has been given to us to-day? If we keep our eyes on the Divine Master, ready to obey His slightest sign, we shall find out. One very important work of His, which is often neglected, is that of making home the happiest, holiest place on earth for the children. How lovely the homes are where Christ Himself is the honored Guest—as in the home of Martha and Mary. In many houses God is forgotten, and in some the door is shut in His face. A little child had been staying in a hospital for sick children in England. When the time for her return to her miserable home arrived, she sobbed out: "Good-bye, God! I'm going home." She did not think it was possible for her to invite God into such surroundings as she knew awaited her. There are many who provide for the physical and mental needs of their children, who slave and save in order to give them every possible earthly advantage, and yet never teach them to know



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HISCOTT DERMATOLOGICAL INSTITUTE
61 College St., Toronto. Estab. 1892.

God. How can anyone teach this great lesson unless he has himself learned to know the Divine Master?

When the fierce persecutor was changed into the willing servant of Christ he discovered that he was in vital connection with the Source of all power. "I can do all things," he declared exultantly, "through Christ which strengtheneth me." In the R. V. it is translated, "in Him that strengtheneth me." It is by abiding in Christ and having Christ Life always working through him, that a man can work effectively. The branch can only bear fruit while the life of the vine circulates through it. The life is in it, but does not belong to it. So a "live" wire can do great things as long as it is connected with the central source of power. Cut the connection and it is dead and powerless. The power of God, working through a man, can change him from a destroyer into a builder of the Temple. The change is worked secretly, but the results are visible. The connection must be kept up.

"Lord, teach Thy Church the lesson.
Still in her darkest hour
Of weakness and of danger
To trust Thy hidden power:
Thy grace by ways mysterious
The wrath of man can bind,
And in Thy boldest foeman
Thy chosen saint can find."

Life means growth. To stand still is to decay. If we have worked for our Master in the past we must be on the alert to do better work in the future. To know Christ, and kneel before Him acknowledging Him as Lord, is to be filled with a desire to serve Him. One who is satisfied to live only for his happiness and profit—even though it be spiritual joy and the culture of the soul—"leaving human wrongs to right themselves," is not following in the steps of the Master Who went about doing good, Who healed the sick and preached to the poor.

Who can tell beforehand what great things God is able to do through Him? Christ saw the seed of world-wide missionary influence in the man who only intended to destroy the faith. We are so apt to judge only by what we can see that we are sure to make mistakes. Ananias was sent to baptize Saul of Tarsus, and objected because he had done much evil and had come to Damascus intending to do more evil. But the Lord answered his objections by saying: "Go thy way: for he is a chosen vessel unto Me." There is an African proverb to the effect that you may be able to count the apples on one tree, but you cannot count the number of trees in one apple. Can we know the latent life and fruit hidden in any seed? But it is our business to see that the power of God within us does not always remain in the germ stage. We claim Christ as our Master. Are we openly and enthusiastically spending our lives in His service? Do we go to Him daily for special orders, and then try whole-heartedly to carry out His directions? It is easy to "say" we are Christians, but the world will not be helped by that, unless we also "show" by our honesty, kindness, good temper, and other everyday virtues, that the King of Love and Lord of Truth is controlling our lives.

We do not choose our Master. He chooses us, as He chose the great Apostle (Acts ix: 15), but we are free to refuse His call. Christ works through yielded lives, for "he that would come from Christ full must go to Him empty." We should not be wilfully determined to carry out our own plans, but should seek to know our Master's Will and then set ourselves to do it—we, also, are "chosen vessels."

"And each life that fails of its true intent,
Mars the perfect plan that its Master meant."

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"The Story Of An African Farm"

"Whimsical! Extraordinary!" I laid down the book which I had just finished reading with that mental exclamation and looked at it, still curiously, as it lay there on the table, its title, "The Story of an African Farm," shining in gilt lettering on its blue cover.—They look so quiet—do books—so inanimate, and yet how much of seething life and soaring spirit may be found between two board covers with soft gilt lettering.

Yes, "whimsical." Surely no other word could so fittingly describe the fantastic medley which the pen of "Ralph Iron" had here burned into literature. Picture after picture dashed down with little regard to plan or sequence, or even to the finished working out of character: The vulgar Tant' Sannie splashed on with crude color and Hogarthian directness. The hateful Bonaparte Blenkins, who disappears without having left much reason for his coming. The weird, spiritual Waldo, who never seems of this earth; and Lyndall, the motif of the whole conception, so far as it has a motif,—Lyndall, strong, beautiful, wise in the ways of the world yet defiant of it,—crushed as are those who most defy it, yet rising unconquered in spirit though the body fall wearied, to sleep at the foot of a great lone mountain.

Upon this page a rough naming of sacred things that seems almost blasphemous; upon the next a touch more tender than that of the mother upon her firstborn babe. . . . Here a delicate tinting in of the broad South African veldt until sandy plain and far-off kopje, straggling karroo-bush and faint blue sky, take to themselves forms and fair, faint colorings that must be a part of one's past. . . . There an allegory leading off from earth into that mystic country which only mind and heart can enter, whither aspiration beckons and only the fitful light "that never was on land or sea" shines to illuminate the way of the venturing traveller.

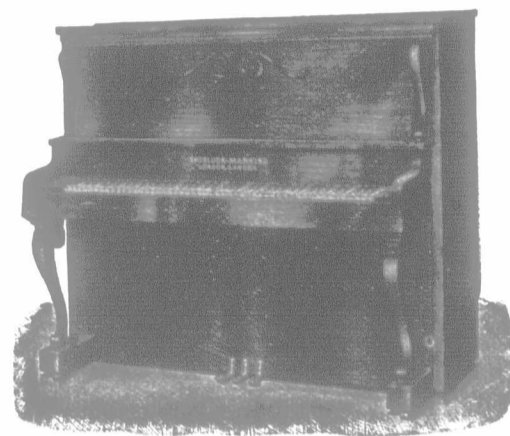
Yes, surely "whimsical,"—fantastic—yet powerful, fascinating, daring, thought-provoking, elusive, suggestive, with the very sign and seal of genius in its highest flights and a boldness and harshness on the lowest levels that sometimes revolt. At best or at worst never commonplace. At best it is literature of a fine and high quality; at worst it is, perhaps,—life, and it may be that we realize, sometimes, that any tale of any life, provided only that it be absolutely true in interpretation and atmosphere, is literature, as Masefield and some of his school in England are teaching us.

"The full African moon poured down its light from the blue sky into the wide, lonely plain,"—so begins "The Story of an African Farm." "The dry, sandy earth with its coating of stunted 'karroo' bushes a few inches high, the low hills that skirted the plain, the milk-bushes with their long finger-like leaves, all were touched by a weird and an almost oppressive beauty as they lay in the white light." And upon this South African world, swimming with moonlight, appears the moon-child, Waldo, with his silky black hair and black, black eyes, crying out to God to save only a few of the vast multitudes of people all over the world, dying with every tick of the clock.

In all literature there is, perhaps, no more pathetic a picture than that of this intense child placing his little offerings of meat on a flat stone altar out beyond the kopje, asking as a sign from Heaven that it be consumed. It is the child-mind that asks, the child-mind that does not always, alas, die out with the years.

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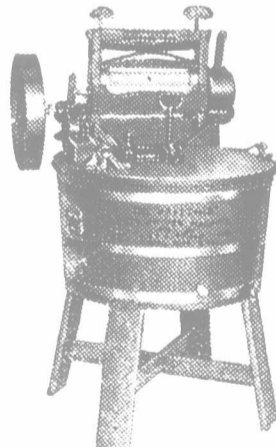
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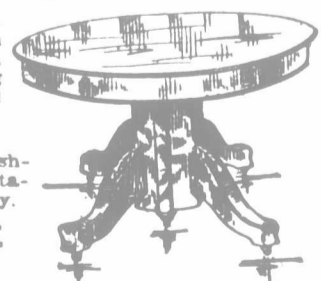
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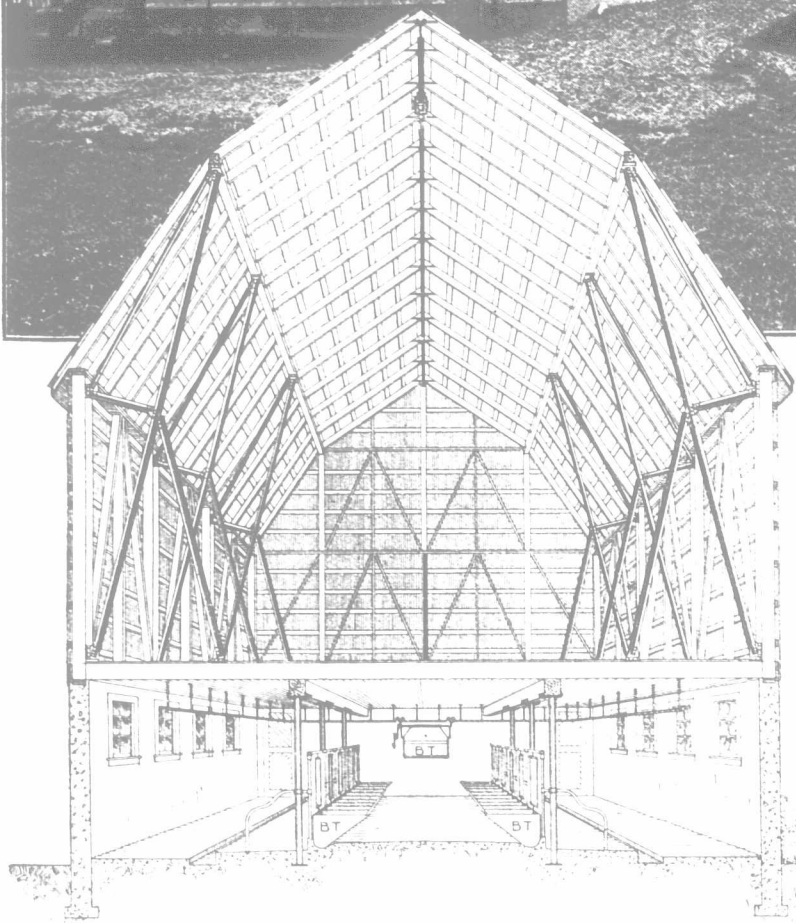
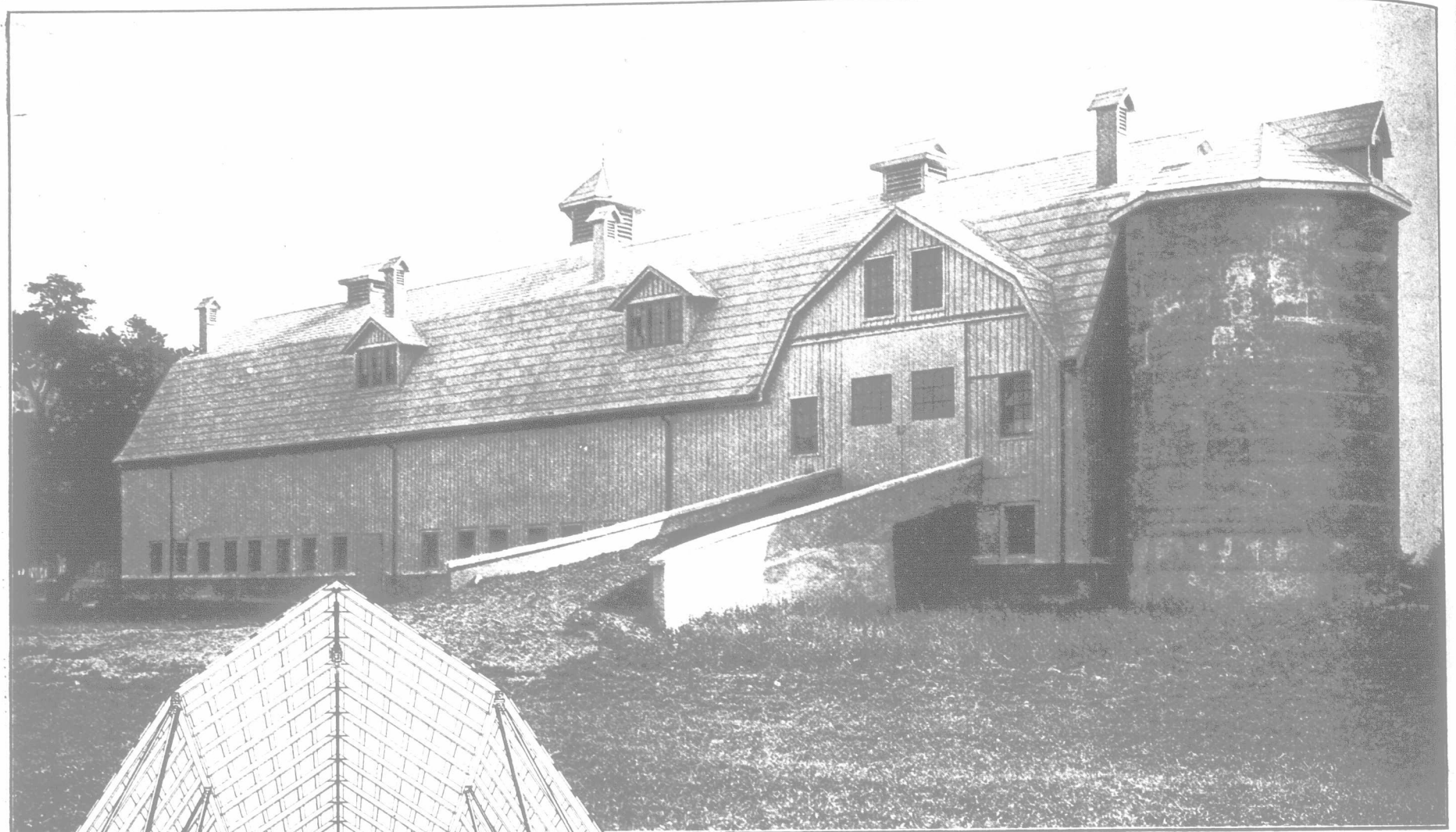
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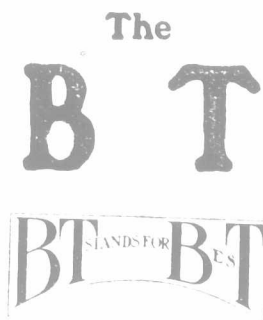
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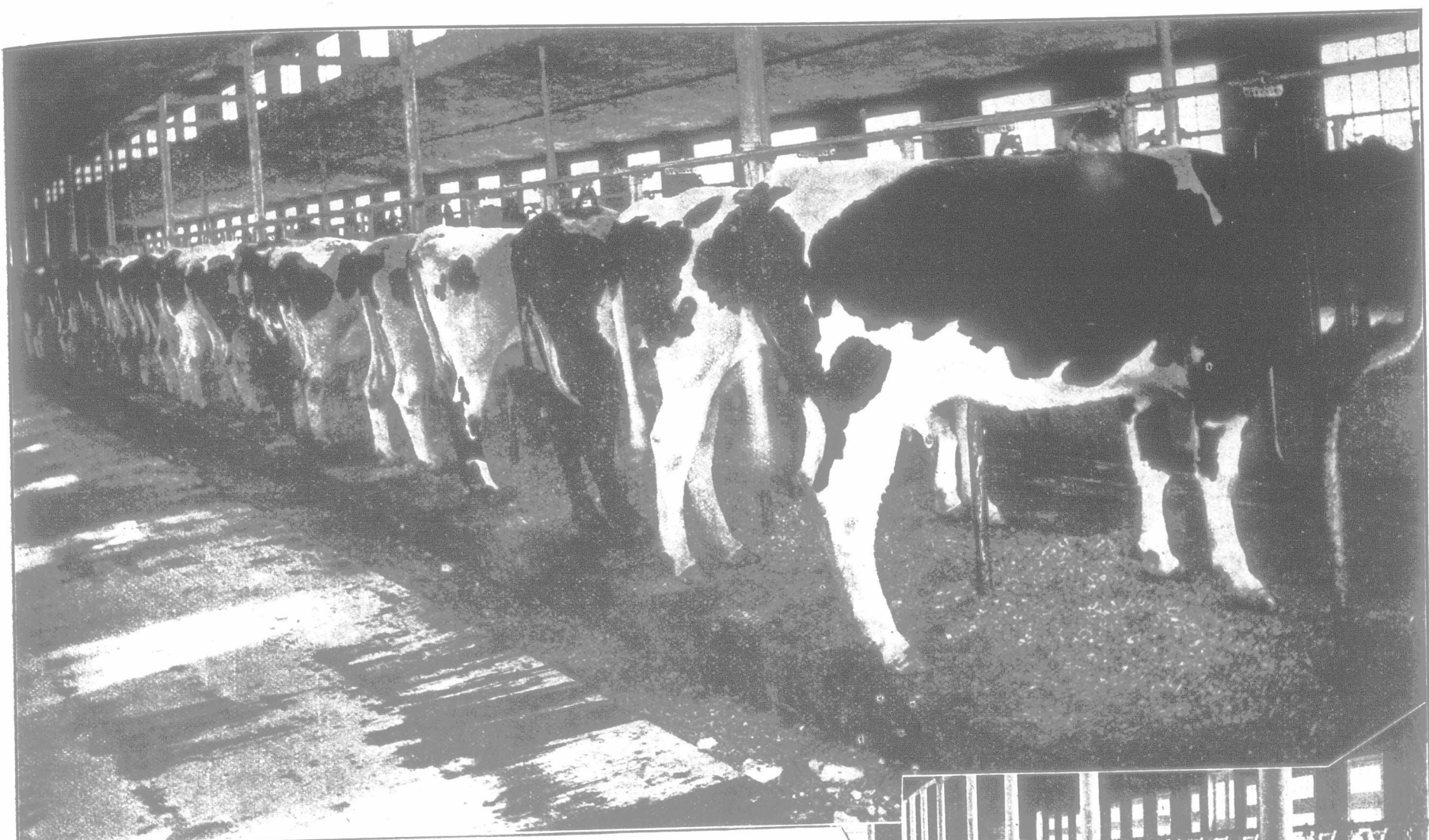
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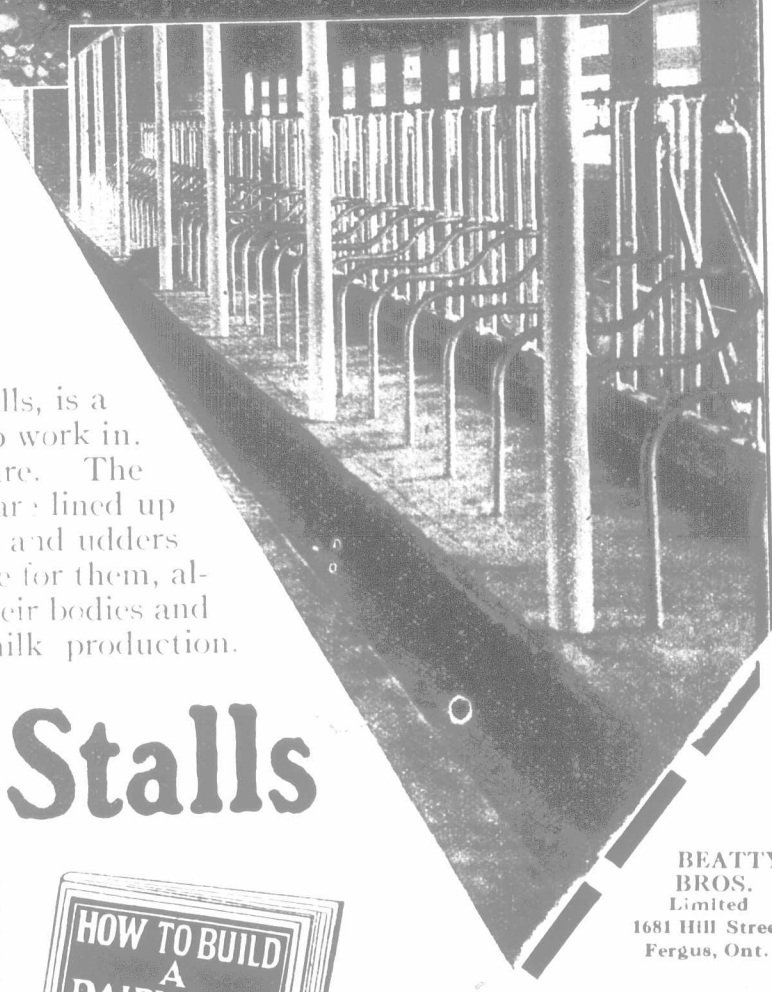
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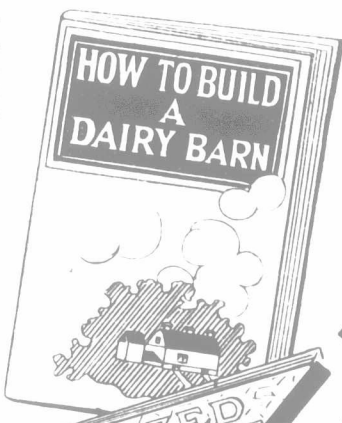
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Then comes drifting upon the scene, Lyndall, the thinker, as Waldo is the dreamer of dreams and seer of visions,—Lyndall of the beautiful face and tiny hands and feet; Lyndall to whom all about are self-offered devotees, yet who looks away and beyond, seeking one whom she may adore and whom she never meets; Lyndall who will have liberty, and whose passion for it, in an orthodox and conventional world, is her undoing.

These and yet others drift across the scene: the fair-haired Em, the dog-like Gregory, Waldo's "stranger," Doss, the dog with the wrinkled nose. . . There is little plot, little system. The story is as life itself—outside of the story-books—for the most part a shifting of incidents, a drifting by of personalities like a phantom procession in a crystal; here a little and there a little, and the end, after many years, Character.

So I muse, with the little blue-bound, gold-lettered volume lying before me, and I think of a photo of the writer, "Ralph Iron"—Olive Schreiner—sent me long ago,—Olive Schreiner as she was in her teens, when this little book, wonderful in its maturity, was written. The face, idealistic, dreamy, mobile, yet intrepid and daring, too, comes back to me; and then I turn to the Encyclopaedia of English Literature to learn something of the life which has nurtured this striking personality, now understood a little better.

Olive Schreiner, it is there stated, was born in Basutoland in 1865, the daughter of a missionary in the service of the London Missionary Society. She has written several books, among them "Dreams," a book of spiritual allegories, but it is upon her first effort, this "Story of an African Farm," that the fame rests which has declared her to be "the most original author that South Africa has yet produced." In 1894 she was married to Mr. S. C. Cronwright, and since then has applied herself to political writing rather to dreams and fantasies, in this assisting her husband, who is also a writer on political and economic subjects. Ever a champion of the right of women to be recognized as human personalities rather than as mere sex units, before the Boer war she consolidated her ideas and arguments into a comprehensive book, but before it could be sent away to the printers, it suffered the usual result of war, annihilation. Soldier hands took it from the desk and burned it, with other papers, but "Ralph Iron" was not to be daunted. Painfully she collected her materials again, as well as she could, and the result has been "Woman and Labor," a volume referred to some time ago in these columns.

"The Story of an African Farm," is no book for a child, nor yet for a man or woman of child-development, mentally. To the mature mind, however, it is worth while. There is much in it to which some may take exception; yet others may recognize in it an echo of the problems and struggles, spiritually, that rend every truly inquiring soul. In either case there is much to recommend. After all, as the mind approaches true maturity it recognizes that it is with books as with people; one cannot dislike an admirable work of literature because there may be a few things in it with which one cannot agree any more than one can absolutely condemn a person who chances to have a few faults. Were such condemnation fair and just, what book could stand, or what person?

And now, that you may catch, somewhat, the drift of the thought in this little volume, may I give you a few quotations?

These are the words of Lyndall: "The secret of success is concentration; wherever there has been a great life, or a great work, that has gone before."

"There is no use in wailing and repentance here; the next world is the place for that; this life is too short. By our errors we see deeper into life. They help us."

"Men and things are plastic; they part to the right and left when one comes among them moving in a straight line to one end."

"I don't know much about love, and

I do not like not understand opinions. So the seed from the earth to them sin; and the plants in pulled up by the angels h ing, and it whole earth. do not know both. There go under the love that be down to the but it lasts than it gives that blots c with the s with the bit an hour; bu whole life fo perhaps the they tried to poets are ri it. It is a color of sin scent of a r many kind flowers: even speedwells t fan them ou lilies that ness out fo dust at nig has the c purity, the mountain li whether the all—friends! And these "Of all t only the se sky is no sea is alv thing deep never rests ing, wanti it creeps reached, m a question, awer."

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("The S Ralph I lished by Mass.)

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I do not like to talk of things I do not understand; but I have heard two opinions. Some say the devil carried the seed from hell, and planted it on the earth to plague men and make them sin; and some say that, when all the plants in the garden of Eden were pulled up by the roots, one bush that the angels had planted was left growing, and it spread its seed over the whole earth, and its name is love. I do not know which is right—perhaps both. There are different species that go under the same name. There is a love that begins in the head and goes down to the heart, and grows slowly; but it lasts till death, and asks less than it gives. There is another love, that blots out wisdom, that is sweet with the sweetness of life and bitter with the bitterness of death, lasting for an hour; but it is worth, having lived a whole life for that hour. I cannot tell; perhaps the old monks were right when they tried to root love out; perhaps the poets are right when they try to water it. It is a blood-red flower, with the color of sin; but there is always the scent of a god about it. There are as many kinds of love as there are flowers: everlastings that never wither; speedwells that wait for the wind to fan them out of life; blood-red mountain lilies that pour their voluptuous sweetness out for one day, and lie in the dust at night. There is no flower that has the charm of all—the speedwell's purity, the everlasting's strength, the mountain lily's warmth; but who knows whether there is not a love that holds all—friendship, passion, worship?"

And these are words of Waldo:
"Of all the things I have ever seen, only the sea is like a human being; the sky is not, nor the earth. But the sea is always moving, always something deep in itself is stirring it. It never rests; it is always wanting, wanting, wanting. It hurries on; and then it creeps back slowly, without having reached, moaning. It is always asking a question, and it never gets the answer."
Nor does the teller of the story leave us sure as to whether Waldo has ever got the "answer" to his life of questioning, until he lies there at last, with the little yellow chickens climbing over his black curls. She does not tell us; the instinct of the artist will not permit her to do that,—perhaps she herself does not know,—but in the sunshiny day on the African veldt there is the breath of peace.
JUNIA.

("The Story of an African Farm," by "Ralph Iron,"—Olive Schreiner. Published by Little, Brown & Co., Boston, Mass.)

The New House.

(Continued.)

"It is the 'lines' of a dress that count—not the trimmings," said a woman of good taste the other day, and, most certainly, the same observation holds good in regard to houses, so far as exterior appearance is concerned. Trimmings—useless grilles, borderings, turrets and railings—may be utterly dispensed with, they are only so much wasted money anyway, but the lines of the house must be good if it is to make any artistic appeal at all. Let Grace and Suitability, with Simplicity, be the base-work of the plan.

"Lines" of course, depend, in the first place, upon proportion:—The house must not be too narrow for its height; the roof must be neither too narrow, looking like a tin pan on top of a post, nor yet too broad, giving the whole structure the appearance of a mushroom—every part must be considered in relation to every other part. As a general rule, for country houses of moderate size, long roof lines and low eaves are the most appropriate.

In the second place "lines" must depend upon the outline as a whole, of the roof in particular, with chimneys, porches, etc., as accessories. Chimneys are often disregarded in planning for a house; any sort of flue that will carry off the smoke safely, is supposed to "do." But this is a great mistake. On the contrary, they can often be depended upon to add just the needed touch of picturesque to certain styles of architecture.

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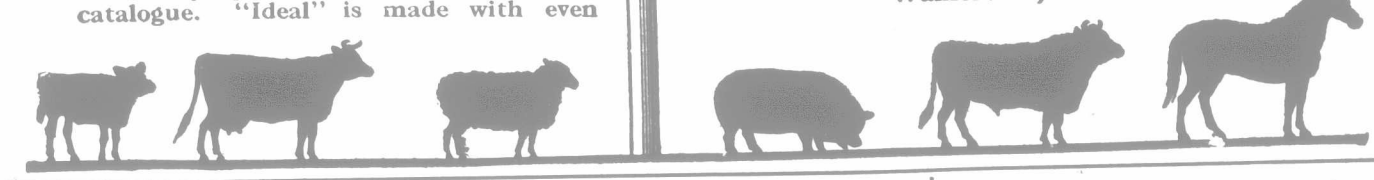
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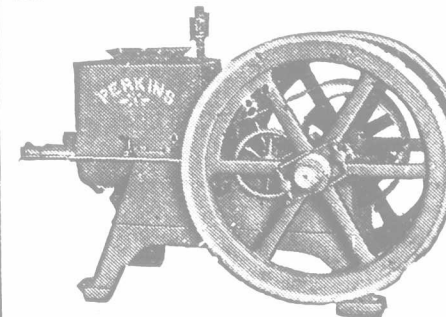
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Yours truly,
(Signed) H. E. KAERCHER.

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Where fireplaces have been put in, exterior chimneys reaching from the ground may be very effective; in other places the chimneys may be grouped, or built of a style and height carefully planned to suit the size of the roof.

Windows are another detail that must be carefully considered in planning for the appearance, as well as the utility of a house. Nothing, perhaps, can add more, or detract more, from its beauty than their disposition and size.

Generally speaking—and especially for living-rooms, drawing-rooms and dining-rooms—they are most effective, both for lighting and for effect, when they are grouped, an arrangement which also permits taking advantage of a fine view when one is afforded. They need not be high—the day of the long, perpendicular slit in the wall is past, forever it is to be hoped—but they should give the effect of generous breadth. Three or four, grouped thus, are like a fireplace, a great acquisition to any room. They really help to "furnish" it, permitting, as they do, of a very attractive arrangement of curtains.

Small panes, at least for the upper sash, are seen on many of the prettiest houses. They do away with the appearance of mere gashing in the walls, and look somewhat cosier from within, the reason, as you may remember, why William Morris preferred them. The only objection is that they are rather hard to keep clean; dirt will insist on lodging in the corners. A way to obviate this, however, that has been successfully tried, is to let the windows themselves be of one large pane to each sash, then have a woodwork frame, made as if for small panes of glass, quite separate. This frame swings outward, free from the glass, and may be easily brushed clean with a feather duster.

"Pediment" windows, by the way, are almost as obsolete as last year's tight skirts, roof windows taking the form, for the most part, of groups under a single, depending roof, although dormer effects are quite suitable in certain situations. Bay windows, also, have somewhat gone the way of all flesh. Today they are bay windows of old glorified. Usually they swell outward quite along the end of a room, adding to its size and providing a spacious corner for window seats or plants. The effect, within and without, is quite different from that of the old carbuncle excrescence.

A last word in regard to windows: Leave stained glass for churches and public buildings where enough money can be spent to secure really artistic productions. If you want fancy window effects anywhere fall back on leaded panes of clear glass in small diamonds or squares. So you will escape any accidents of vulgarity.

Case window, by the way, are a delight, if constructed well enough to be tight, when desired, in winter. Swinging open as they do, from top to bottom, they admit all the breeze there is without interfering at all with the draperies.

PATRIOTISM and PRODUCTION

Complete Now Your Plans for the Year's Work

Canada, this year, cannot produce too much staple food. No matter how large her surplus for export, there will still be need of more food in Europe and Britain. The Canadian Government, therefore, urges all farmers and producers of food to attend the series of Conferences now being held throughout the Dominion under the direction of the Canadian Department of Agriculture. Let farmers get together at these Conferences and discuss the vital questions of the day. Agricultural Specialists will

also be on hand to give valuable information as to the food products the Empire and her Allies most need, and to offer suggestions to increase production.

ATTEND YOUR CONFERENCE

The important thing now is to complete at once your plan for the year's work—for increased production. By planning well in advance, each month's operations can be carried through more

effectively when the time comes. Delays later on, through neglect of this, will mean loss to you and to the Empire.

Use the Best Seed

This year, for the sake of the Empire, farmers should be exceptionally careful in the selection of seed. Cheap seed is often the dearest. If every Canadian farmer would use only the best varieties, and sow on properly cultivated soil, the grain output of Canadian farms would be doubled. Deal only with reliable seedsmen. Write at once to Canadian Department of Agriculture, Ottawa, and to your Provincial Agricultural Department, for information as to the best varieties of seed to be

used in your particular locality, and use no others.

All grain intended for seed should be thoroughly cleaned and selected to retain only the strong kernels. You can reap only what you sow. It does not pay to sow weeds. Clean seed means larger crops and helps to keep the land clean. When you have your seed grain ready, put it through the cleaner once more.

Test Your Seed

Test your seed for vitality, too. Seed is not always as good as it looks. For example, oats, quite normal in appearance

and weight, may be so badly damaged by frost that their value for seed is completely destroyed. If you have any doubt as to the quality of your seed a sample may be sent free to the seed laboratory at Ottawa, or Calgary, for test. But in most cases this simple test will prove sufficient:—

Take a saucer and two pieces of blotting paper. Place seed between blotting papers. Keep moist and in a warm place. In a few days, you will be able to see whether the vitality is there. Neglect to test your seed may mean the loss of crop.

The Farm Labour Problem

This is undoubtedly one of the most difficult problems to solve today. There is a surplus of labour in the cities and towns and a shortage in the country. Careful handling of the problem is necessary. Under present conditions, in addition to looking to the Governments for help, the necessary work should be largely undertaken locally.

Committees in every Town

The Government suggests the forming of an active committee in every town and city, composed of town and country men and women. This committee would find out the sort of help the farmers of their locality need, and get a list of the unemployed in their town or city, who are suitable for farm labour. With this information, the committee would be in a good position to get the right man for the right place.

Councils, both rural and urban, boards of trade and other

organizations could advantageously finance such work. Every unemployed man in the town or city who is placed on the farm becomes immediately a producer, instead of a mere consumer and a civic expense. With Britain and her Allies calling for more food, it will be a national loss, in fact a national crime, to leave in the towns and cities any unemployed men who are capable, as thousands of them are, of being of assistance on the farm.

Have you a house on the farm for a married man? A real home for the farm labourer will solve this problem.

Free Bulletins

The Government urges farmers and other producers to make a wider use of the large number of Free Bulletins issued by the Canadian Department of Agriculture, Ottawa, or your Provincial Departments. There are special Bulletins on selection of seed, testing, early planting, that you should have. Clip out, fill in and mail the coupon below and get these Bulletins.

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12

Among other accessories must be considered the porch, the veranda, and the sun-room or conservatory, one or more of which may be decided upon. Suffice it to say that the veranda, to be satisfactory, must be broad enough to be sociable. People can't feel at home strung along on a shelf; make the veranda broad enough to furnish it like a room, with tables and easy-chairs, and a hammock or two to boot, and see how naturally the whole family will gravitate to living out of doors in summer. Usually it is most satisfactory at the end of a house, preferably to the east or north, where it will provide a shaded resting place for the afternoons, while interfering very little with the free entrance of the sunlight. Nature's own disinfectant, into the living-rooms. If it be made in the form of a double-decker, the upper portion will be found invaluable for airing bedclothes, brushing clothes, etc.

Where a veranda is not practicable the porch, usually intended as a protection to the door and vantage ground for plants, may be extended somewhat, and made to do duty for it. A substantial, three-foot balustrade, preferably of stone, if that will harmonize with the rest of the house, extending from the steps at either side to enclose the porch, will be found to add to its coyness.

A sun-room may be dispensed with more easily in the country than in the city, nevertheless it is much prized by those who own it. In many cases the veranda is arranged so that it may be enclosed with glass in winter, and used as a sleeping-room, the glass being arranged slide-wise, and the room heated by a pipe from the furnace. In other cases the sun-room is simply a corner of the house, lavishly supplied with windows, and used for easy-chairs and plants, serving as conservatory and living-room.

THE MATERIALS.

Having decided upon the lines, the next question is: Of what material shall the new house be built?

A conceit quite often seen nowadays, is to have the exterior in two materials, stone or brick below, with stucco—often "half-timbered"—above, sometimes cement or cross-boards below, with stained shingles above. While, however, this style is often effective, he who chooses to build his house all of one material, is more sure of not making a mistake. There is a dignity about a house built of one material, which is sometimes lacking in those of a more patchwork order.—All brick, all stone, all stucco, with a roof tinted to a soft moss-green,—can't you imagine how pleasing it may be?

Shingles, by the way, whether for walls or roof, should be dipped in some protective stain or wash,—creosote stain for instance—before being nailed in place. They both last longer and look better. For roofs, tile and slate are, of course, more permanent, but cost more.

Brick is, perhaps, the favorite building material in Canada, but it is to be remembered that there is brick—and brick. You can choose an ugly, garish red if you like, but you can also choose pretty, soft shades, in red or buff. Paving brick is usually rather quiet in coloring, and being hard and close in texture, is quite to be recommended for outside facing. . . . Also the color of the mortar counts. No longer is one tied down to the old dead white variety; grayish mortars, and even black, or reddish to match the brick, are now quite common.

When cement or concrete is used, it may be tinted to a warm, stone color. The most successful cement houses are built, not of concrete blocks, but of reinforced concrete.

In any of these houses, outside chimneys and the veranda or porch balustrades, may be of field-stones well set. With a drapery of vines, the effect, especially in a rugged country, is excellent. "Frame" houses, which must be painted, present one outstanding problem,—the color. White, cream, gray, soft green and brown, and very dull, quiet red, are the safest colors, with window-casings, veranda, etc., in very quiet contrasts indeed. For these, there is a shade of soft, olive-green, that is usually reliable,—the same as the roof tones. "Paris," or bright green of any kind, should be given a long leave of absence, as should also any pricking out of high

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The Latest Improved Specialities FOR FARMERS and GARDENERS

These tools are Labor and Money savers and should be on every farm and garden. Our method of making these specialties assures adaptability, strength and service at the minimum price for the best goods of their kind on the market.

"EUREKA" GARDEN SEEDER



The only rear-wheel driven Seed Drill on the market. The Eureka will handle the most delicate seed without bruising or breaking and will sow evenly to the last seed. Can be instantly converted from a regular seed sower into a Hill-dropper. No waste of seed when turning rows. For sowing Sugar Beets and all garden seeds this machine is unequalled. Sold with or without the Cultivator Attachments.

"EUREKA" WAGON BOX AND RACK

Without vines and ladders it is an excellent wagon box. With them it is a perfect Hay, Stock, Wood, Corn or Fruit Rack. Can be instantly adjusted to any position without wrench, hook or rope.

"EUREKA" SANITARY CHURN

The only Sanitary Churn made. Barrel of finest stoneware. Aluminum top, with glass peep-hole. Very easy to operate. Three sizes—8, 10 and 12 Gallons.

"EUREKA" COMBINATION ANVIL

The Combination includes Anvil with vice, Pipe Vice, Drill Attachment, Saw Clamps and Hardie. An excellent article for repairing tools and machinery. Weighs 60 lbs.

WRITE FOR CATALOGUE

Our latest catalogue describes our entire line. It shows our Cultivators, Seeders and Tools as they are and gives a full description of their construction in detail. Write for free copy.

The Eureka Planter Company, Ltd.
136 Winnett St. Woodstock Ont.

lights with red. If one does not care for green, there are soft wood-browns to fall back upon, while dull-red or buff houses may even look well with "trim" of ivory-white.

(To be continued.)

A LETTER OF THANKS.

Dear Junia and All Kind Readers,—It is February 1st, and here I come through all the storm. How it does blow, to be sure, and so cold; makes one thankful for a home out of the storm. Blessings sent from day to day make life a pleasant way. I did not feel as if I could write, but shall do my best, as my heart is warmed by the kindness of many old and new friends who so kindly remembered me at the Christmas season. Words fail me to express gratitude for it all. And Junia, the dear she was to forward me those letters; so kind of her to offer to do so. As I cannot write to each one, I shall do so here, then all can have a share. Those kind words written have helped me so. They made silent teardrops fall. How little you writers knew the good your writing was going to do the Lass; but, dears, some of you only sent your pen name. "I am sorry, as I could not write you even were I to wish to do so, and Junia tells me she cannot find them. I like to know the full names. Far and near, people read "The Farmer's Advocate." I hope the one from Montreal will write, giving me full name. Thank you for those kind words. Also wish to say I appreciate remembrance from the reader in Australia so much. I would have been pleased to send gifts to many, but really could not do so, but shall try and write to the Nook still. Glad to know my letters are wanted and help others. Sometimes I had decided not to write again, had nothing new to write, but have taken fresh courage, and do what I can. I hope one and all of you had a pleasant Yuletide, and may you have many of them. "The Farmer's Advocate" is such a help, and Hope's writings, too. This has been a busy winter for those who could help in making for the soldiers and for the needy, and there are many such now.

I feel such a longing to do much to help others on the way by working and going about doing good. Sometimes it is not easy to bide still at home. What a blessing prayer is in such times. Tell Jesus all, and know it surely is best or He would not have it so. I often think our lives are planned for us, if only we can follow where Jesus leads, and He will give us strength if we look to Him. Sometimes in my vision His dear face I see, and Heaven seems nearer and dearer to me. Pain and loneliness are as nothing when we think of the home over there, and just to rest sweet is the promise, sweet rest in Heaven.

Well, this letter is long, but I feel Jesus so precious I could write on and on as well as talk of Jesus had I any to talk to, for my heart is filled with joy in His love.

Now, as I have an idea I shall send it. Several have asked me what to clean aluminum ware with. My experience is to use bathbrick, very fine, on damp cloth. On spoons, if let dry with brick on, and polish with dry brick, will make them like new. If stew kettle gets dark, I have seen apple peelings boiled in it and that takes all stains out, leaving kettle bright. Try it and see for yourself.

Now, I must really close again, thinking dear Junia and each one for kindness shown me. Hoping this year will be a blessed year to all. Your grateful shut-in friend,
LANKSHIRE LASS,
Wellington Co., Ont.

BOOK LIST.

Dear Friend,—For such I think of you after reading so many of your chatty talks in the Ingle Nook. You do touch such a variety of subjects that we are inclined to think of you as something of a walking Encyclopedia, if you will pardon the expression. Trusting in that belief, I come, asking for a recommendation of a book.

I am one of the Literary Committee of our Epworth League, and for our reading course, we are seeking a book on France, Belgium, or Germany, preferably the latter. If possible, we should like one dealing in an interesting way with the natural resources and commer-

Sydney Basic Slag

Ontario Farmers are being exhorted on all hands to increase production. The most certain way in which this can be achieved is by using Commercial Fertilizers and we ask you to buy Sydney Basic Slag because it is the best value obtainable. You needn't take our word on these matters. Here is the proof.

The Canadian Department of Agriculture says: Germany in the last ten years has doubled the average yield of her field crops largely through better seed, thorough cultivation and use of Fertilizer. (See Toronto Globe, 13th February).

B. Leslie Emslie, the well-known agricultural expert says: Sydney Basic Slag is one of the cheapest and best Fertilizers known. (See Farmer's Advocate, 4th February, page 158).

Professor Cummings (himself an Ontario man), Agricultural College, Truro, N.S., says: On the College Farm splendid results have been obtained from the use of Basic Slag especially in the growth of Clover. (See Farmer's Advocate, 4th February, page 158.)

Now Ontario Farmers, The Mother Country is involved in a life and death struggle to preserve the liberties which are our heritage from the men who have gone before. It is up to you to do something. You are not asked to risk your life on the field of battle but you can render assistance as essential and as vital to our ultimate success as the man who goes to the front. It is your part to feed The Mother Country and her allies and everything you can produce will be needed. The boys in the trenches can be depended on to do their bit even to yielding their lives for us but we in Canada must see that neither they nor the toiling thousands who labor to provide the munitions of war shall suffer for lack of food. The aim of every Ontario Farmer therefore, should be to increase his production of Food Stuffs by at least 50% and the use of Commercial Fertilizers will materially assist to this end. If we have no agent in your district we will send you a ton of Basic Slag for Twenty Dollars delivered free at any station in Ontario, cash with order—or better still, if you think you could distribute a carload of twenty tons among your neighbors, write or telegraph us and we will instruct our General Sales Agent to give you a call at once.

Descriptive literature on application to

The Cross Fertilizer Company, Limited
SYDNEY, NOVA SCOTIA

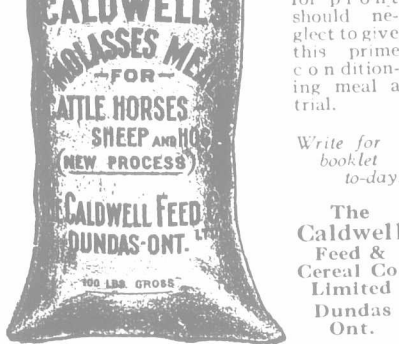
Make Stock Fit and Fat

Furnish your animals with needed and valuable feed elements lacking in ordinary diet by giving them Caldwell's Molasses Meal—the unequalled upbuilder of cattle, horses, sheep and hogs.

CALDWELL'S Molasses Meal

(84% Pure Cane Molasses and 16% Edible Moss)

makes every-day feed more palatable and more beneficial, and reduces feed bills. By its use you get better results and save money too. Its benefit to stock will quickly show.



No man who wants to raise stock for profit should neglect to give this prime conditioning meal a trial.

Write for booklet to-day.

The Caldwell Feed & Cereal Co. Limited Dundas Ont.

Made in Canada

THE ARLINGTON CO. of Canada, Ltd.
68 FRAZER AVENUE TORONTO

CHALLENGE COLLARS

Acknowledged to be the finest creation of Water-proof Collars ever made. Ask to see, and buy no other. All stores or direct for 25c.

All "ARLINGTON COLLARS" are good, but our CHALLENGE BRAND is the best

SEED OATS

O.A.C. No. 72. Guaranteed pure and clean. \$1.25 per bushel, bags free.
Duncan McTavish, Chesley, Ontario

YOU CAN BE A NURSE

We positively guarantee to train you in your own home, furnish uniform, and assist you to positions paying \$12 to \$25 a week. Send for free catalog and illustrated book of "National Nurses."
National School of Nursing, Dept 56 Elmira, N.Y.

The World's Standard Spraying Machine

Made in Canada—No duty to pay

Spramotor

It isn't a SPRAMOTOR unless we made it

Spramotors in every class have demonstrated their superiority over all other spraying outfits.

We make them in many styles and sizes from a few dollars up to \$350, every machine guaranteed.

FREE Send letter stating your spraying needs and we will mail a copy of our valuable book on "CROP DISEASES" free and without obligating you in the least.

B. H. Heard Spramotor
2112 King Street, London, Canada

PRATTS Baby Chick Food

Where does the profit come in if the poultryman saves a few cents in feed and loses part of his flock? Feed Pratts Baby Chick Food—a scientifically correct formula and not a guesswork mixture. It gives health, strength and vitality to the young, growing birds, and helps them to withstand disease. Put up in 3-lb., 6½-lb. packages; also 14-lb., 50-lb., and 100-lb. bags.

Pratts White Diarrhoea Remedy is so successful that we authorize our dealers throughout the world to refund the purchase price in case of dissatisfaction. Extra large box, 50c; small size, 25c. Write your name and address on margin of this ad, tear out and send 10c. (stamps or silver) for "The Poultryman's Handbook."

Pratt Food Co. of Canada, Ltd.
Dept. 1 Toronto, P-19

PROTENA DAIRY FEED

Guaranteed Protein 16%
Guaranteed Fat 3.5%
Low priced and extra value.
Prices on application
THE GHISHOLM MILLING CO., LIMITED
Dept. A, Toronto

Durham County Farm For Sale

Kingston Road, farm mile and half from Port Hope, hundred and sixteen acres, clay loam, 4 acres bearing orchard, hardwood bush, ten roomed dwelling with coal and wood furnace, bank barn, living house, cement piggery, poultry house, silo, louse to village, school, railway station. Seven thousand. Reasonable terms.
JOHN FISHER & CO. Toronto
Lumsden Bldg.

500 Good Grade Ewes

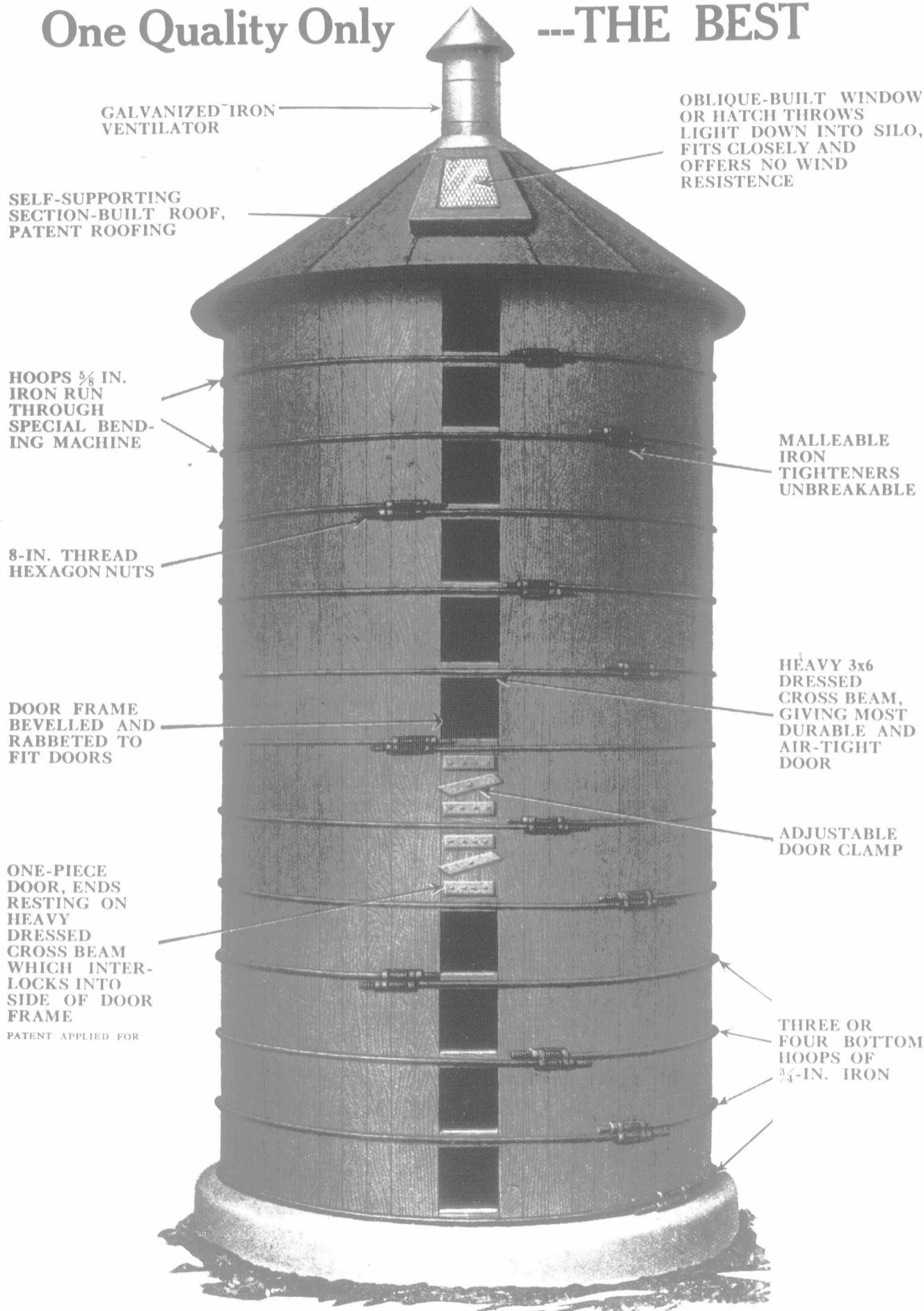
Any number to suit purchaser.
R. Reid & Co. Maple Cliff Farm, Ottawa

A Bargain for Quick Sale

One Holstein Bull of the famous De Kol Family.
JOHN DUNN
94 Dovercourt Road :: Toronto Ontario

THE LISTER SILO

One Quality Only ---THE BEST



Write for particulars to Department G

R. A. LISTER & COMPANY, Limited

58-60 Stewart Street, TORONTO, ONT.

Branches at WINNIPEG, MAN., and 82 Water St., ST. JOHN, N.B.

WISCONSIN INCUBATOR AND BROODER BOTH FOR \$13.90

130 Egg Incubator
130 Chick Brooder
BOTH FOR
\$13.90 Freight and Duty PAID

If ordered together we send both machines for only \$13.90 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$13.90 is for both incubator and brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.



cial strength of the country, and telling us something of the everyday life of the people.

Of course, dear Junia, please do not

thought it would be easier for you to recommend one if you understood something of the style of book wanted.

think this a hard - and - fast rule, but I Thanking you, I remain ONE OF YOUR APPRECIATIVE READERS.

Perth Co., Ont.
Not an "Encyclopedia," dear friend,—just a fairly good "hunter," as everyone in editorial work must be.

Here is a list of books that may be suggestive. Write to the publishers for prices:

- "Belgium," by Geo. W. T. Omond. Pub. by A. C. Black, Soho Square, London, W., Eng.
- "Germany and the German Emperor," by G. H. Ferris. McClelland, Goodchild & Stewart Pub. Co., Ltd., Toronto.
- "The French in Town and Country," by Hannah Lynch. Pub. by George Newnes, Ltd., London, Eng.
- "Monarchical Socialism in Germany," by Elmer Roberts. Chas. Scribner's Sons, New York.
- "Germany of To-day," by Chas. Tower. Pub. by Williams & Norgate, London, Eng., or Wm. Briggs Co., Toronto.
- "Germany in the Nineteenth Century," Pub. by The University Press, Manchester, Eng.
- "Industrial Germany," by W. H. Dawson, Collins Press, London, Eng.
- "Austria, Her People, and Their Homelands," by Baker. John Lane Pub. Co., New York.
- "The German Enigma," by Georges Bourdon. Introduction by Chas. Sarolea, the celebrated Belgian professor and author, who is coming to Canada in the near future. Pub. by J. M. Dent & Sons, Ltd., London, Eng.

CELERY SALAD—MEAT PIE.

Dear Junia,—May I come to you for a little help? We have taken "The Farmer's Advocate" for some time, and think it a valuable paper. Will someone please tell me how to make celery salad, and a good crust for a meat pie? Thanking you in advance. MRS. W. C. Ontario Co., Ont.

Celery Salad.—Mix together equal quantities of chopped celery and apples. Add some chopped nutmeats and mix with salad dressing. Serve on lettuce leaves or celery tips.

Crust for Meat Pie.—Sift 2 cups flour with $\frac{1}{2}$ teaspoon baking powder and a pinch of salt. Rub in with the fingertips 2 or 3 dessertspoons of butter or dripping, then, with a knife mix to a stiff paste with a little sweet milk or water. Roll out at once (never knead pastry) and put over with sweet milk and bake (in a quick oven at first). Three ounces of suet, finely chopped, may be used instead of the butter or dripping.

REMOVING STAIN.

Dear Ingle Nook Friends,—For you are all friends to me, although you do not know me. I have found out so many helpful things it has made me greedy for more. I have had tea spilt on an embroidered cotton voile. Can anyone help me about it? I have poured lots of boiling water through it. Then I read to soak it in milk, but that only made it worse. I have not used any soap on it. It is fine to have the Ingle Nook to come to in trouble, and I do not even have to write to find things out very often. I wish I had some knowledge to give in return, but am only a little country lass. Hoping that someone will help me, and that you may all have a happy and useful year. I am your friend Perth Co., Ont. ENQUIRER.

"Scientific American" gives the following methods for removing tea stains:
(1) From white cotton and linen goods—Water, followed by sodium hypochlorite.
(2) From colored cotton and linen.—Aqueous soap solution and ammonia.
(3) From white silk and woollen goods.—Water, followed by potassium permanganate, then to remove the brown mark, sulphurous acid solution.
(4) Colored silk and woollen goods.—Water, followed by hydrogen peroxide, if the color is fast to this; if not, use methylated spirits and soap. In every case rinse very thoroughly.

INK STAINS.

N. N. Wentworth Co., wishes to know how to remove ink stains from a lace sleevelet. Oxalic acid solution, followed by rinsing with clear water, and finally with ammonia water to prevent rotting, will take out ink stains from white goods. A simpler remedy is buttermilk. I took out stains from a pongee sleeve by simply soaking it in buttermilk for

The Only Real "New Idea"

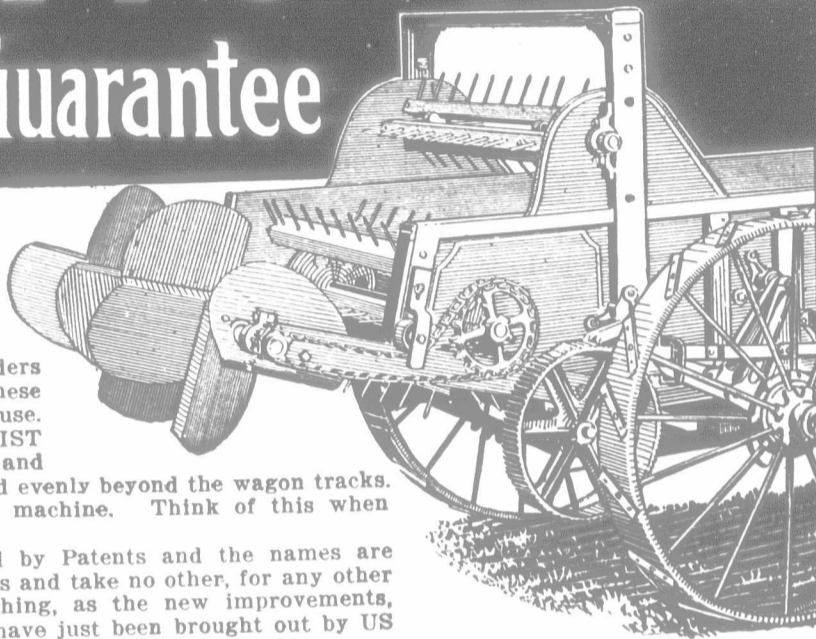
Bears Our Trade-Mark and Guarantee

"NEW IDEA" is the name of our famous gearless spreader in the regular standard type. "NISCO" is the name for the low down machine. Any machine masquerading under a similar name is a rank imitation.

Be sure to get the real "NEW IDEA" or "NISCO", the spreaders with more strong features than can be mentioned here. Either one of these machines is GUARANTEED for a year against breakage from any cause.

Insist on getting the machine with the AXLE FEED, and INSIST on getting it with the STEEL DISTRIBUTOR that is non-breakable and will spread 7 feet wide. These are the only two machines that spread evenly beyond the wagon tracks. They COVER 7 feet with one spread, saving time and wear on the machine. Think of this when you're buying a spreader.

The special features on both of these machines are fully covered by Patents and the names are protected by Registered Trade-Marks. Insist on these two machines and take no other, for any other make using a similar name is an imitation, and is not the real thing, as the new improvements, the AXLE FEED and the STEEL DISTRIBUTOR of special design have just been brought out by US and will be covered by Patents so they cannot be touched by competitors.



Easy
to
Load

NISCO

The "New Idea"

Easy
to
Empty

Low down easy loading light draft spreaders that are prime favorites with every farmer who has ever used them.

The NISCO stands only 41 inches high to top of sides, yet has 19 inches clearance under conveyor. The double pulverizing cylinders enable you to load 12 inches above top of sides, insuring a full capacity spreader.

The NEW IDEA is as low as a machine that tracks can be built, only 42 in. high at the rear wheels. This has always been the favorite machine in the Dairy Sections and in hilly countries, and we are pushing it stronger than ever. The latest improvement on this machine is the STEEL SILL with the bearings bolted to it, removing strain from the sides. Of course the NEW IDEA has the AXLE FEED and STEEL DISTRIBUTOR, the same as the NISCO.

Wide wheels on both machines, of a very heavy type, insure sufficient traction power. The perfect pulverizing mechanism insures light draft and prevents choking. They are built very substantially and only the BEST material and labor is used. The strong braces used on the sides and the top brace over the cylinders prevent cramping of the bearings. Self Aligning bearings of an improved type are used.

SIMPLICITY and DURABILITY have always been our watchword. Two levers and a little foot latch operate the machine, and it's so simple that any boy can handle it. One lever throws the machine in and out of gear, and the other lever gives six changes of feed and the foot latch can be used if wanted for stopping the feed entirely if you get to a place where you don't want to spread, or when turning.

Special Feed Mechanism and Steel Distributor Found Only on the "NEW IDEA" and "NISCO"

AXLE FEED—Here's a big feature. The rear axle turns with the wheels when going forward, and stands still when backing. One end has the large sprocket wheel fastened to it for driving the cylinders, and the other end has a set of cams securely keyed to it for operating the feed. It's very steady, and has a wider range of adjustment than is possible any other way. Besides, it is noiseless, doing away with the clicking of ratchets which is so annoying to many teams.

STEEL DISTRIBUTOR—This is our latest improvement, and the result of ten years experimenting and testing out. It is increasing our sales rapidly and is sweeping the business like a whirlwind. Whenever a farmer sees this distributor at work he becomes an enthusiast over it. It spreads 7 feet wide, and so even that a field covered with manure by it looks as though it had been sowed on. This wide spread saves you half a mile of travel per acre. Think of the time saved, the ease on your horses and the wear on the machine saved.

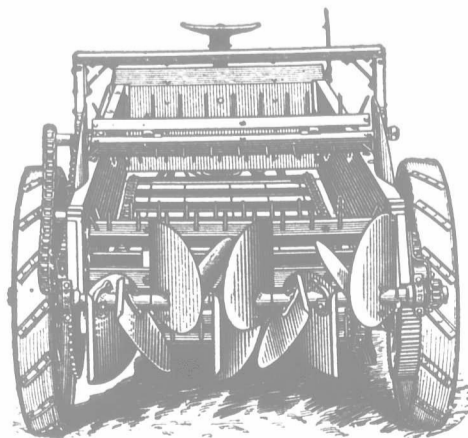
There are scores of other BIG Features on both machines. It is recognized as the BEST.

Big Money-Making Proposition for Live Agents

A profit maker for every agent who is successful in getting lined up now. We want 1,000 more live agents in Canada this year and want to increase our sales to 10,000 machines for the year, as every agent can easily sell 10 machines. We help to sell the goods as our live advertising campaign will bring thousands of inquiries. We have opened a big plant for Canadian trade and carry a big stock for prompt shipments. We employ a large number of travelers to help our Agents sell spreaders, and our terms are very liberal.

We want one good hustling Agent in every vicinity, a man who has the respect of his community and who is not afraid to talk a good article and handle an honest proposition in an honest way.

Act now before someone else gets ahead of you. If you are a farmer and don't sell any machinery yourself, fill out the coupon in the right-hand corner and give us the name of the Agent from whom you buy most of your machinery. We will see to it that you are supplied.



NEW IDEA SPREADER CO., Spreader Specialists, 354 MAIN ST., GUELPH, ONT.

COUPON

NEW IDEA SPREADER CO.,
354 Main St., Guelph, Ont.

Please send literature descriptive of the New Idea and Nisco spreaders. I am interested in your agency proposition

Name
Address



Send for our Free Book

"How to Hatch Chicks that Live." It contains valuable information that will be worth many dollars to you.

Demand for Poultry Exceeds the Supply

The demand for first grade poultry and eggs in Canada is much greater than the supply. Now Europe is taking shiploads of our eggs and poultry and asking for more. This is your opportunity—begin now to turn this demand to profit by producing more poultry and eggs, but start with the right kind of equipment. The surest way to make success certain is to start with a guaranteed

Prairie State Incubator

Has been endorsed by all our Canadian Agricultural Colleges because it hatches the greatest number of "Chicks That Live."

Gunn, Langlois & Co. Limited
18 St. Vincent St., Montreal



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.

GROW WHEAT—the opportunity is on. For Sale—160 acres in Saskatchewan, 3 miles from main line C.P.R. west of Swift Current; 40 acres summer-fallow, shack and stable, well settled country, \$16.00 per acre. Apply to E. G. Lucas, Dandak, Ont.

SITUATION wanted by married man as manager or farm hand, accustomed to all kinds of farm work. Address: T. H. Cochrane, R.R. 3, Clifford.

TWO HUNDRED acre, dairy farm for sale in Western Ontario; one hundred miles from Toronto; choice land and buildings, milking machine; everything up-to-date for dairy purposes; possession this spring. Address: Farmer's Advocate, Box M, London, Ont.

YOUNG man seeks situation on farm, willing to work. Apply to A. Lang, Nestleton Sta. Ontario

\$7,500.00 50-acre fruit farm, 1 mile east of Beamsville, on Stone Road, 10 acres of fruit, Good house, barn, and chicken houses. Property carrying \$3,500 mortgage. Enquire: E. C. Morris, Ridleville, Ont.

Custom Robe and Fur Tanning

Send your Cattle and Horse Hides, Furs and other Skins to me, and have them tanned soft and pliable for Robes, Coats, Furs etc.

B. F. BELL, Delhi, Ont.

Improved Manitoba Farm

180 acres in South-western Manitoba, two miles from town, all under cultivation, splendid wheat land, clear of woods. Good frame house, stable, barn, etc. For twenty five head of stock. Granary room for 4,000 bushels of grain. \$26 per acre. Easy terms arranged.

STEWART & WALKER Limited
202 Sterling Bank Building
Winnipeg, Man.

O. A. C. 72 Oats For Sale. You cannot afford to grow any other. All seed oats are scarce and do not have the best, ahead in all trials. Grow from 1.4 to 2.3 bushels in Standing Grain. Competition 1.4 bushels and 1.2 as to variety. Price less than 2 bushels, \$1.25 per bush, 5 bush and over \$1.25 per bush. For Galt. Bag extra. WM ELLIOTT, Galt, Ont.

AUCTION SALE
Wednesday, March 3rd, 1915
40 Registered and High-grade Holsteins. Having sold my farm, I am giving up my time and will sell my entire herd without reserve. Send for Catalogue.

F. H. Jones, Bowmanville, Ontario
TWO Young Shorthorn Bulls for sale, twelve and thirteen months both, roan and first-class animals, and breeding unexcelled. Also a few young Femdes. One mile east of town station. HUGH THOMSON, Box 556, St. Mary's, Ont.

two or three days, then rinsing thoroughly. Not a trace of the ink was left.

SALT WORK.

M. B. wishes directions for making "salt work." I have no method on hand except for salt beads, but perhaps some reader can answer.

FANCY CAKES.

"Vanity," Lambton Co., Ont., would be pleased if "White Rose" will send the recipes for "ribbon cake" and "dominoes cake," which she mentioned. "Vanity" very kindly contributes one for "watermelon cake," which is as follows:

White Part.—One cup pulverized sugar, 1/2 cup butter, 1/2 cup sweet milk, 1 1/2 cups flour, whites of 2 eggs, 1/2 teaspoon baking powder.

Red Part.—One-half cup red sugar, 1/2 cup butter, 1/2 cup sweet milk, 1 cup flour, 1/2 teaspoon baking powder, 1/2 lb. raisins. Put red part in center of pan and white part on the outside.

MENDING BAGS.

Mrs. H. A. Simcoe Co., Ont., very kindly sends the following method for mending bags satisfactorily: "Make a paste of flour and water, and get a piece of old bag or other strong cloth large enough to extend over the tear nicely. Apply paste and lay patch on, inside of bag, and iron until dry. It will hold for a long time if properly done."

Reading in the Farm Home.

By T. A. Tefft.

A common testimony of housekeepers is that they have little or no time to read; that the demands of the home are so great that even if they get a little time they are too tired to read or study.

Reading has been pursued in a perfunctory way, perhaps, and has ceased to be a recreation, or the habit has become lost in too close attention to the practical, and the delight which was once obtained from books has been lost. Perhaps, in the effort to provide the home with the comforts of life, books have become a luxury not now to be indulged in; or the volumes composing the library are only those once enjoyed and outside of present tastes and demands; they may even be those which the urgency of the subscription agent has compelled one to buy, and which may be locked up behind glass doors in an oak case, books which may not feed the literary sense in the least.

There may be children growing up in the home demanding all the housewife's attention, but that is the very time when her literary sense needs the most food in order that she may be an example and stimulus to her family. It is a happy boy whose mother will read Arabian Nights with him, even if his jacket is mended at a later hour.

There are books upon the shelves which we often resolve to read, but we wait for an opportunity when we may be able to read an hour or two at a time. Thus they remain, perhaps for years, and are always a pleasure or a task ahead of us, rather than one accomplished or one being enjoyed. The best way to overcome this is to select a book, read a chapter or a few pages, and leave it at a point where there is interest enough to make one want to know what is coming next. It is a pleasure indeed to place any book upon the shelf feeling that it has become a part of our own life and experience, and that we are the richer for its acquaintance.

It is easy to arouse interest in a subject in order that the children in the home may acquire the habit of reading. Children have walked back and forth looking at the titles of books which meant nothing to them. It remained for an older person to interest them in a subject, and perhaps to read aloud until sufficient desire was gained so that they would wish for more and make an effort to secure it.

It is a mistake to "read down," to the child. It is a mistake always to ask whether all parts of a book are within his comprehension. He may not

understand all of Marmion, but he catches the fire and spirit of the poem and enjoys it, even as he will not when, as an older person, he reads from the standpoint of a critic. It is surprising how much children will absorb from books of a really mature nature which are read to them. Children enjoy that which is strong. An education is desired for the children, but too often the parents feel compelled to lay aside books in the crowded days and nights of striving for their children's welfare. There is danger here of pushing the boys and the girls to the front, while the parents go into the background and get "behind the times." It is exceedingly wholesome for the boys and girls to feel that their parents are still in advance of them; they not only enjoy intellectual comradeship, but they are benefited by looking to the parents for literary and intellectual leadership. There is a larger amount of sympathy between the mother and daughter who wash dishes and read "The Lady of the Lake" together, than between the mother who washes the dishes and the daughter who reads "The Lady of the Lake." The boys will enjoy "Snow Bound" more if the father and son have shoveled the snow together.

Men and women are most interested in human nature, its fortunes, its misfortunes, and its possibilities; hence the enormous sale of fiction. There is a large amount of fiction bought and read, however, which, while it may not be pernicious, fails to inspire with a nobler ambition; it does not strengthen the mind; it does not add culture. It excites, it entertains, it wears very smooth the avenues of the brain through which it travels, but it leaves no thought-pegs upon which to hang ideas. A novel which has led a person to think, which creates an appetite for the best literature, and which incites to higher and nobler living, is well worth while. Regret is often expressed that the book of the day, referring particularly to the novel, does not oftener come into the farm home. Perhaps, however, there are compensations for this deprivation. Dickens, Scott and Thackeray, have not wholly given place to the modern novel.

The mind needs very careful management. It rebels against overcrowding, as the body against overeating. We sometimes do not read because we do not feel equal to the task before us; energy has been spent in other directions. Still there are books that are a recreation, and also well worth reading. Because we can not, on some occasions, read a learned book, difficult to understand, we need not refuse at such a time to read a good book of fiction, a bit of biography, or a poem. There are suggestions of the working of a sieve when the newspapers, the short magazine article, and such scrappy reading, often indulged in, are the sole mental occupation of the reader.

A good light, properly shaded, an easy chair, books and magazines convenient to pick up, a room comfortable to sit in, all contribute to one's enjoyment. Everything possible should be provided to increase a literary atmosphere in the home. It is a sad picture to see members of the family growing old without the desire to read. With the advance of years and lessening of activity, a person may find great comfort in books, while one with folded hands, disinterested in books, may simply sit by the fireside waiting, unemployed in body and mind.

Memorize good selections. Our fathers and mothers cultivated this habit more than their children have. In earlier days there was less reading matter. More time was spent on standard works, and the attention was not dissipated by much scattered reading. Poetry was read and committed to memory. Time was given to allow a thought to enter the mind and become absorbed before the reader rushed to the next subject. The habit of memorizing may be easy or very laborious to acquire. Read the selection or a paragraph two or three times to get the mental pictures, close the book and recall them in their order. Never mind the particular wording. If they cannot be recalled easily, take a paragraph or verse at a time. Re-read it until the entire picture is before you. Then see how easily the words come in their order. This method is not mechanical, and is delightful occupation. The cultivation of the memory for

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at 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 for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisements inserted for less than 50 cents.

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FREE—We will give free to any person interested in stock or poultry one of our 80-page illustrated books on how to feed, how to build hen-houses; tells the common diseases of poultry and stock, with remedies for same; tells how to cure roup in four days; tells all about our ROYAL PURPLE Stock and Poultry Foods and remedies. Write: W. A. JENKINS MFG. CO. London, Canada

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literature is aided by the recalling of events and of objects seen at a glance, and all this helps one to be accurate in his observations and in his routine of details. One great cause of inefficiency in practical life is a lack of power to remember. A boy who forgets to bring in the wood or to put up "the bars," the girl who forgets to salt the potatoes or to sew a button on her father's coat, needs to train the memory.

By practice along right lines, power may be gained for such enjoyment. A walk to the pasture, or the day's churning will be much more pleasant if one can live over the scenes which he saw in last night's reading. Pleasant thoughts are good companions.

Efficiency in the church, the institute, the lyceum, and the literary club, is gained by the increase of power to stand before the company and speak. True, one may be overcome by fright, but let him go right on, take five full breaths, say he does not care what anybody thinks as long as he does his best, get on his feet and say something, and he has contributed to the success of the meeting, gained respect for himself, and is ready for a greater effort next time. To such efficiency does our reading is a great asset.

The life of hurry and rush precludes sufficient meditation and reflection. Books are not thoroughly digested. It is not the number of books one has skimmed that cultivates the mind. Reading books or articles which do not require thought lessens one's power. Language and thought are so closely related that we cannot express ourselves well unless we have thought as we have read. A good habit is to write out, now and then, what one has read, repeating in his own words, if need be, the thought of the author. Improve upon it, if possible; make it clear, simple, forceful. Too many words hide the thought.

It is desirable to have, in addition to general reading, special reading to fit one for the work of the farm and the farm home. Daily papers, magazines, and books, find their way to the rural dweller very expeditiously since the advent of the rural free delivery, and farmers and their families who can make use of such opportunities have no excuse for not being well informed and intelligent.

Our Serial Story.

PETER.

A Novel of Which He is Not the Hero
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By E. HOPKINSON SMITH
Charles Scribner's Sons
Chapter XXXII.

The Board of Church Trustees met, as customary, on Monday night, but there was no business transacted except the passing of a resolution expressing its deep regret over the loss of "our distinguished fellow townsman" whose genius has added so much to the beautifying of our village, and whose uprightness of character will always be remembered.

Neither Jack nor McGowan, nor any one representing their interests, was present. A hurried glance over Garry's check and bank-books showed that the money to pay McGowan's vouchers—the exact sum—had been drawn from the fund and deposited to Garry's personal credit in his own bank in New York. Former payments to McGowan had been made in this way. There was therefore no proof that the sum had been diverted into illegitimate channels.

McGowan was told that same Monday afternoon, Jack bringing the papers to the contractor's office, where they were signed in the presence of Murphy and his clerk.

And so the matter was closed, each and every one satisfied being rejoiced over the return of the money.

"Mr. Minor," said Mr. now, had a big stack of papers over at his step-father's bank. "Mr. Murphy's statement to a group of men, was one of the bar-rooms of the village. He was in a big deal of a hurry, and didn't want to make any mistake. So when he did Mr. McGowan's papers, just went over and gave the old man that Mac wanted, and he had to fork out,

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7	48	22	5, 6 1/2, 7 1/2, 9, 10, 10	.25	20-bar, 69-inch .48
8	42	22	6, 6, 6, 6, 6, 6, 6	.27	Set tools 8.00
8	42	16 1/2	6, 6, 6, 6, 6, 6, 6	.28	3-ft. Gate 2.25
8	47	22	4, 5, 5 1/2, 7, 8 1/2, 9, 9	.31	12-ft. Gate 4.20
8	47	16 1/2	4, 5, 5 1/2, 7, 8 1/2, 9, 9	.31	13-ft. Gate 4.45
9	48	22	6, 6, 6, 6, 6, 6, 6	.33	14-ft. Gate 4.70
9	48	16 1/2	6, 6, 6, 6, 6, 6, 6	.33	25 lbs. Staples .75
9	52	22	4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9	.33	25 lbs. Wire .79
9	52	16 1/2	4, 4, 5, 5 1/2, 7, 8 1/2, 9, 9	.33	
10	48	16 1/2	3, 3, 3, 4, 5 1/2, 7, 7 1/2, 8	.35	
10	48	16 1/2	3, 3, 3, 4, 5 1/2, 7, 8 1/2, 9, 9	.35	
11	55	16 1/2	3, 3, 3, 3, 4, 5 1/2, 7, 8 1/2, 9, 9	.38	

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The New "Brown Lankford"

FOR PLOWING AND TEAMING.

Lankford Collars

increase horse power. They relieve horse shoulders at work. Like slippers ease men's feet on the job.

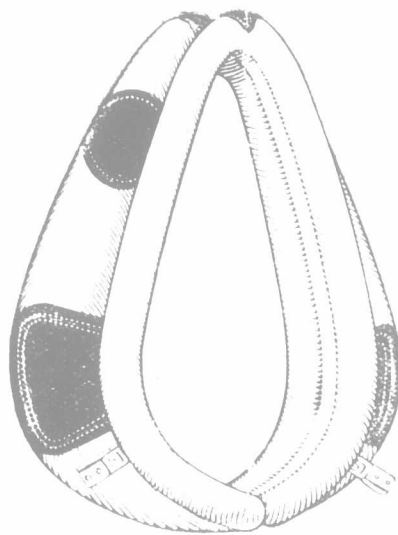
Open throat principle, and oily, springy cotton fibre lining that holds no heat, and the closely woven army duck like a Lankford for which, no horse will give to Lankford, as

A Collar That Can't Fail

to remove lumps and cure Galls or Sores, and prevent either. Every horse worker in a stiff throat collar (no matter how soft and big the draft) needs a Lankford for which, no horse will give to Lankford, as

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Helps his wife to plan her table in busy times. Saves work and worry, saves buying so much more. Gives better satisfaction to the help. A good garden will be almost impossible in your busy life without proper tools. They cost little and save much hard work.

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MADE IN CANADA

Wide Margin of Strength

IN purchasing a cream separator it is important to get one with a wide margin of strength. In that way you avoid possibilities of break-downs and secure a machine that will give long service. The 1915 Model

Standard

Cream Separator is now built with one frame and gearing for all capacities. This frame and gearing is strong and rugged enough to provide a wide margin of safety for the largest capacity. The main gear and intermediates have bearings 2½ inches long. The gearing would be sufficiently heavy to drive a bowl of even 2,000 pounds capacity. Think what a tremendous margin of strength this means in our 350 to 1,000-pound machines.

The bowls of the Standard (any size from 350 to 1,000 pounds) are also sufficiently over capacity to skim 20% faster than their rating and still do the work as well as other separator bowls.

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PROFITABLE POULTRY RAISING

LET US SHOW YOU THE RIGHT WAY

Would you appreciate the advice and experience of practical poultry men? Men who know what to do and when to do it. Men who can save you years of experimenting and start you into Poultry Raising on a profitable basis?

THIS IS YOUR OPPORTUNITY!

Doubtless last winter and spring you said you would start raising chickens, and meant to do so, but you did not. Since then you have seen eggs go up out of reach and you wished you had. There is a right and wrong time to start, as also a right and wrong way. Are you willing to make this your opportunity to start on the road to prosperity? If so, send to-day for our book on Poultry Raising and enclose 4 stamps for postage. Advice given free. Mail to address nearest your home.

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We don't ask you to pay us a cent until you have used this wonderful modern light in your own home ten days, then you may return it at our expense if not perfectly satisfied. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests at a number of leading Universities show it

Burns 70 Hours on One Gallon common coal oil, no odor, smoke or noise, simple, clean, won't explode. Three million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed.

\$1,000.00 Reward will be given to the person who shows us an oil lamp similar to the new Aladdin in every way (details of offer given in our circular). Would we dare make such a challenge if there were the slightest doubt as to the merits of the Aladdin? **GET ONE FREE.** We want one user in each locality to whom we can refer customers. To that person we have a special introductory offer to make, under which one lamp is given free. Write quick for our 10-Day Absolutely Free Trial Proposition and learn how to get one free.

MANTLE LAMP CO., 428 Aladdin Bldg., Montreal and Winnipeg, Canada
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We Want Men With Rigs or Autos to Deliver the ALADDIN on our easy plan. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never used anything in his life before wrote: "I disposed of 64 lamps out of 81 calls." Thousands were coming from all over the Aladdin just as strongly. **No Money Required** Able men to get started. Ask for our distributor's plan, and learn how to make big money in unoccupied territory.

When Writing Please Mention Advocate

and he did, like a good one. I seen the check, I tell ye. Oh! they're all in together. Mr. Breen's kin to them New York folks, and so is Mr. Minott. He's her father I hear. I think Mac shot off his mouth too quick, and I told him so, but he was so het up he couldn't keep still. Why, them fellers has got more money than they can throw away. Mac sees his mistake now. Heard him tell Mr. Breen that Mr. Minott was the whitest man he ever knowed; and you bet yer life he's right."

Nor was Murphy's eulogium the only one heard in the village. Within a week after the funeral a committee was appointed to gather funds for the placing of a stained-glass window in the new church in memory of the young architect who had designed and erected it; with the result that Holker Morris headed the subscription list, an example which was followed by many of the townspeople, including McGowan and Murphy and several others of their class, as well as various members of the Village Council, together with many of Garry's friends in New York, all of which was duly set forth in the country and New York papers; a fact which so impressed the head of the great banking firm of Arthur Breen & Co. that he immediately sent his personal check for a considerable amount, desiring, as he stated at a club dinner that same night, to pay some slight tribute to that brilliant young fellow, Minott, who, you know, married Mrs. Breen's daughter—a lovely girl, brought up in my own house, who has now come home again to live with us.

Peter listened attentively while Jack imparted these details, a peculiar smile playing about the corners of his eyes and mouth, his only comment at the strangeness of such posthumous honors to such a man, but he became positively hilarious when Jack reached that part in the narrative in which the head of the house of Breen figured as chief contributor.

"And you mean to tell me, Jack," he roared, "that Breen has pushed his self into poor Minott's stained-glass window, with the saints and the gold crowns, and—oh, Jack, you can't be serious!"

"That's what the Rector tells me, sir."

"But, Jack—forgive me, my boy, but I have never in all my life heard anything so delicious. Don't you think if Holker spoke to the artist that Mr. Iscariot, or perhaps the estimable Mr. Ananias, or Mr. Pecksniff, or Uriah Heep might also be tucked away in the background?" And with this the old fellow, in spite of his sympathy for Jack and the solemnity of the occasion, threw back his head and laughed so long and so heartily that Mrs. McGuffey made excuse to enter the room to find out what it was all about.

With the subletting of Garry's house and the shipping of his furniture—that which was not sold—to her stepfather's house, Jack's efforts on behalf of his dead friend and his family came to a close. Ruth helped Corinne pack her personal belongings, and Jack found a tenant who moved in the following week. Willing hands are oftenest called upon, and so it happened that the two lovers bore all the brunt of the domestic upheaval.

Their own packing had long since been completed; not a difficult matter in a furnished house; easy always to Ruth and her father, whose nomadic life was marked by constant changes. Indeed, the various boxes, cases, crates, and barrels containing much of the linen, china, and glass, to say nothing of the portieres, rugs and small tables, and the whole of Ruth's bedroom furniture, had already been loaded aboard a box car and sent on its way to Morfordsburg, there to await the arrival of the joyous young girl, whose clear brain and competent hands would bring order out of chaos, no matter how desolate the interior and the environment.

For these dainty white hands with their pink nails and soft palms, so wonderfully graceful over teapot or fan, could wield a broom or even a dust-pan did necessity require. Ruth in a hall gown, all frills and ruffles and lace, was a sight to charm the eye of any man, but Ruth in calico and white apron, her beautiful hair piled on top of her still more beautiful head; her skirts pinned up, and her dear little feet pattering

about, was a sight not only for men but for gods as well. Jack loved her in this costume, and so would you had you known her. I myself, old and wrinkled as I am, have never forgotten how I rapped at the wrong door one morning—the kitchen door—and found her in that same costume, with her arms bare to the elbows and covered with flour, where she had been making a "sally lunn" for daddy. Nor can I forget her ringing laugh as she saw the look of astonishment on my face, or my delight when she ordered me inside and made me open the oven door so that she could slide in the finished product without burning her fingers.

The packing up of their own household impedimenta complete, there came a few days of leisure—the first breathing spell that either MacFarlane or Jack, or Ruth, too, for that matter, had had for weeks. MacFarlane, in view of the coming winter—a long and arduous one, took advantage of the interim and went south, to his club, for a few days' shooting—a rare luxury for him of late years. Jack made up his mind to devote every one of his spare hours to getting better acquainted with Ruth, and that young woman, not wishing to be considered either neglectful or selfish, determined to sacrifice every hour of the day and as much of the night as was proper and possible to getting better acquainted with Jack; and the two had a royal time in the doing.

Jack, too, had another feeling about it all. It seemed to him that he had a debt of gratitude—the rasping word had long since lost its edge—to discharge; and that he owed her every leisure hour he could steal from his work. He had spent days and nights in the service of his friends, and had, besides, laid the burden of their anxieties upon her. He would pay her in return twice as many days of gladness to make up for the pain she had so cheerfully borne. What could he do to thank her?—how discharge the obligation? Every hour he would tell her, and in different ways—by his tenderness, by his obedience to her slightest wish, anticipating her every want—how much he appreciated her unselfishness, and how much better, if that were possible, he loved her for her sacrifice. Nor was there, when the day came, any limit to his devotion or to her enjoyment. There were rides over the hills in the soft September mornings—Indian summer in its most dreamy and summery state; there were theatre parties of two and no more; when they sat in the third row in the balcony, where it was cheaper, and where, too, they wouldn't have to speak to anybody else. There were teas in Washington Square, where nobody but themselves and their hostess were present, as well as other unexpected outings, in which all the rest of the world was forgotten.

The house, too, was all their own. Nobody upstairs; nobody downstairs but the servants; even the emptiness of daddy's room, so grewsome in the old days, brought a certain feeling of delight. "Just you and me," as they said a dozen times a day to each other. And then the long talks on that blessed old sofa with its cushions—(what a wonderful old sofa it was, and how much it had heard); talks about when she was a girl—as if she had ever passed the age; and when he was a boy; and of what they both thought and did in that blissful state of innocence and inexperience. Talks about the bungalow they would build some day—that bungalow which Garry had toppled over—and how it would be furnished; and whether they could not persuade the landlord to sell them the dear sofa and move it out there bodily; talks about their life during the coming winter, and whether she should visit Aunt Felicia's—and if so, whether Jack would come too; and if she didn't, wouldn't it be just as well for Jack to have some place in Morfordsburg where he could find a bed in case he got storn-bound and couldn't get back to the cabin that same night. All kinds and conditions and sorts of talks that only two lovers enjoy, and for which only two lovers can find the material.

Sometimes he thought he might be too lonely and neglected at the log-cabin. Then she would make believe she was going to ask daddy to let them be married right away, insisting that two

Sanitary Stable



Sanitary dairy city and Government inspection have that standard formed with for city consu

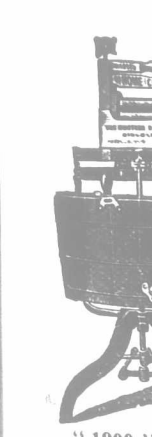
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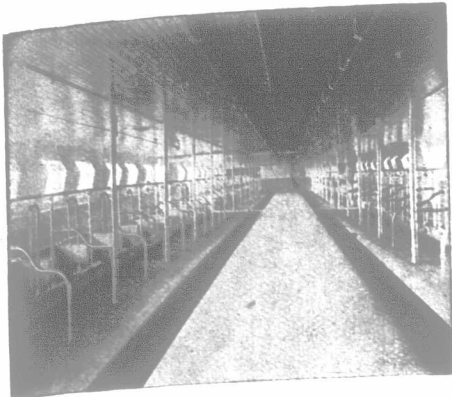


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Sanitary dairy barns are a necessity. City and Government authorities are insisting on that. Rigid systems of inspection have been established to insure that standards of cleanliness are conformed with in the production of milk for city consumption.

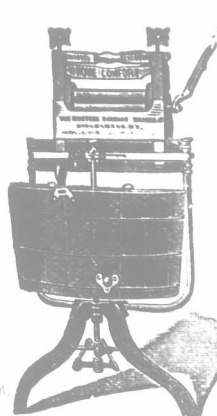
The milk shipped to many cities is graded and paid for according to grade. The milk which is produced in a bright, sanitary stable, brings the best price because it is cleaner. It contains less foreign material, and fewer germs of disease.

It is easy to keep the stable clean when equipped with sanitary steel stalls and stanchions, for these do not soak up manure. There are no cracks in them to shelter tuberculosis germs or vermin. Their open construction lets the sunlight flood every corner. Sunlight kills germs. The open construction allows the air to circulate freely. Abundance of fresh air and sunlight is better for the cows, for it gives them greater vitality.

There are no odors to taint the milk in a barn like that shown above. That's one reason why milk produced in barns equipped with steel stalls always keeps best.

Improvements have been made on steel stalls lately which do not cost the farmer any more, and they add much to the value of the equipment in both appearance and permanence. Beatty Bros. are galvanizing the BT Steel Stalls, and are charging no more for them. Farmers should write for a price on the stalls and the complete cost of remodelling the stable. Beatty Bros. will send 64-page book on Galvanized Stalls, and book "How to Build a Dairy Barn," free. Address, Beatty Bros., Limited, 168 Hill St., Fergus, Ont.

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Factory: 79-81 Portland Street, Toronto

Richard's
QUICK NAPHTHA
THE
WOMAN'S SOAP
MADE IN CANADA

rooms were enough for them, and that she herself would do the washing and ironing and the cooking, and which Jack would laugh over the joy of it all, conjuring up in his mind the pattern of apron she would wear and how pretty her bare arms would be bending over the tub, knowing all the time that he would no more have allowed her to do any one of these things than he would have permitted her to chop the winter's wood.

Most of these day dreams, plots and imaginings were duly reported by letter to Miss Felicia to see what she thought of them all. For the dear lady's opposition had long since broken down. In these letters Ruth poured out her heart as she did to no one except Jack; each missive interspersed with asides as to how dear Jack was, and how considerate, and how it would not be a very long time before she would soon get the other half of the dear lady's laces, now that daddy and Jack (the boy had been given an interest in the business) were going to make lots of money on the new work—to all of which Miss Felicia replied that love in a garret was what might be expected of fools, but that love in a log-cabin could only be practiced by lunatics.

It was toward the close of this honeymoon—it lasted only ten days, but it was full moon every hour and no clouds—when, early one morning—before nine o'clock, really—a night message was handed to Jack. It had been sent to the brick office, but the telegraph boy, finding that building closed and abandoned, had delivered it to Mrs. Hicks, who, discovering it to be sealed, forwarded it at once, and by the same hand, to the MacFarlane house, known to everybody as the temporary headquarters, especially in the day time, of the young superintendent who was going to marry the daughter—and there ain't a nicer, nor a better, nor a prettier."

On this morning, then, the two had planned a day in the woods back of the hills; Ruth's mare was to be hooked up to a hired buggy, and such comforts as a bucket of ice, lettuce sandwiches thin as wafers, a cold chicken, a spirit lamb teapot, and cups and saucers, not to mention a big shawl for my sweetheart to sit on, and another smaller one for her lovely shoulders when the cool of the evening came on, were to be stowed away under the seat.

"That telegram is from Aunt Felicia, I know," said Ruth. "She has set her heart on my coming up to Genesee, but I cannot go, Jack. I don't want to be a minute away from you."

Jack had now broken the seal and was scanning the contents. Instantly his face grew grave.

"No—it's not from Aunt Felicia," he said in a thoughtful tone, his eyes studying the despatch. "I don't know whom it's from; it is signed T. Ballantree; I never heard of him before. He wants me to meet him at the Astor House to-day at eleven o'clock. Some business of your father's, I expect—see, it's dated Morfordsburg. Too bad, isn't it, blessed—but I must go. Here boy!"

—this to the messenger, who was moving out of the door—"stop at the livery stable as you go by and tell them I won't want the horse and wagon, that I'm going to New York. All in a lifetime, my blessed—but I'm dreadfully sorry."

"And you must go? Isn't it mean, Jack—and it's such a lovely day."

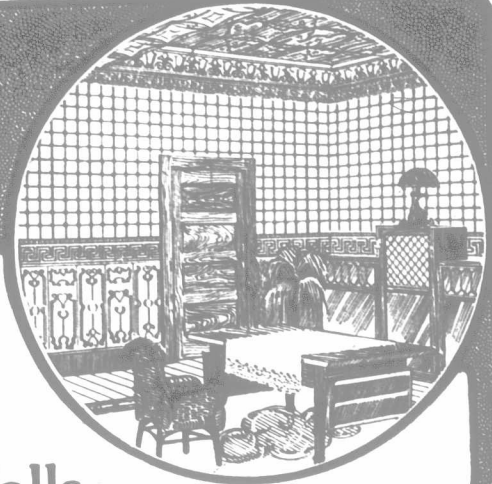
"Yes—but it can't be helped. What are you going to do with the sandwiches and chicken and things? And you had so much trouble making them. And you will be lonely, too."

"Why, I shall keep them till you come back, and we'll have a lovely feast at home," she said with a light laugh in her effort to hide her feelings. "Oh, no, I shan't be lonely. You won't be gone long, Jack, will you, dear?"

"I hope not." His mind must no longer rest on the outing. There was work to do for Ruth as well as himself. His play time had come to a sudden end; the ball had rung and recess was over. He looked at his watch; there was just time to catch the train.

She followed him to the door and kissed her hand as he swung down the path and through the gate, and watched him until he had disappeared behind the long wall of the factory; then she went in, put away the sandwiches and

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Minister of Agriculture

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chicken, and the teapot and the cups and saucers, and emptied the ice.

Yes, the day was spoiled, she said to herself—part of it anyway; but the night would come, and with it Jack would burst in with news of all he had seen and done, and they would each have an end of the table; their last dinner in the old home, where everything on which her eyes rested revived some memory of their happiness. But then there would be other outings at Morfordsburg, and so what mattered one day when there were so many left? And with this thought for tears dried up and she began to sing again as she busied herself about the house—bursting into a refrain from one of the operas she loved, or crooning some of the old-time melodies which her father, manly had taught her when a child.

But now for Jack and what the day held for him of words and surprises.

Some pessimistic wag once has said that all the dire and dreadful things in life drop out of a clear sky; that is the unexpected which is to be feared, and that the unknown bridges are the ones in which dangers lurk and where calamity is to be feared.

The optimistic Scrib's Fates has derisive things to say about such ominous prophecies. Once in a while some rain does fall, and now and then a roar of thunder, or sharp slash of sleet will split the air during our journey through life, but the blue is always above, and the clouds but drifting ships that pass and are gone. In and through them all the warm, cheery sun fights on for joyous light and happy endings, and almost always wins.

This time the unexpected took shape in the person of T. Ballantree, from Morfordsburg—a plain, direct, straight-to-the-point kind of a man, whom Jack found in the corridor of the Astor House with his eyes on the clock.

"You are very prompt, Mr. Breen," he said in clear-cut tones. "So am I. What I wanted to see you about is just this. You own some ore property three miles east of the Maryland Mining Company's lay-out. Am I right?"

"Yes, you are right," answered Jack with a comprehensive glance which began at the speaker's black derby hat, traversed his suit of store clothes, and ended in a pair of boots which still showed some traces of yellow clay, as if the wearer had been prospecting the day before.

"Are there any encumbrances on the property—any mortgages or liens not yet recorded? I don't mean taxes; I find they have been paid," continued Ballantree.

Jack shifted his seat so he could get a better view of the speaker's face, and said in answer:

"Well, do you ask?"

"Because," said the man with entire frankness, "we understand that the Maryland Mining Company have an option on it. If that is so, I'll stop where I am. We don't care to pick up against Breen & Co."

"No," answered Jack, now convinced of the man's sincerity. "It's free and clear except for a loan of ten thousand dollars held by a friend, which can be paid off at any time."

Ballantree ducked his head in token of his satisfaction over the statement and asked another question—this time with his eyes straight on Jack.

"Is it for sale—now—for money?"

It was Jack's turn to focus his gaze. This was the first time any one had asked that question in the memory of the oldest inhabitant.

"Well, that depends on what it is wanted for, Mr. Ballantree," laughed Jack. He had already begun to like the man. "And perhaps, too, on who wants it. Is it for speculation?"

Ballantree laughed in return. "No—not a square foot of it. I am the general manager of the Guthrie Steel Company with headquarters here in New York. We have been holding for material that, seen on the State, and struck off, I might as well tell you that I have no interest in myself."

"Very interesting," asked Jack. The man's eyes scanned his face, examining his tax receipts, and returned finally to the ore property, without further comment, to say the least, answer.

"But at what price?" replied Ballantree, a question that settled all a man on the subject.

"It is a low-grade ore, you know," explained Jack, feeling bound to express his own doubts of its value.

"No, it's a high-grade ore," returned Ballantree with some positiveness; "that is, it was when we got down into it. But I'm not here to talk about percentage—that may come in later. I came to save Mr. Guthrie's time. I was to bring you down to see him if you were the man and everything was clean, and if you'll go—and I wouldn't advise you to stay away—I'll meet you at his office at twelve o'clock sharp; there's his card. It isn't more than four blocks from here."

Jack took the card, looked on both sides of it, tucked it in his inside pocket, and said he would come, with pleasure. Ballantree nodded contentedly, pulled a cigar from his upper breast pocket, bit off one end, slid a match along his trousers until it burst into flame, held it to the unbiten end until it was a-light, blew out the blaze, added his derby and with another nod to Jack—and the magic words—"Twelve sharp"—passed out into Broadway.

Ten minutes later—perhaps five, for Jack arrived on the run—Jack bounded into Peter's bank, and slipping ahead of the line of depositors, thrust his overheated face into the opening. There he gasped out a bit of information that came near cracking the ostrich egg in two, so wide was the smile that overspread Peter's face.

"What—really? You don't say so! Telegraphed you? Who?"

"A Mr. Ballantree," panted Jack. "I have just left him at the Astor House."

"I never heard of him. Look out, my boy—don't sign anything until you—"

"Oh, he is only the general manager. It's a Mr. Guthrie—Robert A. Guthrie—who wants it. He sent Mr. Ballantree. Robert Guthrie! The banker! That's our director; that's the man I told you of. I gave him your address. Go and see him by all means and tell him everything. Talk just as you would to me. One of the best men in the Street. Not a crooked hair on his head Jack. Well—well—this does look like business."

"Pardon me, sir, one minute, if you please," interpolated Peter to an insistent depositor who Jack in his impatience had crowded out. "Now your book—thank you—And Jack"—this over the hat of the depositor, his face a marvel of delight—"come to my rooms at four—wait for me—I'll be there."

Out again and around the block, anything to kill time until the precious hour should arrive. Lord!—how the minutes dragged. The hands of the old clock of Trinity spire must be stuck together. Any other day it would take him at least half an hour to walk up Wall Street, down Broadway to the Battery and back again—now ten minutes was enough. Would the minute hand never climb up the face to the four hand and the two get together at twelve, and so end his impatience. He wished now he had telegraphed to Ruth not to expect him until the late afternoon train. He thought he would do it now. Then he changed his mind. No, it would be better to await the result of his interview. Yet still the clock dragged on, and still he waited for the magic hour. Ten minutes to twelve—five—then twelve precisely—but by this time he was closeted inside Mr. Guthrie's private office.

Peter also found the hours dragging. What could it all mean? he kept asking himself as he handed back the books through his window, his eyes wandering up to the old-fashioned clock. Robert Guthrie—the banker—a real banker—had sent for the boy—Guthrie, who never made a too hurried move. Could it be possible that good fortune was coming to Jack?—that he and Ruth—that—Ah! old fellow, you nearly made a mistake with the amount of that check! No—there was no use in supposing. He would just wait for Jack's story.

When he reached home he was still in the same overwrought, anxious state—hoping against hope. When would the boy come? he asked himself a hundred times as he fussed about his room, nipping of the dead leaves from his geraniums, drawing the red curtains back, opening and shutting the books, only to throw himself into a chair at last. Should he smoke until four—should he read? What a fool he was making of himself! It was astonishing that one of

his age should be in business proposition at all, and of it—just an absurd for him would the boy four o'clock ten minutes, and—

Yes! He sprang to the young fellow. "Oh! such good-bought the pro—He had made sidewalk up the old-fashioned breath to gasp—"Bought!—W—"Yes—I am tomorrow. Oh! crazy with del—"Hurrah!" I say! This Well!" He with his eyes blink radiating over his face gentleman bec—

"And how n—"Guess." "Will there ten thousand?" "More!" but he still h—"Twenty timbly, fearin and yet hopin—"More!" getting dange—"Twenty-five voice now sh—that this sun—"More! G on!"

"Thirty-five getting hot; limit. Was "Yes!—and thousand dol in the outpu will say. I' Oh!—what a And then, him, his fac sparkling wit story of the gun by tellin and MacFarl erty, as he orting, he hi how he had had said of and honesty; his prospecti tinguished en had no doubt man nodded, been given I all he had c could earn; thousand d property as view of the sum over te Guthrie wo Guthrie the much.

"But I an land, young "I know it take your c which Mr. kindly way, Ballantree a three had t how he had that is not and one-fifth; went out with a of which and the ot and here prove it. document a lighted eyes Isaac's rele morning, ar a special n that he vo would also transfers w paid.

Whereupon—and he is joy of it a was more particular the boys i and sincere

The Canadian Lawyer

OR
HOW THE FARMER CAN KEEP OUT OF LAW SUITS


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his age should be so excited over a mere business proposition—really not a proposition at all, when he came to think of it—just an ordinary question asked. He must compose himself. It was quite absurd for him to go on this way. But would the boy never come? It was four o'clock now—or would he be in ten minutes, and—and—

Yes! He sprang toward the door and caught the young fellow in his arms.

"Oh! such good news! Mr. Guthrie's bought the property!" roared Jack.

He had made one long spring from the sidewalk up three flights of steps to the old-fashioned door, but he still had breath to gasp the glad tidings.

"Bought!—Who?—not Guthrie!"

"Yes—I am to sign the papers tomorrow. Oh!—Uncle Peter, I am half crazy with delight!"

"Hurrah," shouted Peter. "Hurrah, I say! This is good news! Well!—Well!"

He was still bending over him, his eyes blinking in his joy, scurries of irradiating smiles chasing each other over his face. Never had the old gentleman been in such a state.

"And how much, Jack?"

"Guess."

"Will there be enough to pay Isaac's ten thousand?"

"More!" Jack was nearly bursting, but he still held in.

"Twenty thousand?" This came timidly, fearing that it was too much, and yet hoping that it might be true.

"More!" The strain on Jack was getting dangerous.

"Twenty-five thousand?" Peter's voice now showed that he was convinced that this sum was too small.

"More! Go on, Uncle Peter! Go on!"

"Thirty-five thousand, Jack?" It was getting hot; certainly this was the limit. Was there ever such luck?


"Yes!—and five thousand more!" Forty thousand dollars and one-fifth interest in the output! Just think what Ruth will say. I've just sent her a telegram. Oh!—what a home-coming!"

And then, with Peter drawn up beside him, his face radiant and his eyes sparkling with joy, he poured out the story of the morning. How he had begun by telling Mr. Guthrie of his own and MacFarlane's opinion of the property, as he did not want to sell anything he himself considered worthless. How he had told him frankly what Peter had said of his—Mr. Guthrie's—fairness and honesty; how he was at work for his prospective father-in-law, the distinguished engineer of whom Mr. Guthrie had no doubt heard—at which the gentleman nodded. How this property had been given him by his father, and was all he had in the world except what he could earn; how he already owed ten thousand dollars and had pledged the property as part payment, and how, in view of these facts, he would take any sum over ten thousand dollars that Mr. Guthrie would give him, provided Mr. Guthrie thought it was worth that much.

"But I am buying, not selling, your land, young man," the banker had said.

"I know it, sir, and I am willing to take your own figures," Jack replied—at which Mr. Guthrie had laughed in a kindly way, and had then called in Mr. Ballantree and another man; how the three had then talked in a corner, and how he had heard Mr. Guthrie say, "No, that is not fair—add another five thousand and increase the interest to one-fifth"; whereupon the two men went out and came back later with a letter in duplicate, one of which Mr. Guthrie had signed, and the other which he, Jack signed—and here was Mr. Guthrie's letter to prove it. With this Jack took out the document and laid it before Peter's delighted eyes; adding that the deeds and Isaac's release were to be signed in the morning, and that Mr. Guthrie had sent a special message by him to the effect that he very much wished Mr. Grayson would also be present when the final transfers would be signed and the money paid.

Whereupon the Sir he again maintains—and he is rubbing his hands with the joy of it all as he does it—that there was more sunshine than clouds in this particular Unexpected, and that if all the boys in the world were as frank and sincere as young Jack Breen, and



1870 - 1915 45TH YEAR

HEAD OFFICE:
WATERLOO, ONT.

The Progress of the Mutual of Canada during the Year 1914

On Thursday, February Fourth, the Forty-Fifth Annual Meeting of the Company took place at its Head Office. Notwithstanding the disturbed conditions which prevailed throughout the country, the Directors were able to report very gratifying results from the year's operations. Following is a

SUMMARY STATEMENT

Payment to Policyholders \$ 1,591,446	Gain over 1913.....\$ 195,001
Income..... 4,539,072	Gain over 1913..... 369,412
Total Assets..... 24,642,314	Gain over 1913..... 2,389,589
Surplus..... 3,818,527	Gain over 1913..... 408,706
New Assurances..... 14,525,411	Gain over 1913..... 124,677
Assurance in force..... 94,477,359	Gain over 1913..... 7,085,333

The Company's well-established reputation as a "dividend-payer" was further enhanced by the notable record of

SURPLUS EARNED DURING THE YEAR, \$1,035,778.14.

This assures the continuation of the payment of generous dividends to the participating Policyholders of the Company.

The steady growth of the Company is illustrated by the following

STATEMENT BY DECENNIAL PERIODS

Year	Income	Assets	Paid to Policyholders	Business in Force
1874.....	\$ 22,797	\$ 33,721	\$ 5,854	\$ 856,500
1884.....	250,939	648,936	68,744	7,835,900
1894.....	659,989	2,855,123	301,889	18,767,698
1904.....	1,725,308	8,220,530	524,615	40,476,970
1914.....	4,539,072	24,642,314	1,591,446	94,477,359

A full report of the proceedings of the Annual Meeting and the detailed financial statement will be mailed to every Policyholder in due course.



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MANAGING DIRECTOR.

E. P. CLEMENT,
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For prospectus and terms, write the Principal
R. I. Warner, M.A., D.D., St. Thomas, Ont.
63

The Northern Life Assurance Company of Canada

Extracts From The 18th Annual Report

For Year Ending 31st December, 1914

During the year satisfactory progress was made in all departments, the following facts being noteworthy.

1. The Insurances in force now total \$10,393,267.75, the net increase for the year being \$347,163.25,
2. The new business written, including revivals and other additions amounted to the sum of \$2,142,869.25.
3. The Company's Assets were increased by the sum of \$277,336.55 and now total \$2,328,884.90.
4. The premium income amounted to \$370,838.71, and the total income to \$500,345.20, which is \$53,530.90 more than for 1913.
5. Payments to policyholders amounted in all to \$70,454.02
6. The Reserve Funds held now total \$1,682,345.16, being an increase of \$206,536.75. This permits of an increase of \$190,112.59 in ordinary reserves, and creates a special fund of \$16,112.59 to provide for the increase in the standard of valuation as required at the close of 1915.
7. The average rate of interest earned was 6.78%.
8. The sum of \$53,595.28 has been added to the existing surplus, which now over all liabilities to policyholders amounts to \$610,477.93 and over all liabilities and capital totals \$129,900.43.

A copy of the complete statement will be mailed on request.

HEAD OFFICE - LONDON, ONT.
Dominion Savings Building

T. H. PURDOM, K.C., W. J. McMURTRY,
President. General Manager.

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BY PUBLIC AUCTION

at

Henfryn, Wednesday, March 3rd, 1915

Practically all these animals have been bred and raised on my own farm. They are the big type of Holsteins with great capacity for heavy work as shown by yearly records. Pontiac Creamella Korndyke DeKol, our herd sire, is a grandson of Pontiac Korndyke and his sire is a grandson of Creamella Vale of world fame. This is the blood in my herd, no better can be found. Every animal offered must go to the highest bidder without reserve. The Clydesdales are a clean limbed bunch—the kind suited for farm work and breeding purposes. Send for catalogue—it will give full information.

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all the grown-ups as honest as old Robert Guthrie, the real banker, the jails would be empty and the millennium knocking at our doors.

Peter had drunk in every word of the story, bowing his head, fanning out his fingers, or interrupting with his customary "Well, well!" whenever some particular detail seemed to lead toward the final success.

And then, the story over, there came the part that Peter never forgot; that he has told me a dozen times and always with the same trembling tear under the eyelids, and the same quivering of his lower lip.

Jack had drawn his chair nearer the old gentleman, and had thrown one arm over the shoulder of his dearest friend in the world. There was a moment's silence as they sat there, and then Jack began. "There is something I want you to do for me, Uncle Peter," he said, drawing his arm closer till his own flesh cheek almost touched the head of the older man. "Please, don't refuse."

"Refuse, my dear boy! I am too happy to-day to refuse anything. Come, out with it."

"I am going to give you half of this money. I love you better than any one in this world except Ruth, and I want you to have it!"

Peter threw up his hands and sprang to his feet.

"What!—You want me to—Why, Jack! Are you crazy! Me! My dear boy, it's very lovely of you to wish to do it, but just think. Oh, you dear Jack! No!—no, no!" He was beating the air now deprecatingly with his outspread fingers as he strode around the room, laughing short laughs in his effort to keep back the tears.

Jack followed him in his circuit, talking all the while, until he had penned the old gentleman in a corner between the open desk and the window.

"But, Uncle Peter—think what you have done for me! Do you suppose for one moment that I don't know that it was you and not I who sold the property? Do you think Mr. Guthrie would have added that five thousand dollars to the price if he hadn't wanted to help you as well as me?"

"Five thousand dollars, my dear Jack, is no more to Robert Guthrie than a ferry ticket is to you or me. He gave you the full price because you trusted to his honesty and told him the truth, and he saw your inexperience."

"No—it was you he was thinking of, I tell you," protested Jack, with eager emphasis. "He would never have sent Ballantree for me had you not talked to him—and it has been so with everything since I knew you. You have been father, friend, everybody to me. You gave me Ruth and my work. Everything I am I owe to you. You must—you shall have half of this money! Ruth and I can be married, and that is all we want, and what is left I can put into our new work to help Mr. MacFarlane. Please, Uncle Peter!—we will both be so much happier if we know you share it with us." Here his voice rose and a strain of determination rang through it. "And, by George!—Uncle Peter, the more I think of it, the more I am convinced that it is fair. It's yours—not mine. I will have it that way—you are getting old, and you need it."

Peter broke into a laugh. "It was the only way he could keep down the tears."

"What a dear boy you are, Jack!" he said, backing toward the sofa and regaining his seat. "You've got a heart as big as a house, and I'm proud of you, but no—not a penny of your money. Think a moment! Your father didn't leave the property to me—not any part of it—he left it to you, you spendthrift! When I got too old to work I am going up to Felicia's and pick out an easy-chair and sit in a corner and dry up gradually and be laid away in lavender. No, my lad, not a penny! Gift money should go to cripples and hypochondriacs, not to spry old gentlemen. I would not take it from my own father's estate when I was your age, and I certainly won't take it now from you. I made Felicia take it all." Jack opened his eyes. He had often wondered why Peter had no little and she so much. "Oh, yes, nearly forty years ago! But I have never regretted it since! And you must see how just it was, for

there wasn't enough for two, and Felicia was a woman. No—be very careful of gift money, my boy, and be very careful, also, of too much of anybody's money—even your own. What makes me most glad in this whole affair is that Guthrie didn't give you a million—that might have spoiled you. This is just enough. You and Ruth can start square. You can help Henry—and you ought to, he has been mighty good to you. And, best of all, you can keep at work. Yes—that's the best part of it—that you can keep at work. Go right on as you are; work every single day of your life, and earn your bread as you have done ever since you left New York, and one thing more, and don't you ever forget it: Be sure you take your proper share of fun and rest as you go. Eight hours' work, eight hours' play, eight hours' sleep—that's the golden rule and the only one to live by. Money will never get its grip on you if you keep this up. This fortune hasn't yet tightened its fingers around your throat, or you would never have come up here to give me half of it—and never let it! Money is your servant, my boy, not your master. And now go home and kiss Ruth for me, and tell her that I love her dearly. Wait a moment. I will go with you as far as Isaac's. I am going to tell him the good news. Then I'll have him measure me for a coat to dance at your wedding."

And the Unexpecteds are not yet over. There was still another, of quite a different character, about to fall—and out of another clear sky, too—a sort of April-shower sky, where you get wet on one side of the street and keep dry on the other. Jack had the dry side this time, and went on his way rejoicing, but the head of the house of Breen caught the downpour, and a very wet downpour it was.

It all occurred when Jack was hurrying to the ferry and when he ran into the senior member of the firm, who was hurrying in the opposite direction.

"Ah, Jack!—the very man I wanted to see," cried Breen. "I was going to write you. There's something doing up in that ore country. Better drop in tomorrow, I may be able to handle it for you after all."

"I am sorry, sir, but it's not for sale," said Jack, trying to smother his glee.

"Why?" demanded Breen bluntly.

"I have sold it to Mr. Robert Guthrie."

"Guthrie! The devil you say!—When?"

"To-day. The final papers are signed to-morrow. Excuse me, I must catch my boat"—and away he went, his cap now brimming over, leaving Breen biting his lips and muttering to himself as he gazed after him.

"Guthrie!—My customer! Damn that boy—I might have known he would land on his feet."

But Jack kept on home to his sweet heart, most of the way in the air.

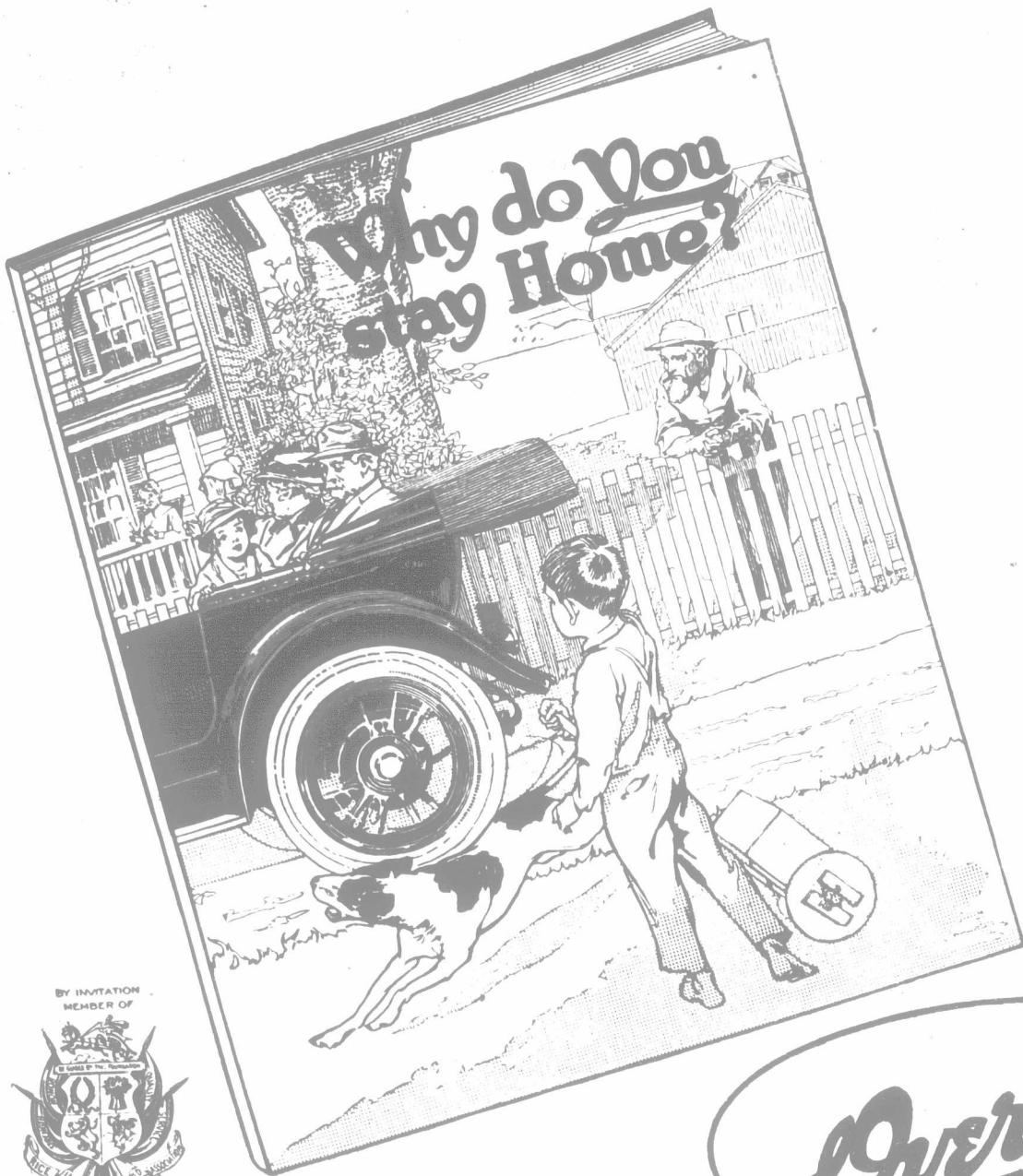
Down in this little room all this time in the rear of the tailor's shop the two old men sat talking. Peter kept nothing back; his lips quivering again and another unhidden tear peeping over the edge of his eyelid when he told of Jack's offer.

"A dear boy, Isaac—yes, a dear boy He never thinks with his head—only with his heart. Never has since I knew him. Impassive, emotional, unpractical, no doubt—and yet somehow he always wins. Queer—very queer! He comes upstairs to me and I start out on a fool's errand. He goes down to you, and you hand him out your money. He gives it all away the next day, and then we have Guthrie doubling the price. Queer, I tell you, Isaac—extraordinary that's what it is—almost uncanny."

The Jew threw away his cigar, rested his short elbows on the arms of his chair, and made a basket of his hands, the tips of all his fingers touching.

"No, you are wrong, my good friend. It is not extraordinary and it is not uncanny. It is very simple—exceedingly simple. Nobody runs over a child if he can help it. Even a thief will bring you back your pocket-book if you trust him to take care of it. It is the mattering that does it. Few men, no matter how crooked, can resist the temptation of reaching, if only for a moment, an honest man's level."

(To be continued.)



A Few Paragraphs From This Great Book

"How often have you come in from the fields after a hard day's labor anticipating an evening of relaxation previously planned. Perhaps there is a social tonight. Possibly the Grange is meeting. Possibly there is a good show in town. Maybe you want to get some information from Jones about that new dairy feed he is so enthusiastic about."

"But after the chores are done and the supper cleared away, you think of the effort needed to go out. You think of hitching up the tired horses. You think of the long drive, the late return home. You think of putting up the horses, perhaps bedding them—all in the dim light of a lantern."

"You think of all these things and then, tired already from your day's toil, you decide not to go. You need recreation, but the effort required to get it is too great. So you stay home."

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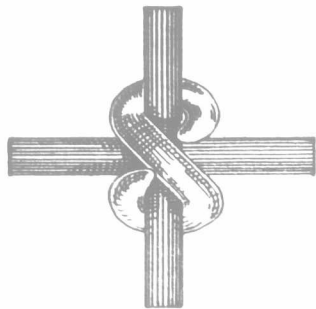
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during the last two years, and have got as good results as from fertilizers costing from \$10 to \$15 per ton more money. If we have no agent in your district, we will send you a ton direct from the factory for \$20, delivered free at any station in Ontario, cash with order.

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The ANTHONY FENCE is made from all No. 9 wire, the Line Wire, the Stay Wire and the Knot Wire. The ANTHONY FENCE is made accurately and uniformly, with the line wires exactly the same length, and the stay wires always parallel with the posts. And the fence does not "bend down" at the top or roll up at the bottom.

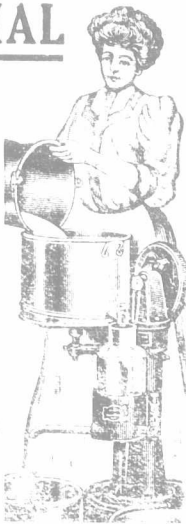
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Questions and Answers.

- 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 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.

Books on Sheep.

Have you any books on sheep, care and management, and common diseases? If so, give me prices. J. F.

Ans.—There is a book entitled "Modern Sheep Breeds and Management," written by Shepherd Boy, which discusses the breeds of sheep and deals with the common diseases of same, with their treatment. This may be procured through this office for \$1.50, postpaid.

Whey for Fee I.

Will you kindly tell me, through the columns of your valuable paper, what whey from the cheese factory is worth for hog feeding after the butter-fat has been removed, compared with skim milk or ordinary whey? W. D. G.

Ans.—According to tests made at the O. A. College, Guelph, when separated whey, or whey with fat removed, was worth 100, the ordinary whey was worth 125 to 133, or from 25 to 33 per cent. more. The average of two tests made in 1909, showed that 100 lbs. of separated whey was worth 9.12 lbs. of meal fed to pigs, while the ordinary whey, containing the fat, was worth 12.13 lbs. meal. Leaving out the decimal points, if meal be worth one cent per pound, the relative values of separated and ordinary whey are 9c. and 12c. respectively per 100 lbs., according to these experiments; and if meal be worth a higher price, the whey would be worth relatively more, although in actual practice it might be difficult to make this out of whey fed to hogs. A good deal would depend on the kind of hogs, skill of feeder, selling price, etc. In the same series of experiments, skim milk had relative feeding values of 163.5, as compared with 100 for separated whey in 1908; and in 1909 the relative values of ordinary whey and skim milk were 100 and 129.5 respectively. H. H. D.

Orchard Defoliate I. Grape Vine Flea Beetle.

1. We had our orchard completely stripped of its leaves last spring soon after coming out in leaf by little green worms about three-quarters of an inch long. It moved itself by drawing the back up in the middle and shoving its head forward. At the close of its career it dropped from the tree by a slender thread, like a spider. The trees leafed out again, but bore no apples. We plowed the orchard, but it had not been plowed for several years. Are they likely to trouble me next year, and if so, could you suggest a remedy?

2. The blue beetle attacked our grape vines as soon in the spring as they started to bud. How can I combat them? ENTHUSIASTIC.

Ans.—1. From the description given of this pest, we are quite confident that it is the Canker worm. This worm has done considerable damage in many districts similar to the work described here. After it has reached its maturity as a larva it descends to the ground or the trunk of the tree by this small thread-like rope. There is only one effective way of controlling the Canker worm, and that is by thorough spraying with arsenicals. From two to two and one-half pounds of arsenate of lead to forty gallons of water will control the Canker worm, but it must be taken as soon as it begins its work in the spring else it will get ahead of the sprayer. The ordinary periods of spraying will usually control the Canker worm, consequently the arsenicals are usually mixed with Bordeaux or lime sulphur, which are used for other purposes on the orchard. Follow the spray calendar which is so widely distributed in the spring, and which for a few seasons past has appeared in "The Farmer's Advocate." They are

likely to trouble next year even with greater vengeance.

2. The blue beetle mentioned here is quite likely the Grape Vine Flea Beetle. It is capable of doing considerable damage, but can be controlled by poisoned Bordeaux. From 2 to 2 1/2 pounds of arsenate of lead to 40 gallons of Bordeaux early in the spring will allay danger.

Gossip.

Those in charge of the sale of purebred stock of beef breeds to be held in the Winter Fair Building, Guelph, on Wednesday, March 3rd, say that forty-eight head are listed, and most of them are bulls. They are a splendid lot. Several have been excellent show calves, and are excellent breeders. A few very nice heifers are also consigned. This sale affords a splendid opportunity to anyone requiring a young bull or heifer, no matter where they live, as the Ontario Department of Agriculture will refund the amount of the freight charges on single shipments to any point in Ontario. For catalogue, or any information, apply to J. M. Duff, Guelph.

THE CLARKE SALE.

Amongst the particularly good herds that are being offered at public auction this spring is the one of Richard Clarke, Atwood, Ont. Mr. Clarke has been in the pure-bred Holstein business some years, and, in fact, he still has on hand a number of his splendid grades which will also be offered at his sale on Wednesday, March 3rd. The pure-bred animals are a credit to any young breeder. Of the ten mature cows that he will sell, Fancy B. Posch is his foundation animal, and the bulk of his herd is descended from her. This mature cow has a reputation of being up to a high standard. She is built in every way to conform to the requirements of high-producing stock. Two "chips off the old block" will also be sold. They are a five-year-old and a four-year-old daughter of Fancy B. Posch. They carry the strong constitution and capacity of their dam. Both will freshen from Mr. Clarke's herd sire, Pontiac Creamella Korndyke De Kol. Sadie Teake De Kol is another cow very similar to the foundation cow previously mentioned. She has type, capacity, and a well-balanced udder, and she throws the right kind of calves. She, with her stall mate Korndyke De Kol Daisy, is of the Mallory breeding. Some Clydesdales will also be sold. For catalogues, write to Richard Clarke, Atwood, Ont., R. R. No. 5. On day of sale, trains will be met at Henfry Station, a mile from the place of sale.

THE "MUTUAL" OF CANADA.

The past year has been one during which financial institutions have had wind and tide against them. Among all such, none have withstood the stress and strain more successfully than the life insurance companies. Thousands of policy holders have found that while many of the securities held by them fell in value or became worthless, their life insurance contracts remained all unaffected. Public confidence in the institution of life insurance was never more despoiled than at the present time, and it is safe to predict that there will be a wonderful expansion of business for all companies when normal conditions are restored.

The Mutual Life Insurance Company of Canada, whose annual statement is published on another page, is proof of this statement. The only effect the panic of war had on the company was in the amount of new business written. Instead of the usual 10 to 20 per cent. increase in the amount of new business written, they were contented, on account of heavy weather, which all companies were called upon to meet, with duplicating the amount written in 1913, with a small margin in favor of 1914. The actual figures for 1913 were \$14,400,734, and for 1914, \$14,525,411. This result achieved in such a year as 1914, shows what a strong place the Mutual holds in the confidence of the Canadian public. Their total insurance in force now amounts to \$94,477,359.

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IF YOU
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EXAMINE
A PRACTICAL
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Questions and Answers.
 Miscellaneous.

Breed of Cattle.

1. What would be the best breed of cattle to keep for beef to fatten on pasture?
 G. S.

Ans.—1. Herefords are good grazers. Herefords, Shorthorns or Angus, would do all right.

2. It has paid many a man.

Cattle Chewing Bones.

I have some calves that persist in chewing wood. Kindly tell me, through the columns of your paper, what the cause is, and what I could give them to stop the habit?
 J. A. M.

Ans.—The chewing of bones, wood, etc., is a habit supposed to be induced by a lack of phosphates in the food. An application of bone meal, or Thomas' Phosphate Powder to the pasture has been known to check the craving. Meantime give all the salt they will take, and give the calves from one-half to three-quarters of an ounce phosphate of lime in a pint of water as a drench once daily, or in a little bran or chop. A small closed handful of sifted wood ashes in meal once or twice a week is believed to have a beneficial effect.

Farming on Shares.

A lets his farm out on shares to B. The farm consists of 150 acres. He also lets his stock out on shares to B, consisting of 4 horses, 15 cows, and 10 sows. B agrees to work the land in a good husband-like manner, and also agrees to take good care of all stock, and feed in a good and practicable manner. A agrees to furnish all seed for 1914 seeding, and B agrees to return one-half of seed when harvested and threshed. It is also agreed by both parties that if they cannot agree as to the division of the property, this is to be settled by arbitration.

1. B bought a fifth horse and used it as one of the main horses. Can A compel B to pay for half of its feed?
 2. Can A compel B to pay for half of grass seed used for seeding in 1914? B had none to harvest or thresh.
 3. B did 30 acres of plowing for A. There were 15 acres done when B took the place. Nothing is mentioned about plowing in the writings. Can B collect pay for plowing, and how much per acre?
 Ontario. SUBSCRIBER.

Ans.—1. We think so.
 2. Yes.
 3. We do not see that he is in a position to do so.

Fall Feeds for Fattening Cattle.

1. Have you or any of the readers of "The Farmer's Advocate," had any experience with the growing of Kohl Rabi as a field crop, to be used for feeding stock in winter?
 2. Have you had any experience in pasturing cattle on a field of green corn? Would there be any danger from bloating?
 3. I have a 22-acre field which I intend to sow as follows: Six acres to corn, three acres to Kohl Rabi, and thirteen acres to rape. I will have 40 steers rising two years old. Allowing this to be an average crop, will this 22 acres feed and fatten 40 steers from the first week in September until first half of November, when I intend to market them. The corn will be fed first, then the Kohl Rabi, and finished on rape?
 4. What would be a reasonable gain to expect on these steers, fed nine weeks?
 W. W. M.

Ans.—1. Kohl Rabi is generally harvested and stored as roots, but occasionally it is pastured off and gives good results. We have never grown any, and the experience of our readers would be appreciated.
 2. There might be a little danger of bloating, but if care was taken and the cattle allowed on the corn only for a short time during the middle of the day at first there would be little danger. We have seen cattle feeding off sugar cane in this manner, and with no untoward results.
 3. It should.
 4. Two pounds per head per day, provided they are good steers, would be a very good gain.

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Millions of acres of virgin soil obtainable free, at a nominal cost, are calling for cultivation. Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you.

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HON. JAS. S. DUFF
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Some choice young bulls for sale, sired by Balmedie Proud Boy, one of the best stock bulls in Canada.

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 Choice young bulls of serviceable ages. Females all ages for sale.

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Circumstances govern cases and I am the victim of circumstances. I was born with an innate love for horses and have spent my life breeding them. I have the largest stud of Clydesdales in Ontario and am forced to sell them, so at my farm, one mile south of Fletcher station, M.C.R., and three miles north of Merlin station, P.M.R., in Kent County, on

Tuesday, March 9th, 1915

I will sell by auction absolutely without reserve, 24 registered Clydesdales, 12 stallions from one to eight years of age, imported and Canadian-bred; 12 fillies and mares from foals up, imported and Canadian-bred. They are a high-class lot, many of them prize-winners of note. I will also sell 16 grade Clydesdales, geldings and mares, and the Standard-bred stallion, R. J. Mac,—587—51558(a), a beautiful black, rising six years; also 30 grade Shorthorn steers; one and two years; 25 dairy cows, mostly Holstein grades; 20 grade Oxford Down sheep, and 12 grade Tamworth brood sows.

Conveyances will meet all trains up to noon at both Fletcher and Merlin stations.

Terms: 9 months on Bankable paper for all stock except the stallions, for them 12 months credit will be given, 6% off for cash.

Write for Catalogue to W. H. Mancell, Fletcher, Ontario.

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MCGOIG & HARRISON, CHATHAM

DISPERSION SALE

I have sold my farm and am going out of business. I have always had a hobby for pure-bred stock, and after years of careful selection and breeding which cost me a lot of money, I am vain enough to think I have stocked my farm with a pretty good lot of registered Clydesdales: Six mares, supposed to be in foal (two imported) and two stallions (one imported). Hackneys, 1 filly and 2 stallions. Twenty-five head of Holsteins, including my two-year-old bull, King Fayne Schuiling, 15873. 20 Leicester ewes, in lamb; 20 Yorkshires, a number of them young sows bred; About the same number of Berkshires of both sexes and various ages. Two registered Shorthorn cows, bred to Roan Baron 2nd 88046, and on

Thursday, February 25th, 1915

they are yours at your own price. The sale will be held at the farm, Sprucedale, 4 miles west of St. Thomas, Ontario. Conveyances will be at the Grand Central Hotel, St. Thomas, at noon to convey visitors to the farm. Parties wishing to come on previous day will be accommodated. For others not interested in registered stock, I will sell at the same sale, 20 head of Grade horses and colts, Clydes, Percherons and Hackneys; also 30 feeding, grade Shorthorn steers, two-years-old; 8 grade Shropshire ewes in lamb and a complete threshing and silo-filling outfit used exclusively on the farm.

Terms: Cash or 8 Months on Bankable Paper With 6% Per Annum.

Auctioneers, Lock & McLaughlin, St. Thomas, Ont.

For Catalogue, Write:

A. WATSON & SONS

St. Thomas :: R.M.D. :: Ontario

CLYDESDALES AND PERCHERONS

I have not exhibited a pure-bred horse during 1914. I am still in the horse business, and at present have the best lot of stallions and Mares I ever had at any one time. 20 head of 17 Clydesdales, and 4 Mares. 5 Percheron Stallions and 4 Mares. A very fine lot of stallions with satisfactory feet. I have more high-class horses than can be found in any one stable in Canada, and would be glad to sell to any dealer in Canada, subject to the usual horse stock to intending purchasers, sale or no sale.

T. H. HASSARD, MARKHAM, P.O., G.T.R.
Locust Hill Station only 3 miles, C.P.R. Long-Distance Phone.

Royal Oak Clydesdales

Present offering: 5 Imported Mares (3 with foal by sale) 2 yearling fillies (1 Imp. and 1 Canadian-bred), 1 Canadian-bred Yearling Stallion, 1 Canadian-bred 2-year-old Stallion, 1 Canadian-bred 6-year-old Stallion. Parties wishing to secure a good brood mare or stallion should inspect this offering or communicate with me at earliest convenience. G. A. Attridge, Muirkirk, Ont. P.M. and M.C. Ry. L-D. Phone Kidgetown.

JUST LANDED CLYDESDALE STALLIONS **JUST LANDED**
Wm. Colquhoun, Mitchell Ont.

The Germans Missed Them **Clydesdale Stallions** And They Lost Them
JAMES TORRANCE MARKHAM, ONTARIO

Gossip.

SOME SHORTHORN BULLS LEFT.
Richardson Bros., of Columbus, Ont., report a number of sales of herd headers from their big, heavily-fleshed herd of Shorthorns, but wish to intimate that the good ones are not all gone by any means, and that they are in a position to supply a limited number of the thick, good-doing and richly-bred kind. Write them your wants.

THE MCCONKEY HOLSTEIN SALE.

Among the females to be sold at the Holstein dispersion sale of N. H. McConkey, at Stratfordville, on Thursday, February 25, are daughters of such great bulls as the Canadian champion sire, Brookbank Butter Baron with 30 R. O. M. daughters and four sons. Included among the daughters is the great cow, Queen Butter Baroness, record 33.17, and Sir Pieterje Josephine Keyes, with 16 R. O. M. daughters and four sons. Official backing on both sides for generations back is a striking feature in the pedigrees of many of them. Not all of those of milking age have been given a chance to show their capacity officially, but a number of them have, and the records range from 13.38 to 15.03 lbs. for two-year-olds, and 11.77 to 16.61 lbs. for three-year-olds, with ten-per-cent testers among them. All the cattle will be in nice condition, and all will positively be sold. On the same day there will be sold a number of high-grade Holsteins and a number of registered Tamworth sows, sale in pig, as well as a number of younger ones of both sexes, together with several horses and colts.

GLENALLAN SHORTHORNS.

Another visit to the noted Glenallan Farm of S. Dwyer, at Mandale, Ont., found the large herd of Scotch and Booth-bred Shorthorns in the finest kind of wintering condition. The present stock list, Chima, a Corderell-bred son of the great Uppercell Omega, has developed into a show bull of a high order, and he is transmitting his immense thickness of flesh to his get, together with faultlessness of line seldom seen. Several young sons of his are for sale. One is a red, eleven months of age, Booth-bred on his dam's side, and a right good one. Two others, both red, are out of Booth dams, one seven months, the other eleven months. Another is a young fifteen months old, a Boson, bred by the Lavender Hill, Lavender Lad, a herd header that will please any breeder. Another is a young yearling bull, by the same sire, one of the level, thick kind. But the bull of most interest is a big, white two-year-old Mass., bred by Count Lavender, and got of a star by the great sire, superb Sultan. He will make a very large bull, with a grand wealth of flesh, a herd header to a T, and best. There never was a lot of fat of his kind in the herd, but he is particularly good in this regard. He is a very fine specimen of a Scotch Shorthorn.

Your Untapped Maple Trees Will Produce Many Dollars

They will produce a substantial income each year, and at a time of the year when other farm work is impossible.

Now that the new pure maple law is in force, there is a greater demand for PURE Maple Syrup and Sugar.

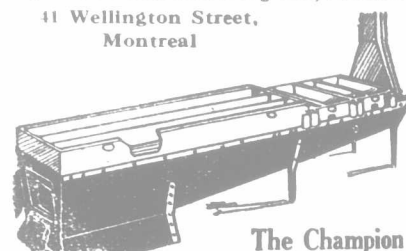
This is your opportunity to increase your income by tapping every maple tree you own. If you are not quite sure how to go about it, we will be pleased to give you fullest information without charge, and at the same time tell you about the

Champion Evaporator

which produces the most high-grade syrup in the shortest time, at the smallest cost.

Get ready now to tap in the spring.

Grimm Manufacturing Co., Limited
41 Wellington Street,
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The Champion

More Milk—More Money

Cotton Seed Meal

means more milk. You will do well to get in line and purchase your requirements now, while prices are right.

Good Luck Brand

The standard of comparison. Beware of the cheap, low-grade stuff. Insist on the bag with the Good Luck tag. You are then sure of getting a high-grade product. This food is guaranteed with the Dominion Government. You take no chances. Write for prices now. We carry a stock of this material at:

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DALMENY—A new Scotch variety introduced 1 year ago. Winner in field competitions; splendid yield; fine, clean, strong straw; plump seed; one of the heaviest varieties; excellent meal qualities; every customer well pleased. Price, 10c. per bushel.

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Canada's best barley, splendid sample grown from registered seed. Price, \$1.25 bus. Bags free with 5-bus. lots or over. Send for samples.

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For the cure of Splints, Windgalls, Bruises, Thick

world guarantee Spavin or more the hair. Main Page & Son, 7 a E.C. Mailed to price \$1.00.—C J. A. JOHN 171 King St.

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Holstein Bulls 3 ages. We have to Holsteins and Pride for sale. that has stood sound, sure and Also Torse Typ (foundered).

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men who will be anted for infl Kidneys, Fevers for mailing, post address plainly

Clydesdales, Yorkshires: Clyde Mares a brooders, Scot Oxtwood Rom- ews, Goodfell

Clydesda! obtain winners and some foot- by a day. C-PETI Manchester, P

FEBRUARY 18, 1915

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 \$31 per ton F.O.B. Forest
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 Also dealer in Flax Seed and Linseed Meal.

DR. PAGE'S ENGLISH SPAVIN CURE
 For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hocks, Strains or Bruises, Thick Neck from Distemper, Ringworm on cattle, and to remove all unnatural enlargements.
 This preparation, unlike others, acts by absorbing rather than blistering.
 This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin or money refunded, and will not kill the hair. Manufactured by Dr. Frederick A. Page & Son, 7 and 9 Yorkshire Road, London, E.C. Mailed to any address upon receipt of price \$1.00.—Canadian agents:
J. A. JOHNSTON & CO., Druggists, 171 King St., East, Toronto, Ont.

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 TRADE MARK REG. U.S. PAT. OFF.
 Will reduce inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula, or any unhealthy sore quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister under bandage or remove the hair, and you can work the horse. \$2.00 per bottle, delivered. Book 7 K free.
ABSORBINE, JR., antiseptic liniment for mankind. Reduces Painful, Swollen Vents, Gout, Wens, Strains, Bruises, stops pain and inflammation. Price \$1.00 per bottle. Manufactured only by **W. F. YOUNG, P.D.F. 2581** Lyman's Bldg., Montreal, Can.

ACME FOR SALE
 Holstein Bulls 11 months and under, females all ages. We have looked to give all our attention to Holsteins and other Acme (Imp.), by Baron's Pride for sale. They are the only horse in America that has stood in the breeding list in Scotland. Sound, sure and broken to harness. Also Tons-Type, using 5 years sure and founded.
R. M. HOLTBY,
 R.R. No. 4, Port Perry, Ontario
 Manchester, Ont. Myrtle C.P.R.

Dr. Bell's Veterinary Medical Wonder
 1000 \$1.00 bottles to horse-men who will give a Wonder fair trial. Guaranteed for inflammation of the Lungs, Bowels, Kidneys, Fevers, etc., etc. Send 10 cents for mailing, postage and agents wanted. Write address plainly to **Dr. Bell, V.S., Kingston, Ont.**

Clydesdales, Shorthorns, Cotswolds and Yorkshires—Several Imp. Clydesdales and Shorthorns, several Imp. Mares and Horses. Highest quality, choicest breeders. Scotch-topped and unsurpassed. Cotswold Roman and Yorkshire, both sexes. Goodfellows, Bolton, Ont. R.R. No. 3

Clydesdales and Shorthorns. Young champion winners of superior quality; and some better. Young bulls and young cows milking up to 52 lbs. a day. Call on **PETE CHRISTIE & SON,** Manchester, P.O. Box 1, Port Perry, Station

Questions and Answers. Veterinary.

Inappetence.
 Cows are not doing well. They are fed on silage, whole mangels, and oat chop. They have poor appetites, and do not drink much. Have no clover hay, but have oat straw. E. MeD.

Ans.—The feeding of whole mangels has not generally given satisfaction. If you can pulp your mangels and cut some straw or hay and mix all together and spread the chop on top, you will get better results than by feeding the silage without mixture. Mix equal parts by weight of sulphate of iron, gentian, ginger, and nux vomica, and give a tablespoonful to each cow three times daily, either mixed with a pint of water and given as a drench, or, if they will eat it, mixed with moist food. A.

Cracked Heels.
 Horse's legs have been swelling when standing since last fall. Now cracks in the skin have appeared in the heels, especially on one leg. He seems stiff and sore in both hind legs. S. W.

Ans.—This is called cracked heels or scratches. Give him a purgative of 8 drams aloes and 2 drams ginger, and after the bowels have again become normal, give him 1 ounce Fowler's Solution of Arsenic twice daily for a week. Apply hot poultices of linseed meal to the cracked heels for two days and a night, and then dress three times daily with 1 part carbolic acid to 30 parts sweet oil. If you intend allowing him to stand idle, dress with a lotion made of 1 ounce each of acetate of lead and sulphate of zinc to a pint of water instead of oil, but apply the oil before taking him out in the cold. V.

Mange.
 We got a dog that had mange. We treated with sulphur and lard and cured him. Now two cats and a cow has it. Is it wise to keep the dog now that he is cured? E.H.

Ans.—As the dog is cured, he can do no further harm. If this really be mange, you should notify the Veterinary Director General at Ottawa, and he will send a veterinary to your place to investigate. We are of the opinion that it is eczema, but if so, one animal would not contract it from another. In the meantime it would be well to treat the cats the same as you did the dog. Make a warm five-per-cent. solution of Creolin and give the cow a thorough washing with it, using a scrubbing brush. Repeat in five or six days, and again if necessary. It would be wise to have your veterinarian examine the stock, as if the trouble be mange it is a very serious matter, and must be reported to the Government. V.

Cause of Scratches—Ringbone.
 1. What causes scratches in horses?
 2. Colt has ringbone. Shall I cut the feeder out, or how should it be treated? L. W.

Ans.—1. High feeding and little exercise predispose to scratches. The exciting causes are dirt, moisture, heat and cold, dry and wet operating alternately, washing the legs and not then rubbing until thoroughly dry, etc.
 2. Ringbones have no feeders. Get your veterinarian to fire and blister. In some cases blistering alone will cure the lameness. A.

Miscellaneous.

Misrepresented Pedigree.
 A is a breeder and dealer in pure-bred cattle. A sends word to B that he has a bull for sale. B goes and sees the bull. A tells B about what a good pedigree this bull has, and recommends him so highly that B buys the bull. In a few months after, B receives pedigree, and it is nothing like A represented it to be. Is A liable for misrepresenting the bull?
SUBSCRIBER.

Ans.—It would seem that A is liable in this case. All you are required to do is to prove that he misrepresented the bull. As to the amount of damages we are not prepared to state.

LET LIQUID MANURE BUY YOUR LIME

Between now and seeding time, 10 tons of Caledonia Marl (Lime Carbonate) could absorb from your stable floor \$40.00 worth of ammonia and potash—in addition to acting as a deodorizer and insecticide. This Marl (Nature's Lime) could then be put on your soil to increase each acre's productively \$15.00 a year, as it did for Mr. L. J. Rounds, for instance.

What One Farmer Found Out

One wide-awake Ontario farmer found that each ton of this Caledonia Marl absorbed nearly \$4 worth of ammonia and potash from the stable floor—so that, as an absorbent of liquid manure, the Marl practically paid for itself. And yet, as just plain lime for the land (even if its absorbent qualities were ignored) Caledonia Marl would be worth more to you than any other kind. Then, too, this is the ONLY lime that can be used as a deodorizer and insecticide—sanitizing the stable without expense—in fact, while gathering up for your profit the otherwise wasted ammonia and potash so valuable to your farm. The war makes Canada the Empire's food-farm. If you get some Caledonia Marl right now, you can make this spring's crops the biggest yet. Here is an opportunity for profit that no real live Canadian farmer can afford to put off. Write to-day for explanatory booklet, etc.

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IMPORTED PERCHERON Stallions and Mares

We have a larger selection of Percherons than any other firm in Eastern Canada, and our barns contain more prizewinners than the leading fairs than all others combined. No advance in prices, although the source of supply is cut off. Write for beautiful illustrated catalogue.
Hodgkinson & Tisdale, Beaverton, Ontario
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Stallions Imp. CLYDESDALES Fillies Imp.
 We have just ended the season's show circuit with a practically, clean up of everything worth winning and can show intending purchasers the biggest and choicest selection of stallions and fillies, imported and Canadian bred, we ever had. Champions and Grand Champions at common horse prices.
SMITH & RICHARDSON, COLUMBUS, ONT.
 Myrtle, C. P. R. Brooklin, G. T. R. and Oshawa, N. C. R., C. P. R. and G. T. R.

Imp.—Clydesdales, Stallions and Fillies—Imp.
 We have had lately landed, an exceptionally choice importation of Stallions and Fillies. They have the big size, the clean, flat quality bone and the most fashionable breeding. Our prices are consistent with the times.
JOHN A. BOAG & SON, QUEENSVILLE, ONTARIO

Angus Bull For Sale
 Undersigned offers "Tom of Innerleithen"—6273. Thoroughbred Aberdeen Angus bull, three years old. A splendid herd leader, quiet and in excellent shape—Price \$125.00. Four young bulls from 10 mos. down and a large number of pure bred heifers and cows for sale. The majority in calf. Prices very moderate.
M. G. Ransford, STAPLETON STOCK FARM, Clinton, Ont.

1909 Canada's Champion Hereford Herd 1914
 For the above six years at the leading shows from Toronto to Edmonton my herd has maintained its supremacy as the champion herd of Canada; American and Canadian bred bulls for sale, the highest attainment of the breed; also cows and heifers.
L. O. CLIFFORD, Oshawa, Ontario

FAIRY MOUNT HEREFORDS
 Sired by my Toronto and London Canadian Bred Champion. I have for sale several young bulls from 7 to 24 months of age, Toronto and London winners among them, the low, thick kind, an exceptionally choice lot.
G. E. REYNOLDS, R.R. No. 2, ELORA, ONTARIO

We have a full line of
BULLS AND FEMALES
 on hand. We have nothing but the best Scotch families to choose from. Our cows are good milkers.
A. F. & G. Auld, Eden Mills, P.O. Guelph, 5 Miles Rockwood, 3 Miles

Maple Grange Shorthorns
 Pure Scotch and Scotch-topped Breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers.
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Willow Bank Stock Farm
 The imported Crickshank Butterfly Roan Chief—established 1855; flock 1848. of both sexes to offer. Also an extra good lot of Leicester sheep of either sex; some from imported sires and dams.
James Douglas, Caledonia, Ont.

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THE TIME, NOW!

All the winter long, the troubled owner of a lame horse reads our advertisements. Then, day after day slips away, while he talks, laments, listens, takes advice and hesitating—FAILS TO ACT—till the Springtime is on him and his horse is not yet able to work.

Send for our 36-page "Save-The-Horse Book." It explains all about our system of treatment—tells exactly how to go about it to get the best results in the up-to-date treatment of Ringbone—Theropin—SPAVIN—and ALL—Shoulder, Knee, Ankle, Hoof and Tendon Issues—Tells How to Test for Spavin; how to locate and treat 58 forms of LAMENESS—Illustrated.

WE ARE THE ORIGINATORS of the Plan of—Treating Horses Under Signed Contract to Return Money if Remedy Fails. 19 Years a Success.

But write and we will send our BOOK—Sample Contract and Advice—ALL FREE to Horse Owners and Managers—Only 4c Address.

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Druggists everywhere sell Save-The-Horse WITH CONTRACT, or we send by Parcel Post or Express Paid.

Why Suffer from Chilblains when Douglas' Egyptian Liniment will give immediate relief from this troublesome malady? It will relieve and cure the worst case of frost bite. Let us send you a sample. DOUGLAS & CO., NAPANEE, ONT.

FOR SALE CLYDESDALE STALLION Golden Ray [11886] (15655).

Dam—Islay Queen 23833; By Loch Slough (11398), by Hiawatha (10677), by Prince Robert (7139), by Prince of Wales (673).

Sire—Golden Chief (13011); By Fickle Fashion (10546), by Earl of Knockdon (10190), by Prince Alexander (8899), by Prince of Wales (673).

Will be sold reasonably, as we are quitting the stallion business; guaranteed sound and sure foal getter; enrolled and inspected; can be seen at John Rawlings Farm, Forest, Ont.

McKinley & Rawlings, Props. Apply to: JOHN RAWLINGS, Forest, Ont.

CATTLE FATTEN QUICKER Dehorned cattle herd to gether quieter and take on flesh quicker.

Their meat is tender and firmer and they bring a higher price. The KEYSTONE DEHORNER is used at the Government Agricultural Colleges, New York, for herding.

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Tweedhill Aberdeen - Angus Excellent young bulls of serviceable ages.

Heifers in calf, etc., James Sharp, R. R. No. 1, Terra Cotta, Ont. C.P.R. and G.T.R., Cheltenham Station.

Glengore Aberdeen-Angus—We have several grandsons of the Toronto and London grand champion.

Hundred, Mayflowers and Fair Ladies of serviceable age down; also one- and two-year-old heifers. A strictly high-class lot. Geo. Davis & Sons, Erin, Ont., R. R. No. 2.

Angus Cattle FOR SALE—If you want something good, come to—

ABERDEEN FARM J. W. Burt, Prop. Hillsburg, R.R. No. 1

SHORTHORNS Three bulls, 11 months, a number of younger cows with their calves, cow in calf and yearling heifers for sale.

Good individuals, good figures, disposition selected. J. T. Gibson, DUNFELD, ONTARIO

CEDARDALE SHORTHORNS For this season we have some extra new the 4-fleshed bulls—Pure Scotch and Scotch topped. Also cows and heifers.

DR. T. S. SPROULE, Markdale, Ont.

FOR SALE A number of all-shorn, well-bred, registered, and of the R.O.P. type, also some of the best 1918 R.O.P. type, also some of the best 1918 R.O.P. type, also some of the best 1918 R.O.P. type.

S. A. Moore, Caledonia, Ont.

Gossip.

LAST CALL FOR WATSON'S SALE. There is a wide margin of interest to the general public between an auction where there is a selection of several breeds for sale and an event where there is only one breed to offer.

F. E. PETTIT'S DISPERSION HOLSTEIN SALE. Having decided to retire from farming, F. E. Pettit, of Burgessville, Ont., in Oxford county, has arranged to sell by auction at his farm, The Ferns, one mile north and one mile west of Burgessville Station, and ten miles south of Woodstock, on Wednesday, March 10, his entire herd of thirty-five Holsteins, the result of twelve years' careful breeding, selecting, and official testing.

A SALE OF PURE-BREDS AND GRADES.

An auction sale carrying a wide scope of interest to farmers generally, and Clydesdale breeders particularly, will be the big dispersion sale of registered Clydesdale stallions, mares and fillies, grade Clydesdale mares and geldings, grade Shorthorn steers, grade dairy cows, grade Oxford Down sheep, and grade Tamworth brood sows, together with a full line of farm implements, which are the property of W. H. Manell, Fletcher, Ont. The date is Tuesday, March 9, 1915.

BAYSIDE HOLSTEINS

Bayside Farm, the home of Pontiac Hermes, one of the best sons of the breed's most illustrious sire, Hengerveld De Kol, with 115 A. R. O. daughters, and more 30-lb. and over daughters and granddaughters than all other bulls combined.

Pontiac Hermes is also a brother to the dam of King of the Pontiacs, sire of 106 A. R. O. daughters, including the present world's champion, K. P. Pontiac Lass, record 4118. Bayside Farm is the property of E. B. Mallory, Belleville, Ont., Box 99, R. F. D. The Holstein herd has been established over thirty years.

PEERLESS PERFECTION is much heavier and stronger than common poultry netting. Peerless Poultry Fence is built just like our farm fence. It is the best Canada Fence made by Canadians and sold exclusively in Canada. The Fence That's Locked Together. It's close enough to keep small fowl in and strong enough to keep large animals out.

Better Crops on Perfect Seed Beds

Prepared with the ACME Pulverizing Harrow. AFTER plowing sod or stubble, it must be worked down thoroughly and pulverized. Sods, clods and lumps must be broken up; air spaces and voids worked out and filled to insure a good seed bed that will give BETTER CROPS.

Poplar Hall Shorthorns

If you want a herd-header of the highest breeding, visit our farm; sired by the great Uppermill Omega, Imp.; we have C. Butterfys and Lovelys, Marr Roan Ladys and Cinderellas, from 7 to 18 months of age.

Glenallen Shorthorns

We offer for sale some of the best young bulls we ever bred, Scotch or Booth breeding, low, thick, mellow fellows of high quality; also our stock bull, Clunax = 8132 = sired by Uppermill Omega.

Escana Farm Shorthorns

—100 head in the herd, which is headed by the noted bulls, Right Sort, Imp., the sire of the first-prize calf herd at 1914 Toronto National Show, and Raphael, Imp., grand champion at London Western Fair 1913.

Robert Miller Pays The Freight

Young Shorthorn bulls of Showward Quality, sired by Superly Sultan and other great imported sires, from the best imported and Scotch-bred cows to be found, some of them great milkers, ready to sell at moderate prices, and delivered at your home station.

GLENGOW SHORTHORNS

For this season's trade we have the best lot of young bulls we ever bred. Wedding Gifts, Strathollans, Crimson Flowers and Kibbican Beautys, sired by Broadhocks Prime. These are a thick, mellow, well-bred lot.

Meadow Lawn Shorthorns

Have for sale several well bred young bulls and heifers also some young cows of thick fleshy type. Write for prices.

SHORTHORNS of breeding, style and quality.

If in want of an extra choice herd-header, carrying the best blood of the breed, or a limited number of light nice yearling heifers, write us; we can supply show material of either bulls or females.

BULLS and FEMALES

At greatly reduced prices, as my sale had to be called off on account of the weather. Herd must be reduced, as I am short of feed and stabling. Low prices for quick sale.



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Be sun battery X DRY are guaranteed to Extra lives be CANADIAN CARB

Far Tag FOR STOCK Tag your stock—identification for Name, address and Catalog and Sample. F. S. Burch & Co.

SHO 3 bulls from 7 to 10 months of age, both in quality, s-fleshy, sappy bull, 10 heifers and 1 calves; prices easy. STEW LINDSAY.

Oakland Present offerings—Reds, older; also sired by one of inspect this due. Ino. Elder & Co.

Spring V Herd headed by Newton Ringdon Ramsden 83422. KYLE BROS., Phone.

R.O.P. Shortho I can supply 10 Guelph Dairy T. R.O.P. dams. Y also bears all of Atwood, R.R. 2. Scotch Sho Reg. Banner O. ran bulls, high different ages. Erin, R.R. No. 6 SHO 25 females, red- and quality. Prices easy. R.R. No. 3. Shorthor also cows and calves at foot. ANDREW GRC



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Be sure that you buy your batteries with this trade mark
XCELL DRY BATTERIES
are guaranteed to outlive and outlast all other makes.
Extra lives have been given to the Black Cat.
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The year's stock - best and cheapest means of identification for Hogs, Sheep and Cattle.
Name, address and number stamped on tags.
Catalog and samples free on request.
F. S. Burch & Co., 173 W. Huron St. Chicago

SHORTHORNS
5 bulls from 7 to 15 months, some are herd leaders both in quality, size and breeding, some are thick, fleshy, sappy bulls that will get good steers, also 10 heifers and a few young cows bred on milking lines; prices easy. Write me your wants.
STEWART M. GRAHAM, LINDSAY, ONTARIO

Oakland--61 Shorthorns
Present offering: 4 roan bulls 12 to 12 months, 2 Red, older; also matured cows and heifers. Mostly bred by one of the best Roan bulls in Ontario. Inspect this dual purpose, prolific herd, or write:—
Jno. Elder & Sons, Rensselaer, 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, ONTARIO
Phone and Telegraph via Ayr.

Scotch Shorthorns, S. C. White Leg-horn Cockerels and Reg. Banner Oats for sale. Three choice young roan bulls, high class head headers and females of different ages.
LEO. D. FLETCHER, Erin, R.R. No. 2, Erin Phone, Erin Sta., C.P.R.

6 SHORTHORN BULLS
25 females, reds and grays, serviceable, best type and quality, 22 cows milking up to 50 lbs. Prices easy.
THOMAS GRAHAM, Port Perry, Ont.

Shorthorns and Swine—Have some also cows and heifers show material, some with calves at foot. A few choice Yorkshire sows.
ANDREW GROVER, R. R. No. 1, ELORA, ONT.

Questions and Answers. Miscellaneous.

Feed for Dairy Cows.
I am feeding my dairy cattle 15 pounds of good clover hay, 14 pounds of turnips, 2 pounds of bran, 3 1/2 pounds of shorts, 2 pounds of oil-cake meal. Please let me know whether this is a good balanced ration.
J. R. K.

Ans.—This is a narrow ration, about 1 to 4.5. It would be better to add some other grain as corn meal or oat chop (the former is cheaper this winter), and possibly give a few more roots or some straw or silage if you have it.

Treacle With Calves.
Is treacle equal to other feeds for young calves, to be used in the skim milk, and what quantity would it be advisable to give to a feed?
E. C.

Ans.—Experiments carried on in the United States have led the experimenters to believe that black-strap molasses is too laxative in its effect to have any appreciable value as a supplement to skim milk in the feeding of calves. We would advise that you use flaxseed meal.

Mare Aborts.
1. I have a mare that was due to have a colt in May. She caught cold, and we gave her a pint of raw linseed oil and two teaspoonfuls of turpentine, and she lost her colt. Was it the turpentine that caused it?
2. I would like to breed her this spring. What would be the best to give her? Is there any powder or medicine for it?
E. M.

Ans.—1. It is always well to avoid giving drugs to in-foal mares. It is possible that the turpentine may have had some detrimental effect. The linseed oil should have done no damage. It is more probable, however, that the mare was injured in some manner.
2. We know of no drug which would meet your requirements in this case. Be careful with the mare. Feed on good, clean feed, and in case you have any suspicions of contagious abortion we would advise that you read the article on this subject in the Horse Department of our issue of Feb. 11.

Tuberculosis.
1. I have a flock of about 125 hens, and some of them have a disease which I think is tuberculosis. The first thing I notice they are lame, usually on the right leg, and soon their combs turn pale. Our hens have had it for two or three years. What is the best and cheapest method to clean out the disease? I have been thinking of keeping this flock until about August, when the laying season is about over, and then sell them all off and thoroughly clean and disinfect the henhouse, then buy some pullets which I would think were free from the disease, and keep them in the henhouse until the next spring, and then sprinkle slaked lime all over the runs before letting them out. Do you think I could stamp out the disease in that way, or do you think I could get rid of it just by killing them as soon as I see one diseased, and disinfect the henhouse every two or three weeks? I kill and burn about one or two a week as soon as I see one affected.
2. Could you also give me full instructions how to test cattle for tuberculosis, and where a person can get the tuberculin which is used for injecting in testing cattle?
W. H. S.

Ans.—1. Seeing that the trouble has been in your flock for so long a time, it would likely be more profitable to kill off all the hens after the laying season, as you suggest. You would scarcely stamp it out by killing those that show clinical symptoms. Dissect one of the killed birds, and be sure that the disease is tuberculosis; if so, the liver will show a number of raised white spots or tubercles, and it will be enlarged. When convinced the disease is tuberculosis, kill off all the birds, thoroughly disinfect the henhouse, and use lime as you suggest in the runs. You may, in this way, get rid of the disease entirely, but be very careful with your disinfecting to do it thoroughly.
2. It is always advisable to have your cattle tested by a veterinarian competent to do the work. He will do the injecting, and give instructions as to taking the temperature of the cattle.

Progressive Jones says:
"Grow Bigger Crops During the War"

THIS is the Canadian farmer's golden harvest-time. With wheat selling over the dollar mark, and other grains and vegetables bringing war-time prices, farmers should do their utmost to grow as big crops as possible this year. This, friends, is the time of all times to enrich your soil with

Harab Fertilizers

It is the sure way to make your soil yield bumper crops and make more money for you. By using the proper fertilizers you can greatly increase your yield at no extra cost of labor or seed. Would it not pay you to grow the maximum from your soil?

If Harab Fertilizers were not exceptionally profitable to use, I don't think there would be such a great and growing demand for them, do you? But perhaps you would like to read the new fertilizer booklet that describes them fully. If so, just drop a card to The Ontario Fertilizers Limited, and say "Please send me your new Harab Fertilizer booklet." They have promised me to send my friends this booklet promptly without charge.

Years for bumper crops.
Progressive Jones

The Ontario Fertilizers Limited, West Toronto, Canada

20 ROSEDALE STOCK FARM SHORTHORN BULLS 20

Some of them fit to head the best herds in the country. Some are from heavy milking dams. Six are from imported dams.
G.T.R. C.P.R. J. M. GARDHOUSE Street Railway and Long-Distance Telephone WESTON P.O.

Scotch—SHORTHORNS—English—If you want a thick, even-fleshed heifer for either show or breeding purposes, or a right good young cow with calves at foot, or a thick, melow, beautifully-fleshed young bull, or a right good milker bred to produce milk; remember I can surely supply your wants. Come and see.
A. J. HOWDEN Myrtle, C.P.R.; Brooklyn, G.T.R. COLUMBUS, P.O., ONT.

PLEASANT VALLEY FARMS SHORTHORNS
Herd headed by Imp. Loyal Scot. Have for sale, 10 high-class young bulls of herd heading quality and several of the milking type. Also females of the leading families. Consult us before buying.
Farm 11 miles east of Guelph; GEO. AMOS & SONS, C.P.R. 1/2 mile from station. MOFFAT, ONTARIO

SALEM STOCK FARM HO HE OF THE CHAMPIONS
Many of our Shorthorn bulls are good enough to head the best herds. Others big and growthy that will sire the best kind of steers. Elora is only thirteen miles from Guelph. Three Trains daily each way.
J. A. WATT, ELORA, ONTARIO

IRVINE DALE SHORTHORNS
Herd is headed by Gamford Select (a son of the great Gamford Marquis). A number of young bulls of choice breeding and out of good milking strain. Also a few heifers.
J. WATT & SON, Elora Station SALEM, ONTARIO

10 Shorthorn Bulls, 9 Imported Clydesdale Mares
Our bulls are all good colors and well bred. We also have Shorthorn females of all ages. In addition to our imported mares, we have 7 foals and yearlings. Write for prices on what you require.
Burlington Junction, G.T.R., 1/2 mile. W. G. Pettit & Sons, Freeman, Ont.

SHORTHORNS and CLYDESDALES We have a nice bunch of bull calves that were a year-old in Sept., and are offering females of all ages; have a choice lot of heifers bred to Clansman—87809—(one stallion three years old, a big, good quality horse, and some choice fillies, all from imported stock).
A. B. & T. W. Douglas, Long-Distance Phone Strathroy, Ontario

Planet Jr. Harrow Wheel Hoe

Planet Jr. tools save time, lighten labor, and get bigger, better crops at less cost. Designed by a practical farmer and manufacturer with over 40 years' experience. Last a lifetime. Fully guaranteed.

Planet Jr. 12-Tooth Harrow



Stronger, steadier in action, and cultivates more thoroughly than any other harrow made. Non-clogging steel wheels. Invaluable to the market-gardener, trucker, tobacco or small-fruit grower.

No. 16 Planet Jr. Single Wheel Hoe, Cultivator, Rake and Plow



The highest type of Single Wheel Hoe made. Light but strong, and can be used by man, woman, or boy. Will do all the cultivation in your garden in the easiest, quickest and best way. Indestructible steel frame.

72-page Catalog (168 illustrations) free. Describes 55 tools, including Seeders, Wheel Hoes, Horse Hoes, Harrows, Orchard and Beet-Cultivators. Write postal for it.

S. L. ALLEN & CO. Box 1108F Phila Pa. Write for the name of our nearest agency

Don't Sell the Young Calf

BLATCHFORD'S CALF MEAL

Will Raise It Without Milk. There's big money and little trouble for you in raising your calf the Blatchford way.

You save all the milk of the cow for market. As soon as the mother cow's milk is ready to sell, the calf is ready for BLATCHFORD'S CALF MEAL.

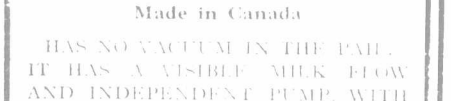
For over a century the Recognized Milk Food for Calves, at One-Fourth the Cost of Milk. Composed of eleven different ingredients carefully apportioned and thoroughly cooked, producing a scientifically balanced ration for the young calf.

Successfully used on thousands of American farms for over 80 years.

The Only Milk Equal Made in an Exclusive Calf Meal Factory. Unlike any of the So-Called Calf Meals Made of Raw Cereal By-Products.

Write for Free Illustrated Book on "How to Raise Calves Cheaply and Successfully Without Milk." BLATCHFORD'S CALF MEAL FACTORY, Steele Briggs Seed Co., Toronto, Waukegan, Ill.

HINMAN THE UNIVERSAL MILKER



Made in Canada. HAS NO VACUUM IN THE PAIL. IT HAS A VISIBLE MILK FLOW AND INDEPENDENT PUMP, WITH THE NATURAL SUCKING PRINCIPLE.

Price \$50.00 per unit. H. F. BAILEY & SON, Sole manufacturers for Canada. GALT, ONT., CANADA

Dungannon Ayrshires

The average milk yield of our herd is 10,000 lbs. annually for all ages. High-class in breeding and individuality. Young bulls cows and heifers for sale. W. H. FURBER, COBOLIDGE, ONT.

Prize-Winning Ayrshires For Sale

Bred on particularly good lines. Will sell families of all ages. High-class in breeding and individuality. Young bulls cows and heifers for sale. W. H. FURBER, COBOLIDGE, ONT.

JERSEY BULLS FOR SALE

For sale a fine Jersey bull, grand sire, sire of all best registered sires, and sire of the greatest prize bull. Price reasonable. Write for more particulars. W. H. FURBER, COBOLIDGE, ONT.

Questions and Answers Miscellaneous.

Not Fit for Human Food.

I would like you to tell me, if possible, whether the meat of turkeys affected with swelled head is unfit for human use if they are killed while affected with the disease? SUBSCRIBER.

Ans.—Turkeys affected with blackhead should be killed and burned; they are unfit for human consumption.

Capacity of Silo—Packing.

1. How many tons of corn will a round silo hold, 16 feet in diameter by 25 feet high?

2. Does a blower, when used to fill a silo, help to pack the corn? H. C.

Ans.—1. Well packed, between ninety and one hundred tons.

2. Possibly a little. It is better to have plenty of trampers.

Fertilizer—Wheat.

1. What chemicals would I need to mix with wood ashes to make a good grain fertilizer? The ashes are dry and not leached.

2. What portion to 100 pounds of ashes would be required?

3. Where could I obtain White Fire spring wheat for seed? J. R. M.

Ans.—1. Possibly a little nitrate of soda. Wood ashes contain enough phosphoric acid, potash and lime, if applied in a good dressing.

2. Give the ordinary dressing of 80 pounds per acre.

3. Look up our advertising columns.

Sale of Farm.

I bought a farm; agreement simply stipulates price, time of payment, etc. Farm is well equipped with ordinary appurtenances, such as water tanks for purpose of watering stock, hog troughs not fastened down, ropes, car and slings, blinds on windows (roller), etc., tie chains for cattle. What are vendor's rights re the removing of above? Please state my position as purchaser (rights). X. Y. Z.

Ans.—We should say that the water tanks, hog troughs, ropes and car should go with the farm. Blinds on the windows, however, may be removed. These things should be stipulated in an agreement so that no trouble can arise over them. The hay fork, car and track are generally considered as part of the building. The chains for cattle should not be removed. Slings may be removed.

Poultry Queries.

1. I would like to start, in a small way, with a good flock of poultry, for laying and table use. Would you kindly advise me what varieties would be most suitable for these purposes? Would you give the name of a good book on the best methods of building pens and the care of poultry?

2. Are good results always obtained by purchasing settings from pure-bred stock? D. M.

Ans.—Any of the general-purpose breeds should give good results—Barred Plymouth Rocks, White Wyandottes, Rhode Island Reds, or Orpingtons. Principles and Practice of Poultry Culture, by Robinson, may be had through this office, at \$2.50, postpaid.

2. Not always. It depends upon the care of the birds, the eggs, the strain of the breed, etc.

Sheep Breeding.

1. How many sheep could be kept on two hundred acres, and about forty of that work land, the rest high and rocky pasture?

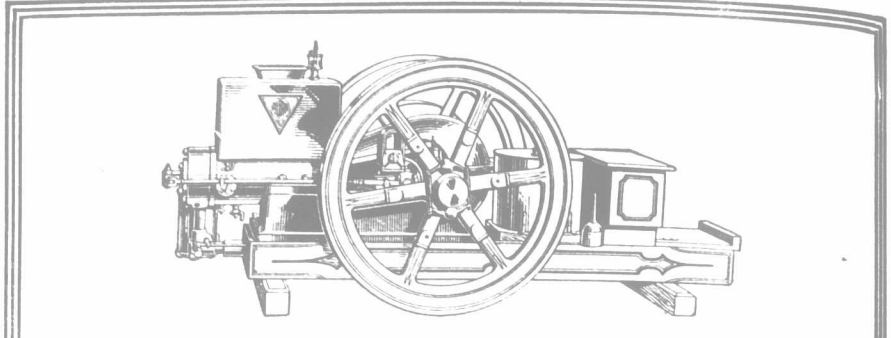
2. Would good level farm land be better?

3. About how much could be made per head, and what is the best feed?

Ans.—1. We cannot say. Probably 100 or more.

2. It would grow more fat sheep, do well on hill, no more.

3. This depends upon the quality of the owners. Good sheep, in good care, an increase of a fourth and a quarter per acre per year. But to carry a flock of 100 on 200 acres, the work land should be about 75 acres. The work should be done by a few men, and the sheep should be well cared for.



Alpha Engine Facts

Alpha Engines are reliable. Use all fuels. Are easy to start. Develop full power. Are free from vibration. Have best pulley arrangement. Have simple, reliable ignition. Are thoroughly standardized and parts are interchangeable. Strictly modern in design. Are high-class in appearance. Will fit your needs for size and equipment. Make best showing when directly compared with other engines. Are sold and backed by a Company that has a world-wide reputation for selling only high-quality machines and equipment.

An ideal engine for farm use

Eleven sizes, 2 to 28 horse-power. Each furnished in stationary, semi-portable, or portable style, and with either hopper or tank cooled cylinder.

Every farmer needs an "Alpha." Send for catalogue.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. MONTREAL PETERBORO WINNIPEG VANCOUVER

Put in as Big a Garden as you Possibly can this Spring

—but be sure you put it in RIGHT! Thorough tilling and plenty of fertilizer are both important, but not more so than the choice of seeds. "Like produces like", and you cannot expect fine crops from inferior seeds.

Ewing's Reliable Seeds

are grown from selected plants of the very best strains. They are clean, vigorous, sure to grow—and for over Forty Years have been producing the finest gardens in Canada.

Your first step will be a wise one if you choose Ewing's Seeds. Get them from your dealer, or if he hasn't them order from us direct.

THE WILLIAM EWING CO., LIMITED
Seed Merchants, McGill Street, Montreal 43

Brampton Jerseys

We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show ring.

B. H. BULL & SON, BRAMPTON, ONTARIO

Glenhurst Ayrshires

For 50 years I have been breeding the great Flos tribe of Ayrshires, dozens of them have been 90 lb. cows; I have lots of them get 60 lbs. a day on twice a day milking. Young bulls 1 to 10 months of age, females all ages. If this kind of production appeals to you write me.

James Benning, Williamstown, Ont.

Hillhouse Ayrshires

Show ring winners. Dairy test winners. 75 head to select from. Bull calves and females of all ages for sale. Special prices during February on heifers rising two years many of them granddaughters of ex-champion cow "Primrose of Tanglewild." Before buying, come and inspect our herd and get prices.

F. H. Harris, Mt. Elgin, Oxford Co., Ont.

Stonehouse Ayrshires

Are a combination of show yard and utility type seldom seen in any one herd. A few choice young males and females for sale. Write or phone your wants to Stonehouse before purchasing elsewhere.

Hector Gordon, Howick, Quebec

Ayrshire and Yorkshires

Bulls of different ages. Females all ages. A fine bunch of heifers from 6 months to 2 years. Yorkshires from 4 to 8 months old. Quality good. Prices moderate.

ALEX HUME & CO., Campbellford, R. No. 3

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WATER TRAIL

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Do not buy a

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BALTIMORE, Mo.,

Established 1

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Buy the best

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2,538.2 lbs. in 30

7 days, 122.08 lb

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Ormsby 4884, a

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JAMES A. CAS

The Ma

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table from R.O

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milk, 846 lbs. in

breeding. Write

Walburn River

Ridgedale Hols

Also one bull ca

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price. R. W. W

Perry, Ont. M

C. P. R.

BEST ON EARTH

WATCH FOR THE TRADE MARK AND KNOW WHAT YOU GET

FREEMAN'S FERTILIZERS

A SPECIAL FORMULA FOR EVERY REQUIREMENT.

Do not buy a "A Pig in a Poke."

Send for booklet showing just what Fertilizer you should use and the exact composition of it. Your copy will be sent for a post card.

The W. A. FREEMAN CO., Ltd.
222 HUNTER ST. E.
HAMILTON, ONTARIO.

CHURCH BELLS CHIMES AND PEALS

MEMORIAL BELLS A SPECIALTY

FULLY WARRANTED

McSHANE BELL FOUNDRY CO.,
BALTIMORE, Mo., U. S. A.
Established 1866



We Have Advanced Our Price For Good Quality Cream

We pay express, and supply cans. It will pay you to write us, we have had ten years experience and we can guarantee satisfaction. A man wanted in every county, easy money.

Galt Creamery
GALT, ONTARIO

WANTED

We have again advanced our prices for good quality cream. We could use yours. It will be worth your while to write us.

Toronto Creamery Company, Limited
Toronto, Ontario

Enterprise Holsteins

Red bull, Lakeview King Inka De Kol 2nd, 1415. Sire, Count Hengerveld Favin De Kol, G. Sire, Pieterje Hengerveld Count De Kol, Dam, Queen Inka De Kol, over 100 lbs. milk in 1 day, 24,278.9 lbs. in 1 year. He is for sale and bull calves up to 11 months, and also heifers.

Prices right.

THOS. WILSON & SON
R. 1, Enterprise, Ontario, Addington County

STOP! LOOK! LISTEN!—Milk River Farm Says: Buy the best 3 Holstein Cows, 2 Shorthorn Grades in the county of Ontario, at low prices: milking up to 60 lbs. a day. Also 3 Pure Bred Yorkshire White Sows 8 months old, bacon type. Seed Potatoes: Empire State, Comet, Delaware, Lincoln, Davies Warrior, yielding up to 160 bags to the acre in 1914.

O.A.C. Barred Rock Eggs for hatching, \$1.50 per setting. Write for prices and snap photos.

Hervey Smith, R.R. No. 2, Port Perry, Ont.
High Point, G. T. R. Myrtle, C.P.R.

Holstein-Friesian Association of Canada

Application for registry, transfer and membership, as well as requests for blank forms and all information regarding the farmer's most profitable cow, should be sent to the Secretary of the Association.

W. A. CLEMONS, St. George, Ontario

Maple Grove Holsteins

Do you know that Tilly Ahlbeck is the only cow in the world that produced three sons who have each sired 30-lb. butter cows, and two daughters with records greater than her own? She was bred, reared and developed at Maple Grove. Do you want the blood to strengthen the transmitting power of your herd, at low and let live prices, then write:

H. BOLLERT
Tavistock, Ont., R.R. No. 1

Great Yearling Holstein Bull For Sale

out of the cow Victoria Burke with the wonderful record of 106 lbs. milk in 1 day, 686.6 lbs. in 7 days, 2,538.2 lbs. in 30 days and 30.82 lbs. of butter in 7 days, 122.08 lbs. of butter in 30 days. This cow ranked fourth in 1914, 105 lbs. in 30 days. The sire of this bull is sired by Francis 2nd's Admiral Ormsby 4884, a son of Francis 3rd, butter 29.16 and Sir Admiral Ormsby. Come and see or write:

JAMES A. CASKEY, MADOC, ONT.

The Maples Holstein Herd

offers ready for service sons of Prince Anggie Mechanical from R.O.P. and R.O.M. sisters and dam of Duchess Wayne County 2nd, Canadian champion 2-year-old for butter in R. O. P. 16,714 lbs. milk, 846 lbs. butter. Also choice females of like breeding. Write:

Walburn Rivers, R.R. No. 5, Ingersoll, Ont.

Ridgedale Holsteins—3 bulls ready for service. Also one bull calf sired by our great bull, "King Segis Pontiac Duphate" and from a high-producing dam. A very choice herd header at a reasonable price. **R. W. Walker & Sons, R.R. No. 4, Port Perry, Ont.** Manager, G. T. R. and Myrtle C. P. R. Bell Telephone

Questions and Answers.
Miscellaneous.

Mixed Grain.

In sowing mixed grain, is it necessary to mix the grain afresh every year or not?

AN OLD SUBSCRIBER.

Ans.—Yes.

Seed and Seeding and Farm Power.

1. Through the columns of your paper I find that farmers should be careful in the selection of seed grain, and as I am just a beginner in farming, I would appreciate your opinion as to which of the following you would advise me to sow, viz., oats, spring rye (if there is such), peas, barley, flax and corn for grain; also inform me as to where I can get the best seed.

2. What do you consider the best kind of early and late potatoes?

3. What is the arrangement for cutting feed by power that will give satisfaction?

W. P. B.

Ans.—If your land is good, avoid spring rye. Sow some oats, barley and corn, and possibly a little flax. However, the latter is not a very important crop in this section in ordinary years. Get seed from some of the growers or seedsmen advertising in these columns.

2. Extra Early Eureka is good for early, and Davies' Warrior, Rural New Yorker, or Carman No. 3, good late. There are many other good varieties.

3. You might use a horse-power and a tread-mill, a gasoline engine, or electricity. Possibly the engine would be best under farm conditions.

Lawn Grass Filler.

1. I plowed up lawn and would like you to publish what kind of grass I should sow in it, and whether a nurse crop is necessary, and all about how I should handle it to have a nice, green lawn?

2. Could you give a recipe for a filling to put on a hard ash ceiling before oiling, and if the same would do for soft wood?

H. J. M.

Ans.—There is no better grass for your lawn than Kentucky blue grass. It is very hardy, spreads rapidly, and is a fine grass, and will stand cutting in dry weather. Add to this some white clover. This will help keep down weeds, and will make a fine lawn. Sow it very thickly. There is very little danger of getting grass too thick. Have the lawn worked up well, and apply a heavy dressing of very fine, well-rotted barnyard manure. Apply the seed and roll it down level and smooth. Be careful to keep off the land until the grass gets a good start. A nurse crop is not necessary.

2. It would be better and cheaper to buy a prepared filler at your local hardware store.

Pencil Marks Sulphur Meals.

1. What will remove pencil marks off wall paper?

2. What is the value of sulphur for stock, milk cows, hogs, sheep and hens? What quantities to feed, and how often?

3. What is the difference between flax-seed meal, linseed meal, cotton-seed meal, and hemp-seed meal? Have seen them all mentioned in "The Farmer's Advocate," and would like to know whether they all are made from flax seed?

I am a reader of "The Farmer's Advocate," and think it is worth twice the money.

INQUIRER.

Ans.—1. This is difficult to accomplish without injuring or soiling the paper. A bread-rubber used by artists might help.

2. For hens, sulphur is sometimes fed to prevent feather-pulling. Some stockmen believe that sulphur is beneficial to stock, although very little of it is recommended by veterinarians. If fed mix with salt in proportion of one of sulphur to four of salt.

3. Flax-seed meal is simply ground flax seed. Linseed meal is the ground linseed cake made from flax seed in the process of taking out the oil; it is flax-seed meal minus most of its oil. Cotton-seed meal is an entirely different substance, being the meal made from the cake which results from the pressure used in removing the oil from cotton seed. We do not remember using the term hemp-seed meal. Where used, it likely erroneously refers to some form of meal from flax seed.

DISPERSION SALE OF HOLSTEINS

Thursday, Feb. 25th, 1915

On the above date I will sell unreservedly my entire herd of 34 Holsteins, 17 of them young cows in milk, 5 yearling bulls. Also my stock bull, Lord De Kol De Boer. The records of his dam and sire's dam average 26.56 lbs., and their B.F. Test over 4%. He is a brother to Boutsje Posch De Boer; record at two years, 23.03 lbs., B.F. Test 4%. All the young things are sired by him and the cows in calf to him; the balance of the offering are heifers, principally yearlings. Practically all those in milk have official backing on both sides and their own R.O.M. records range from 13.38 to 15.03 for two-year-olds, and 14.77 to 16.61 for three-year-olds. The sale will be held at my farm, 3 miles west of Straffordville Station, C.P.R., where conveyances will meet the noon train from Woodstock, Ingersoll and Tillsonburg.

Terms: Cash, or 7 Months on Bankable Paper With 6%.

Moore & Dean, Springfield, Auctioneers.

For Catalogue, Write:

N. H. McCONKEY STRAFFORDVILLE, R.R. No. 1

35 Registered Holsteins 35 HEAD By Auction HEAD

An unreserved dispersion of Holsteins, at "The Firs" Wednesday, March 10, 1915 at 10 o'clock sharp.

In this sale is the result of twelve years of careful breeding and selection. They are the low down, straight backed type, so much in demand by the best breeders of Canada. Nearly all are young, being daughters of such bulls as Cornelia's Posch, too well known to need any comment as a bull of high producing stock. Others are from a son of Sir Admiral Ormsby (a bull well known in Holstein circles); his dam Francis Bonerges Ormsby gave in 7 days R.O.M. milk 605 lbs., butter 29.10. Sister to Jenny Bonerges Ormsby, milk 530 lbs., butter 33%.

The present stock bull Butter Baron Posch A, has for sire Butter Baron, dam 33.17 lbs. butter, sire's dam 27 lbs. butter, average 30 lbs., and for grand dam on mother's side Tempest Clothilde Mercedes, R.O.P., in 12 months milk 18,447 lbs., butter 750 lbs. This young bull is a fine straight fellow, a worthy representative of his breeding. The stock is in calf to the last two bulls.

On day of sale trains will be met from the south arriving at Burgessville 8 o'clock a.m. and from the North leaving Woodstock 11 a.m., due Burgessville 11:20 a.m. Lunch at noon.

Come and inspect the stock. Write for catalogue.

Terms: Cash or seven months credit at seven per cent. per annum.

F. E. PETTIT, - - - Burgessville, Ont.

Auctioneers: Wm. Pullin, Woodstock; E. R. Almas, Norwich.

SUMMER HILL FARM

Holstein Cattle and Yorkshire Hogs

We offer for sale, a dozen bulls, some ready for service, from high official record dams. If you are wanting a bull, better write us and let us tell you how good they are. Can also spare a few good heifers. Yorkshire hogs all ages.

D. C. FLATT & SON

Phone 715

R. R. No. 2

ONTARIO

HAMILTON

IMPERIAL HOLSTEINS We are offering some good show bulls from Record dams, with records up to 21 lbs. butter in 7 days, and two of his sisters, average 30 1/2 lbs. butter. Official 7-day records of his dam, sire's dam, and two of his sisters, average 41.87 lbs. of butter in 7 days, and the only cow of the breed to make 21. 7-day records averaging 39.68. Extended pedigree furnished.

W. H. SIMMONS, NEW DURHAM P. O., ONT.

VILLA VIEW HIGH-TESTING HOLSTEINS

Herd headed by King Segis Alcartra Calamity. 10 dams 2 to 4 years old average 393 per cent. fat. The first 8 heifers to freshen have average records of 16.52 lbs. of butter for 7 days. Bulls from the above dams for sale; prices \$50 to \$100.

Arbogast Bros., Sebringville P.O., Ont.

WILLOWBANKS HOLSTEINS

Herd headed by King Korndyke Inka De Kol (Imp.) No. 18545 C.H.F.H.B., 115016 A.H.F.H.B., who has more 30-lb. sisters than any other bull, excepting other sons of Pontiac Korndyke. Stock for sale.

C. V. ROBBINS, R.R. No. 3, Wellandport. Fenwick Sta. Bell Phone, Wellandport, R.R. 6.

Ourvilla Holstein Herd—The first herd in Canada to develop a 31 lb. cow. The only herd in Canada to develop 27 two-year-olds averaging 16.20 lbs. of butter in 7 days. We have also developed 7 three-year-olds averaging 23.23 lbs. in 7 days. If you want a bull backed by Ourvilla reputation and records, sired by a 31.76 lb. bull, write us.

LAIDLAW BROS., AYLMER, ONTARIO

Bayside Holsteins Stock bull, Pontiac Hermes, a brother to the dam of King of the Pontiacs. This is the herd that produced Lula Keyes, R.O.P., 1925 lbs. milk and 678 of butter as a sr. 2-year-old and May Echo, 31.60 lbs., R.O.M. If you want a herd header with this kind of breeding write me.

E. B. MALLORY, Belleville - Box 66, R.F.D.

Sunny Hill Holsteins Bargains in bull calves sired by a grandson of King of the Pontiacs, world's greatest sire. Also one yearling, grandson of Pontiac Korndyke sired by a brother to the \$26,000 bull, sire's dam 32.17 lbs. sold for \$3,100.

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Rice's Salt

The purest and best for table and dairy use.

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Aberdeen-Angus Cattle, Southdown Sheep, Collie Dogs.

Some right good young Angus bulls and heifers for sale.

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Oxford Down Sheep
"The Champion Oxford Flock of America"
Winners at Chicago International, Toronto, London, Winnipeg, Regina, Brandon, Saskatoon, Edmonton, Calgary and Lethbridge Fairs. Present offering—75 ram and ewe lambs, 46 yearling ewes (some fitted for show), also 15 yearling rams which will make excellent flock-leaders. Consult us before buying.

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Sheep, Swine and Seed Corn—Young stock of both sexes in Dorset Horn and Shropshire sheep, and in Swine, Poland Chinas, Duroc Jerseys, Berkshires and Chester Whites. Also Seed Corn, all varieties. Consult me before buying. **Cecil Stobbs, Leamington, Ont.** Phone 284. M.C.R., P.M., & Electric Ry.

Improved Yorkshires—We are booking orders for weaned pigs. Delivery about Feb. 15th. We also offer older pigs of both sexes, at most reasonable prices. Drop us a one-cent post card, stating your requirements. Our stock is of the best imported strains.

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Hampshire Swine and Lincoln Sheep ages from imported stock. Prices reasonable.

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For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from winners and champions.

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Champion herd at Toronto and London Fairs; also Dorset Horn Sheep—Young Stock of both sexes for sale; a few two-year-old rams.

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TAMWORTHS

25 young sows bred for Spring farrow and a few choice young boars registered. Write for prices before buying elsewhere.

John W. Todd, R. R. No. 1, Corinth, Ont.

Berkshires and Jerseys—Berkshires from prize-winning stock on other side, Toronto, London, and Guelph Winter Shows, 1913. Registered Jerseys from hexameter, high testing dams. Young stock of either for sale at reasonable prices. **IRA NICHOLS, Box 988, Woodstock, Ontario.**

CHESTER WHITE SWINE

For Sale—High class sows from 9 to 18 months of age bred to farrow in March. Will sell at very low price as must make room. **JOHN POLLARD, Norwich, Ont. R. R. No. 4.**

Elmfield Yorkshires—A few young sows bred, also some boars and sows 2 to 2 1/2 months from choice bred to farrow. Call on either party not akin. **G. B. MOORE, R. R. No. 3, Ave. Ont., Phone Ave. R. R. 5377. C. P. R. Fair or Dunbar, C. P. R., Ver.**

Cloverdale Large English Berkshires—Sows to farrow ready to breed, born ready for service 200 from six to twelve weeks old, both sexes, pure bred. All breeding stock pure, or from pure stock. Prices reasonable.

G. J. LANG, Hampton, Ont. R. R. No. 1

TAMWORTHS

Several very choice sows bred for early spring farrow, also some boars ready for service.

HERBERT GERMAN, ST. GEORGE, ONT.

Questions and Answers.
Miscellaneous.

Corn Marker.

Can you tell me a good way to make a corn marker, or could any of your readers help me in the matter? C. B.

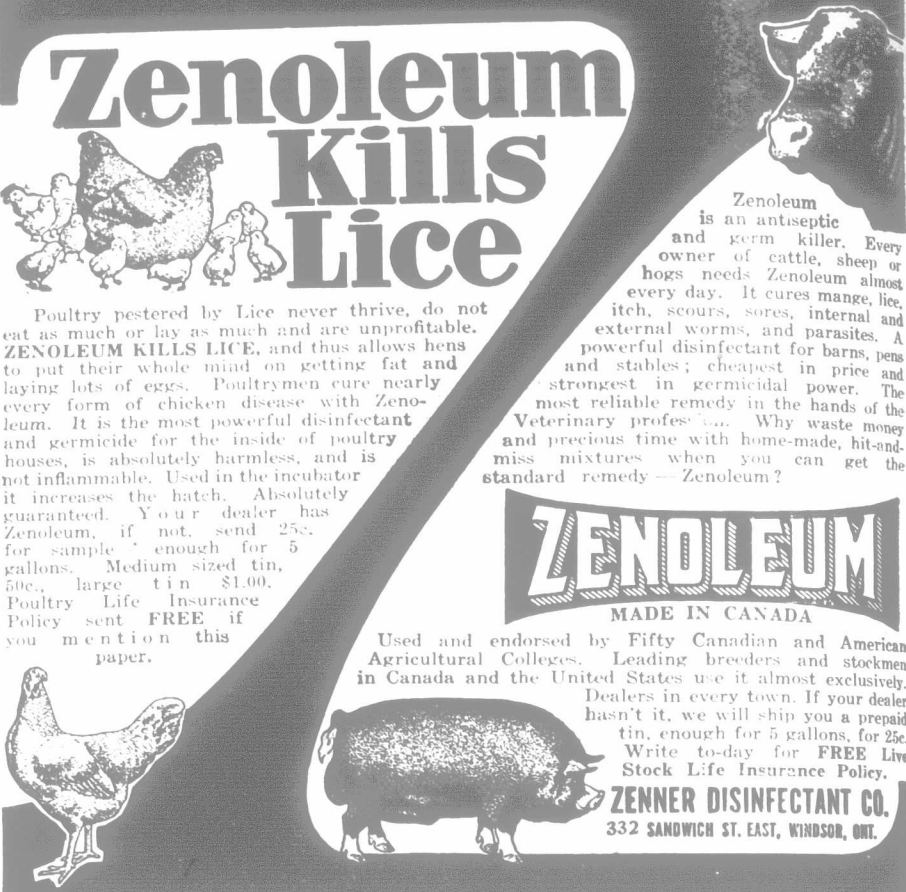
Ans.—One of the best markers we have seen was described in our issue of June 18, 1914. This was attached to a seed drill, which had behind it a single-board riding-platform attachment. To this was fastened a 2 x 4 scantling, the ends projecting beyond the wheels a sufficient distance to allow of fastening markers, to these ends to make marks for the wheel the next time across the field. The end of the scantlings were rounded, and the marker attachment was simply a piece of solid material about 2 x 6, with a hole bored through one end, and large enough to slip over the rounded end referred to. This may be fastened on with a small key or plug, and needs to be just long enough to reach the ground on a sufficient slant to drag easily. These are attached to either end of the 2 x 4. The length of the long scantling is regulated by the width of the drill used, and the distance apart of the rows. Where riding platform is not attached, it would not be a very difficult task to fasten the scantlings without it. This is a very good marker indeed where corn is to be sown in drills, and it could even be used with a few modifications for hill planting. Corn-growers who are operating on a fairly large scale, like the check-row planter very well. We have seen also very good markers made by using 2 x 4 scantlings as runners, and fastening these together by planks, keeping them at the required distance apart for the rows, bolting a good solid plank on the front, to which the whiffletrees are attached, and dragging these back and forth across the field. There are many simple methods, but the drill method is the best we have seen outside of the check-row planter system.

Crops and Weeds.

1. Are sugar beets a profitable crop to grow providing farmer does hoeing himself?
2. Which gives the better satisfaction for growing rape, sowing it in drills or broadcast?
3. If sowed in drills, how would you sow them, sow them like turnips, and how thick?
4. Would you make drills same as for turnips?
5. What kind of oats would you recommend sowing on high, rolling land, not very rich?
6. Would you recommend sowing black oats? Is there any particular variety you know?
7. I have a bad weed on my farm called nicotian spurge. Could you give me any advice how I could kill this weed? I also have a lot of bindweed in same field. Do you think I could crop this land and kill these weeds at the same time?
8. Is sugarcane a good feed for cows in summer when pasture is scarce?
9. Is there anything better you could recommend?

Ans.—1. On suitable soil and convenient to sugar plant, yes.
2. In drills. It may then be cultivated and kept clean.
3. Sow with a turnip drill, like turnips, 14 lbs. per acre.
4. Yes; or a little closer together if desired.
5. There are several good varieties, and we cannot attempt to name them all. The new oat, O. A. C. 72, is proving a good one. The American Banner is a good yielding, and perhaps as good all round oat as is largely grown. Seedsmen often have a few varieties which they especially recommend. Get their catalogues.
6. They sometimes prove profitable. The Jeanette is a good variety.
7. It would be scarcely possible to crop the land and clean it at the same time. Summer fallow if one season, cultivating after each crop, or at least once a week with a broad-spread cultivator. If this does not clean it, sow it the next year, or sow rape in drills and cultivate as long as possible.
8. Yes, where it grows well.
9. Corn is good, and peas and oats make a good crop for this purpose.

Zenoleum Kills Lice



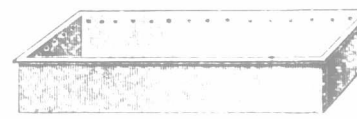
Zenoleum is an antiseptic and germ killer. Every owner of cattle, sheep or hogs needs Zenoleum almost every day. It cures mange, lice, itch, scours, sores, internal and external worms, and parasites. A powerful disinfectant for barns, pens and stables; cheapest in price and strongest in germicidal power. The most reliable remedy in the hands of the Veterinary profession. Why waste money and precious time with home-made, hit-and-miss mixtures when you can get the standard remedy—Zenoleum?

Poultry pestered by Lice never thrive, do not eat as much or lay as much and are unprofitable. ZENOLEUM KILLS LICE, and thus allows hens to put their whole mind on getting fat and laying lots of eggs. Poultrymen cure nearly every form of chicken disease with Zenoleum. It is the most powerful disinfectant and germicide for the inside of poultry houses, is absolutely harmless, and is not inflammable. Used in the incubator it increases the hatch. Absolutely guaranteed. Your dealer has Zenoleum, if not, send 25c. for sample enough for 5 gallons. Medium sized tin, 50c., large tin \$1.00. Poultry Life Insurance Policy sent FREE if you mention this paper.

Used and endorsed by Fifty Canadian and American Agricultural Collectors. Leading breeders and stockmen in Canada and the United States use it almost exclusively. Dealers in every town. If your dealer hasn't it, we will ship you a prepaid tin, enough for 5 gallons, for 25c. Write to-day for FREE Live Stock Life Insurance Policy.

ZENNER DISINFECTANT CO.
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Galvanized Steel Pans



Galvanized Pans for sap boiling are clean and sanitary. We manufacture them in any size desired out of heavy steel. They will stand the work and last indefinitely.

If your dealer does not handle the Wayne Line, write us for prices, and we will quote you promptly.

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Maple Villa Oxford Down Sheep
Yorkshire Hogs

Sired by Adonis Imp. 57495, and out of ewes that have won many prizes at big and local shows. I have high-class flock-headers and high-class ewe lambs, also shearlings, of both sexes Yorkshires both sexes, any age.

J. A. Cerswell, R. R. 1, Beeton, Ontario

Shropshires and Cotswolds

I have now for sale 30 extra large, well covered shearing rams, 100 shearing ewes and a very fine lot of lambs from my imported ewes. Will be pleased to book orders for delivery later of any kind wanted.

JOHN MILLER, R. R. No. 2, CLAREMONT, ONT. Claremont Station, C.P.R., 3 miles.
PICKERING STATION, G.T.R., 7 miles. Greenburn Station, C.N.R., 4 miles.

ELMHURST LARGE ENGLISH BERKSHIRES

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

H. M. VANDERLIP, Breeder and Importer, CAINVILLE P.O., ONTARIO
Langford Station on Brantford and Hamilton Radial.

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If you want good herd sires or dams write or come and see those bred from Eldon Duke who won five Champion ships at Toronto and Ottawa exhibitions, 1913 and 1914, and junior champion sow Pairs supplied not akin. Stock guaranteed as represented.

Wm. Manning & Sons, Woodville, Ont

BERKSHIRES

From our prize-winning herd of large English Berkshires we have a particularly choice offering in young boars and sows many of them now at breeding age. Order early and get a choice selection.

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In Duroc Jerseys we have either sex of any desired age, bred from winners and champions to generations back. In Jerseys we have young cows in calf, and young bulls, high in quality and high in producing blood.

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Boars and sows of all ages, sows bred ready to breed, all descendants of Imp. and Championship stock, several choice young bulls from 10 to 16 months old and a few calves.

A. A. GILWILL, Long-Distance Phone, NEWCASTLE, ONTARIO

LARGE WHITE YORKSHIRES

Have a choice lot of sows in pig. Boars ready for the stock imported or from imported stock from the best British herds. Write or call.

H. J. Davis, Woodstock, Ont. Long-distance Phone, C.P.R., G.T.R.

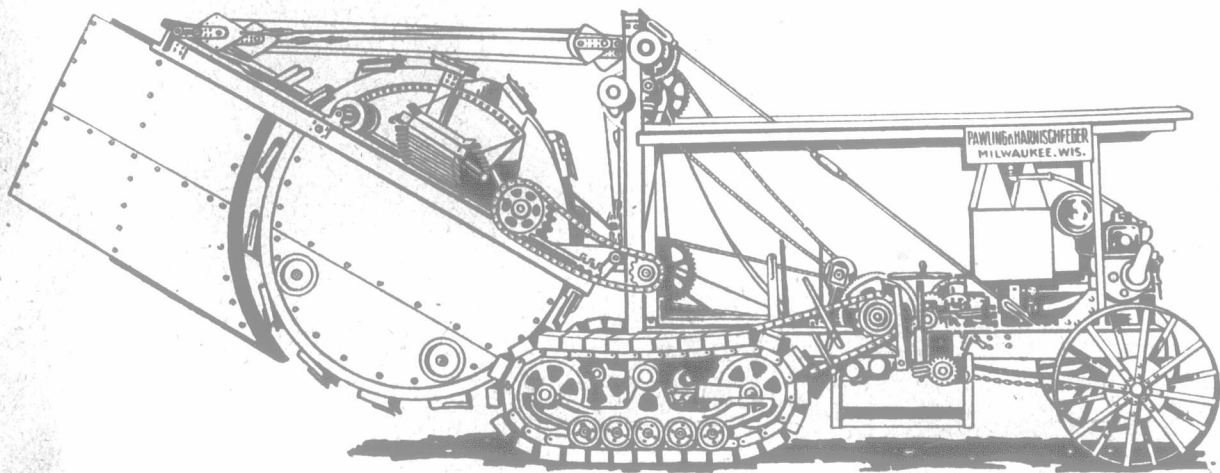
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often pay acreage. TI \$ to 24 inc distributor

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These will pass first prize and price R. R. No



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Power—of ample capacity to meet the most exacting demands for which the machine is built.

Traction—to ensure a firm, liberal footing and maximum tractive force.

Excavating Ability—to cut a clean, smooth trench under high speed economically and of proper grade."



Farm Drainage Excavator

The All-Steel Machine

has won its remarkable record for clean, efficient performance in the field because it has all these three things. It has power—power in reserve that forces it through the hard spots and over the soft places. Its famous Corduroy Grip Traction distributes its weight over so large a bearing surface that in swampy ground, the pressure per square foot

is less than 1,200 pounds. The power is transmitted from the motor to the excavating wheel without any loss, so that it cuts through the stiffest, heaviest soils, quickly and easily.

If you're not already familiar with this famous excavator, write now for our new booklet.

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About 40 Head of Pedigreed SHORTHORN CATTLE

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Gooseberries, Red and Yellow; Currants, Red, Black and White; Raspberries, Red, Purple and Yellow; Blackberries, Grape Vines, Strawberries, Rhubarb, Asparagus Roots, etc., etc.
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And How to Feed

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depend largely on how the crop is planted. Every skipped hill is a loss in time, fertilizer and soil. Every double wastes valuable seed. It means \$5 to \$50 per acre extra profit if all hills are planted, one piece in each. That is why

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often pay for themselves in one season on small acreage. They also plant straight, at right depth, 8 to 24 inches apart. With or without fertilizer your dealer to show you this Planter and write us for booklet, "100 Per Cent Potato Planting."

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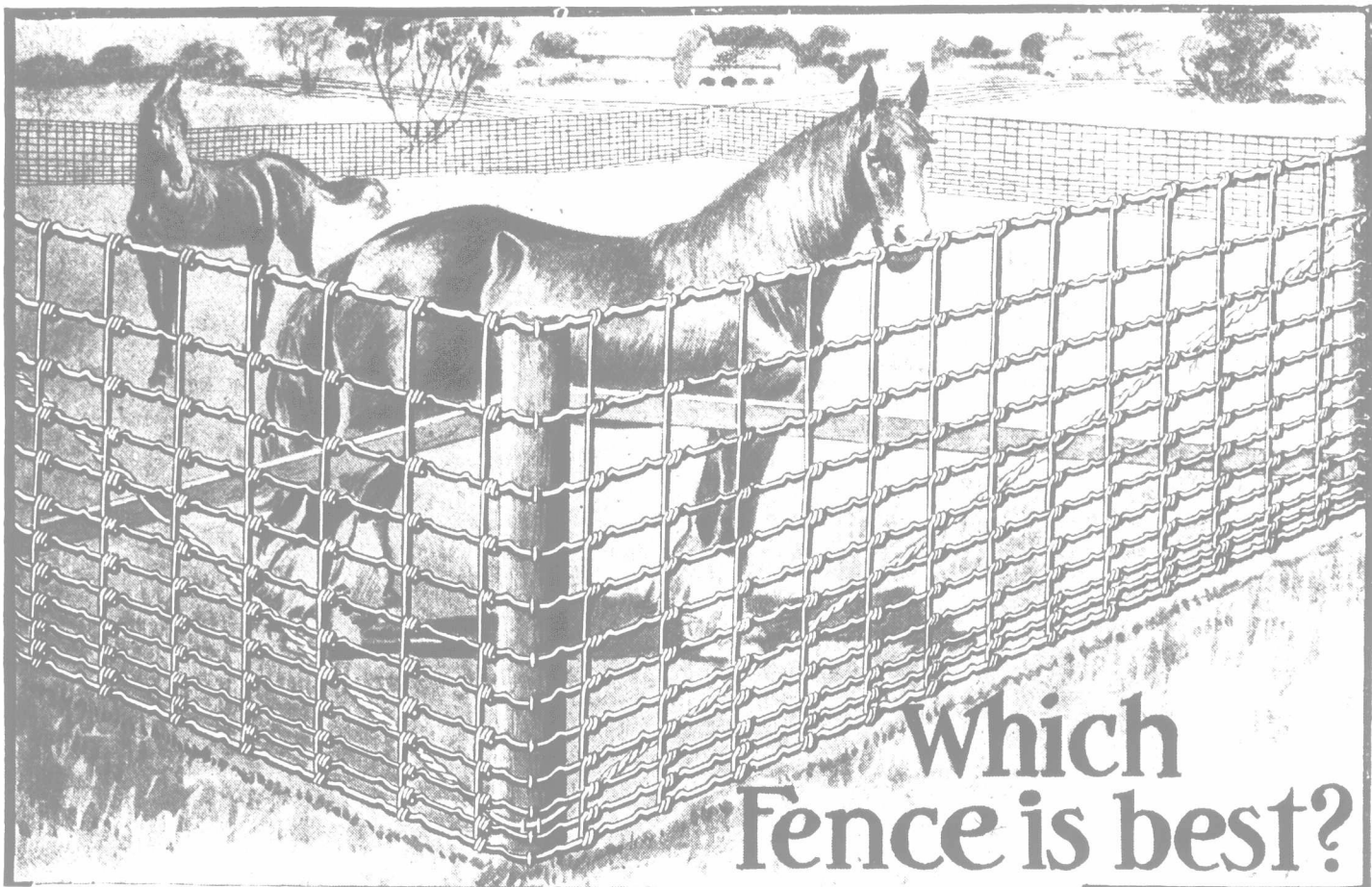
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