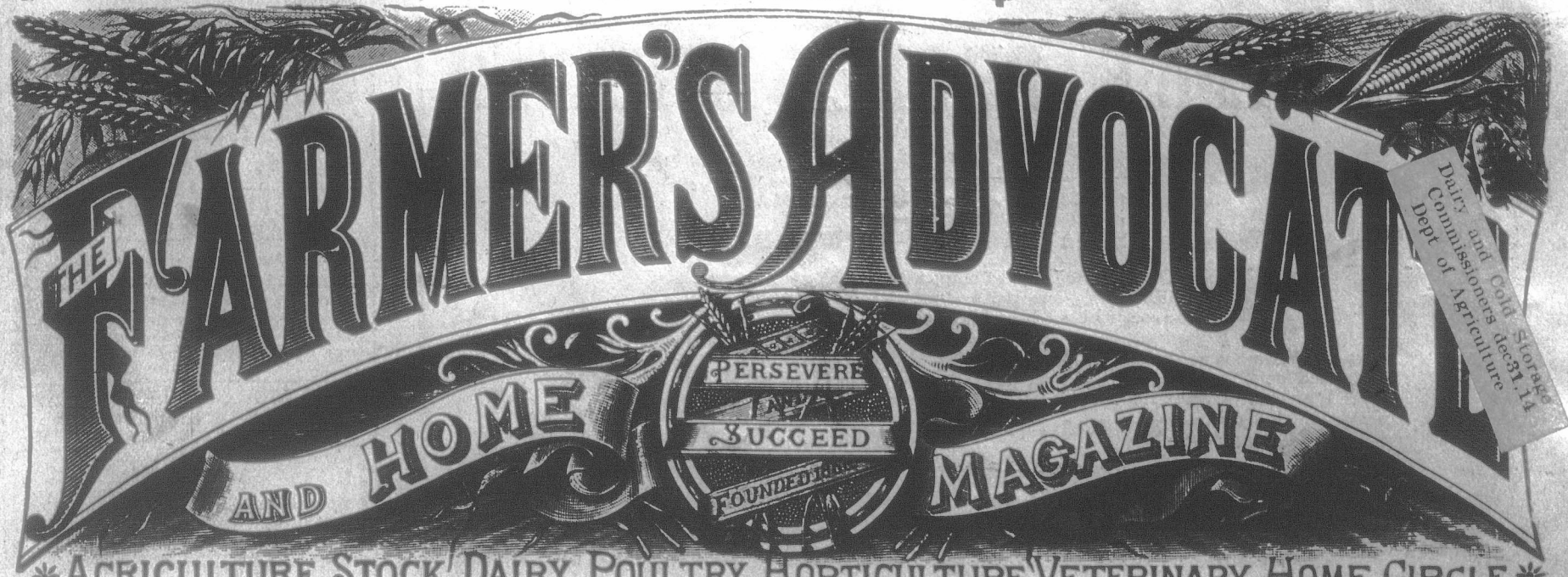


MARCH 19, 1914

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.



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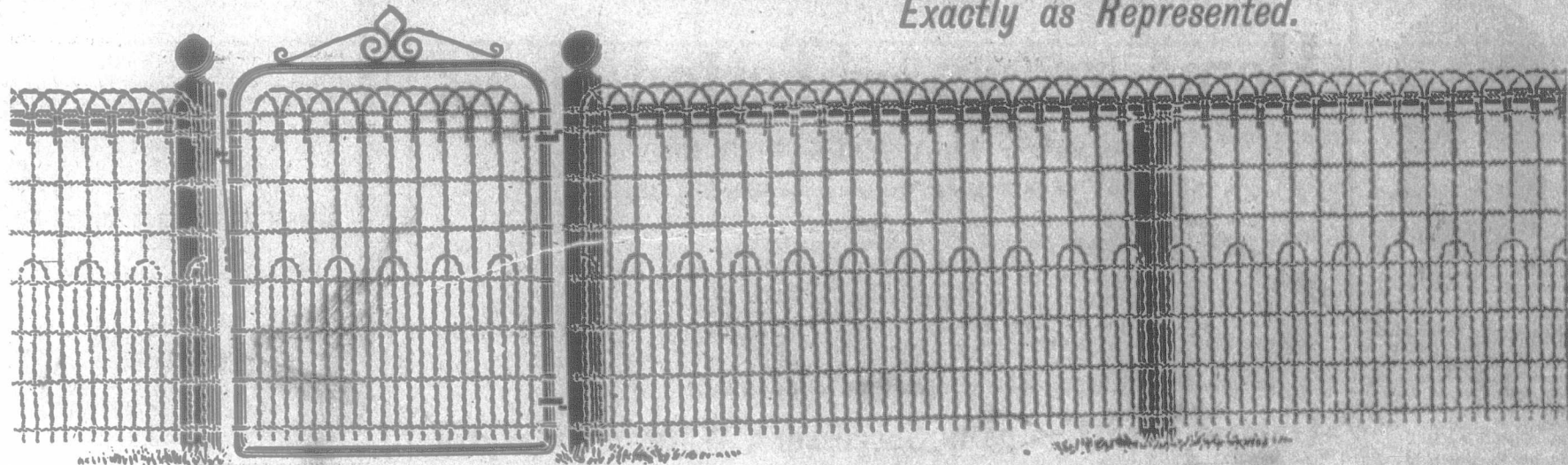
VOL. XLIX.

LONDON, ONTARIO, MARCH 26, 1914.

No. 1122

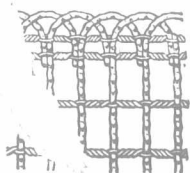
Frost Improved Lawn Fence

Exactly as Represented.



For Enclosing, Protecting and Beautifying Farm Lawns
and Other Private or Public Properties

FROST WOVEN LAWN FENCE is perfect in detail and in keeping with that high standard of good looks for which all Frost Fences and Gates have such a wide reputation. To insure the highest standard of quality, style and service, we have had manufactured, specially for us, a power driven, automatic machine, which produces a woven lawn fence that is much tighter, stiffer and better-looking. Horizontals are two No. 12 wires with three complete twists between each and every stay in top half of fence, which has a stay every $2\frac{7}{8}$ inches. Lower half has stays twice as close. At every stay the twist of the cable wires is reversed, thus giving the strand wires three complete twists in the opposite direction. This reverse twist at the stay prevents strands unwinding and fence becoming slack.



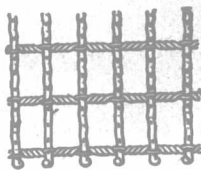
Even Picket Tops

The fabric is very closely and firmly machine-woven and durably finished both at top and bottom. The ends are doubled over and woven back into the top cables $2\frac{7}{8}$ inches apart.

Don't omit to mention your nearest railway station when sending for FREE quotations.

Galvanized Finish

This fence is galvanized, **not** painted, because we own and operate our own wire mills, which enables us to sell material which will take on a smooth and heavy coat of zinc and which will not peel when the cable wires are twisted, or crack on the stays when they are corrugated. Therefore, we market this fence in its original coat of galvanizing instead of dipping the finished rolls in a vat of paint to cover defective galvanizing. The substantial coat of galvanizing which we put on will outlast several coats of paint.

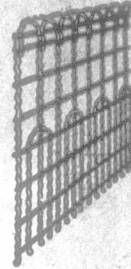


Extra Sharp Bottom Crimp

Lower ends of pickets projecting below bottom cable are alternately turned in and out (as in cut). This makes it impossible for the bottom cable to be pulled out of position.

Construction

This fence is easily erected on turned cedar posts, with ball tops at gates and ends and a 2 x 4 scantling along the top or with two-inch iron posts and pipe railing, which we supply.



Deep Crimp Pickets

The extra deep crimp adds greatly to the beauty, strength and tightness of the fence. The corrugation holds the cabled strand wires so pickets cannot work loose or out of shape.

Gates to Match

with galvanized frames and woven lawn filling. The bottom corners are made square to permit of the bottom strands of the fabric being secured to the frame, as well as lessening the size of the openings at these corners.

No other outside improvement shows up to quite as good advantage as a good looking lawn fence. Let us have a rough sketch of your lawn, showing the position you wish the fence to occupy, also location of gates, and we will be glad to let you know what the job will cost. Write for an attractive catalogue, showing all styles of woven and iron fences.

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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

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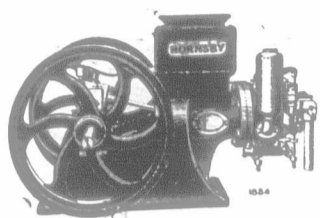
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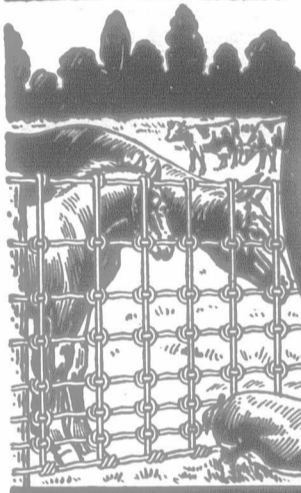
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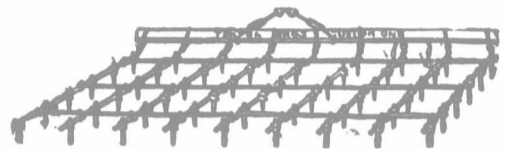
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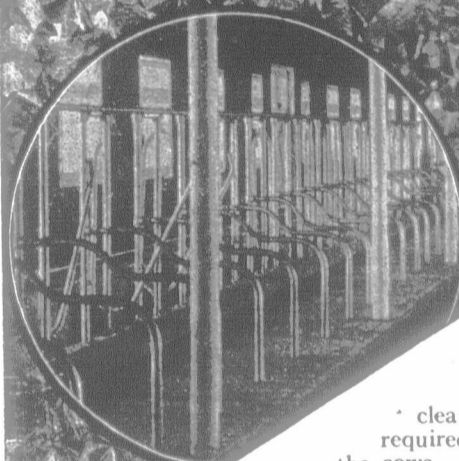
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BT Steel Cow Stalls are made of heaviest Standard 2-inch Steel Tubing the partitions being bent by machinery into a combination of neat curves. They are shipped ready to set up, from the factory, and are ten times easier and quicker to install than wood stabling—we send blue print plans and cross sections with full instructions, so a man and a boy can put up a whole stabling in two hours.

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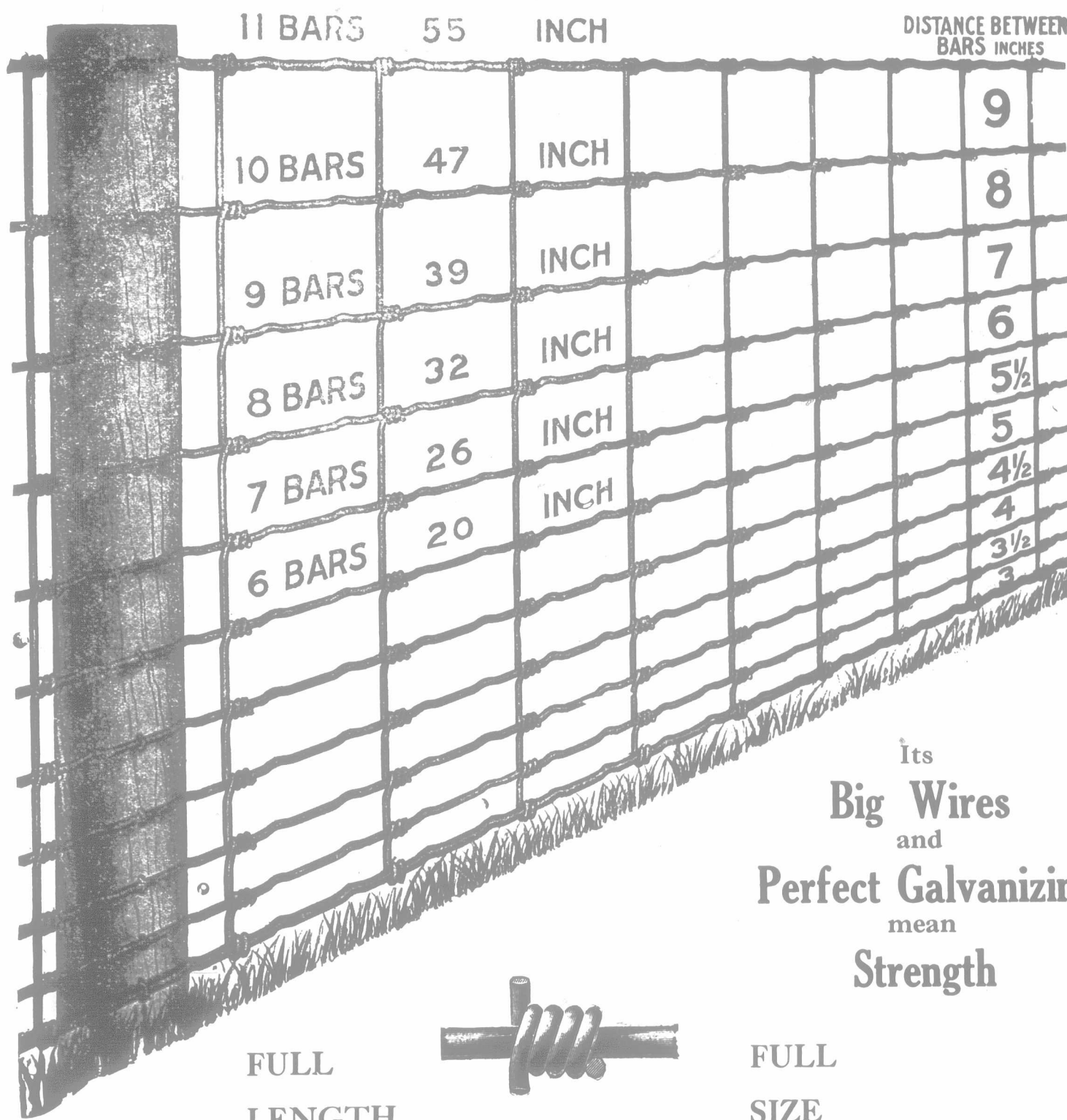
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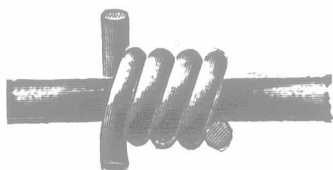
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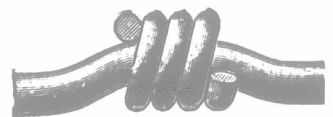


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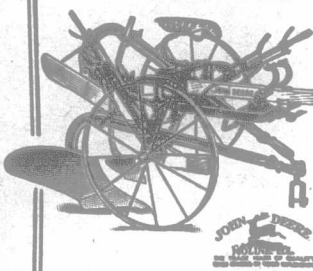
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Quality of material, workmanship, design, etc., mean satisfaction to the purchaser. You get all these when you buy a JOHN DEERE implement.

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NEW JOHN DEERE TWO-WAY PLOW



The Plow
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THIS is a very efficient plow, especially adapted to hillsides and irregular-shaped lands, but is useful in any kind of plowing.

Frame is made of wrought steel—strong and rigid. The axles, balls and wheels are all steel—castings are malleable iron.

Each plow is entirely independent of the other—has its own operating lever for adjusting depth and its own lifting device. Clevis shifts automatically.

The lift is done entirely by the team—the operator simply presses the lifting lug into the ratchet on the wheel with the foot, thereby leaving the hands free to manage the team.

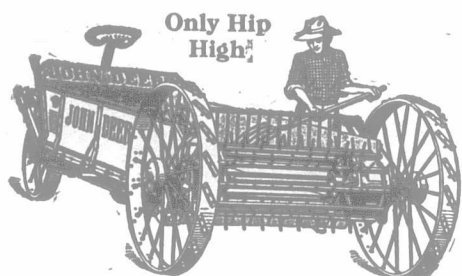


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PLOW

ON the Stag Sulky, wheel brackets are attached directly to the beam. This does away with a frame and makes the plow stiff, strong, but light and handy.

Hitch controls the plow perfectly, making a pole unnecessary.

The Stag is very light of draft, will not clog with trash, and does the highest grade of work. Any style bottom can be furnished.



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THE John Deere Spreader is a low-down spreader in which the advantage of big drive wheels is not sacrificed for the low-down feature.

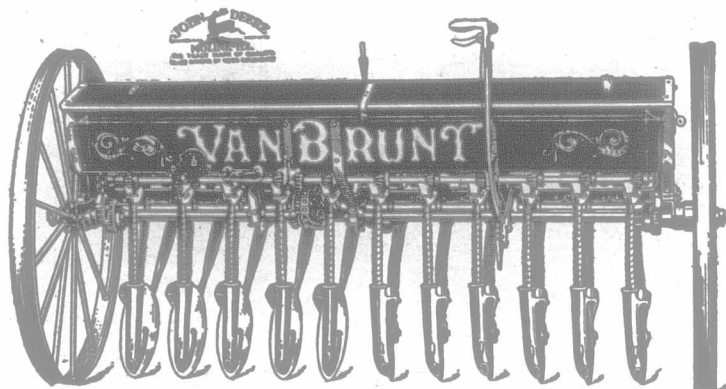
It is a spreader that is easy for your horses because it has these big drive wheels, together with roller bearings, few parts, the centre of the load comparatively near the horses, and evenly distributed over all four wheels.

There are no clutches to get out of order, no chains to give trouble, no adjustments necessary. Built with a steel frame, securely braced, strong and durable.

Only hip-high—easy to load. Each forkful is placed just where it is needed. You can always see into the spreader. Mounting the beater on the axle makes all these things possible in the John Deere Spreader.

IT WILL PAY YOU WHEN YOU BUY

VAN BRUNT FERTILIZER DRILL The Drill That Cannot Choke Up



VAN BRUNT Fertilizer Drills do such thorough work because they have adjustable gate force feeds. Both seed and fertilizer are forced from the hoppers. Amount of seed planted or fertilizer distributed is regulated by merely shifting feed gauge lever, and same amount passes through each tube into the ground. Each wheel drives half the feeds.

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Individually adjustable pressure springs force discs to make furrows of even depth in any kind of soil that can be seeded. Metal tubes protect seed until it reaches bottom of furrow.

The discs are of highest quality steel. Oil-tight bearings are

GRASS SEED ATTACHMENT.

This attachment can be furnished on any Van Brunt Drill. It is placed just ahead of the regular seed hopper and will either drill or sow broadcast, as desired.

guaranteed to last lifetime of drill. Only one oiling per quarter section is required. Spring steel scrapers keep discs absolutely clean at all times. There is never any clogging up with a Van Brunt Drill even in trashy soil.

LIGHT DRAFT

Van Brunt Fertilizer Drills are the lightest draft of any on the market, because they are the lightest weight, and most simple construction. The solid steel, frame, bridge trussed hopper, and bearings extending well under frame make the Van Brunt a Drill that lasts.

Van Brunt Drills have made their way by the way they are made.

JOHN DEERE MANURE SPREADER The Spreader with the Beater on the Axle.

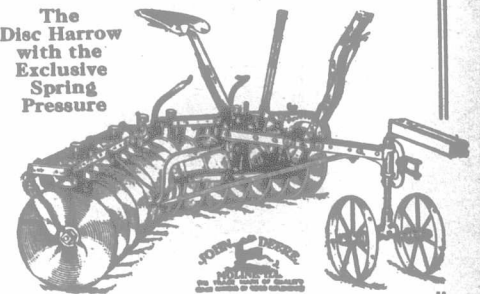


SPEIGHT ONTARIO
FARM WAGON

THE most careful attention is given to the construction of this wagon. Only well-seasoned, carefully selected material is used. Hubs are barrel-shaped—of large diameter. This prevents moisture from working in and rotting hub. It is strongly built throughout and very light draft.

JOHN DEERE MODEL "B" DISC HARROW

The
Disc Harrow
with the
Exclusive
Spring
Pressure



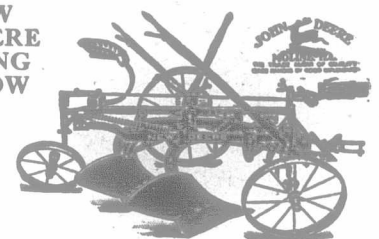
THE frame of the model "B" Disc Harrow is built of double steel bars. They are securely riveted together, and the entire machine will stand any strain it encounters.

Deere disc blades are made of highest quality steel, thoroughly polished on cutting side and ground to a sharp cutting edge.

Bearings are hard maple, oil-soaked, very durable and cheaper to replace.

The Model "B" Disc Harrow is the only spring-pressure and, therefore, the only flexible harrow built.

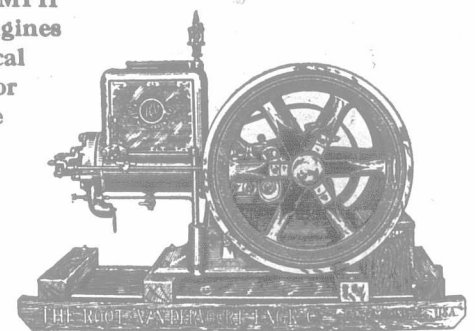
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Fig. 3

WAGON WATER TANKS (Fig. 3). Cover supported with angle steel. Fitted with man hole and outlet. Strong bulk heads.

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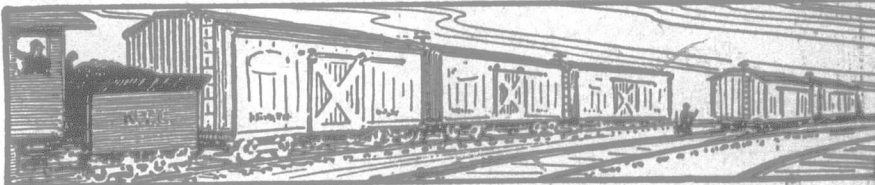
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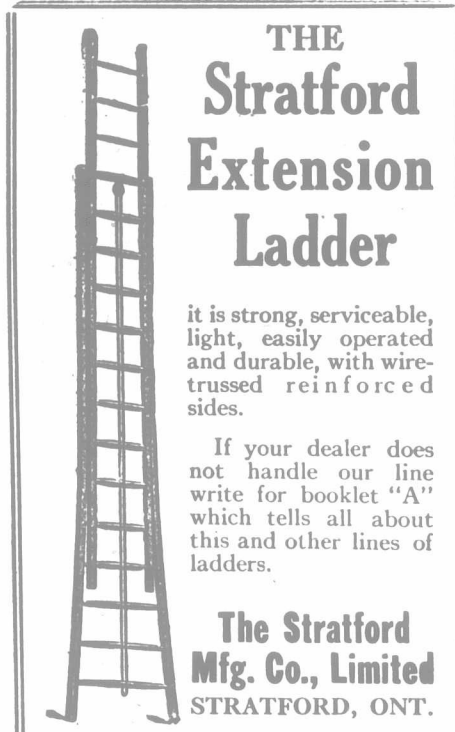
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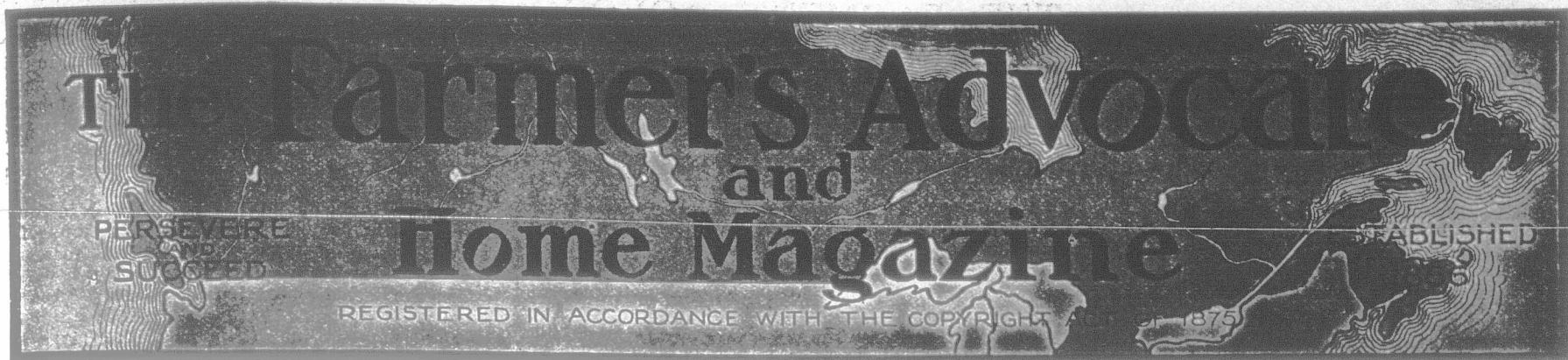
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VOL. XLIX.

LONDON, ONTARIO, MARCH 26, 1914.

No. 1122

EDITORIAL

Are you ready for Spring?

We have had some "lion" and some "lamb" in March.

One of the best investments is the purchase of a few choice garden seeds.

After a late spring snow flurry is a good time to sow the clover seed on winter wheat.

Good sires of some of the best-known breeds are very scarce this spring. Do not be induced to part with a good herd header unless you have a better one to fill his place.

It isn't time to plant seed corn, but it is time to buy the seed. The good seed is generally the first sold.

The farmer's busy season is at hand. Give our readers the benefit of your experience with the different methods of seeding employed.

Have the harrows sharpened, before commencing to use them. One stroke with a sharp harrow is often as good as two with dull teeth.

This is the season when good roads are most appreciated. Spring mudholes are usually the worst roads the year round. Mark their location and repair at road-work time.

A little gravel on that muddy lane would be appreciated at this season. Remember this next winter, when there is time to haul it. Good roads on the farm are as valuable as good public highways.

By using a milking machine, a subscriber in Middlesex County, Ontario, is able to increase his herd of cows by two-thirds with the same amount of labor. This means a great deal on his yearly net returns.

Clean, tidy surroundings add a great deal to the appearance and attractiveness of the farmstead. The women clean house each spring and the men could well afford to spend a little time in putting things in order in the yards and around the outside.

Plan to plant a few trees this year. The frequency with which we get strong and sometimes destructive winds, should be sufficient incentive, to say nothing of the added attractiveness of a place having trees well located for windbreaks and beauty.

If seed grain and seeding and tillage implements are ready to go on the land, many could profitably utilize a few days in pulling down some of the superfluous, tumble-down snake fences on the farm. Too many fences of any kind are a nuisance, and fence corners are a breeding ground for insects and noxious weeds.

Delays are Dangerous.

There is some excuse for tardiness in answering letters of the every-day, gossip type which friend writes friend, and even these should be attended to as promptly as possible, as friends are man's most valuable asset, but there is no excuse for the dilatoriness, and often almost culpable delay with which procrastinating people attend to their business correspondence. Day after day passes and the never-do-to-day-what-can-be-but-off-till-to-morrow-man finally forgets that he ever received a letter from so-and-so, or encourages himself to believe that "it is now too late to reply to that letter." This is, to say the least, not showing common courtesy to the first correspondent. He doesn't look upon it as innocent tardiness. He doesn't believe that the man to whom he wrote is "too busy to write." But he, after a reasonable time has elapsed and no reply has been forthcoming, concludes that his letter has been ignored, and that the party of the second part does not care to do business with him. It is almost an unpardonable offence against business principles to disregard a business letter, and yet it is so often done. The busy man on the farm seeks to excuse himself by hiding behind the great bulk of work he must attend to. He may work up a fairly good case for himself, but so often just a very few lines written in a few minutes after supper would answer an enquirer and in the end possibly make money for both parties concerned. A man may have had something for sale, and several enquiries may have come in after all the stock or produce has been disposed of. So often these late letters are left unanswered. Such action is a poor advertisement for the owner's business. Could he expect these enquirers to write him at a future date if he had like stock or produce for sale? No! Whereas a courteous line or two mailed immediately would gain the confidence of the man looking for this class of produce. Thousands upon thousands of dollars are lost annually through putting off the answering of business letters indefinitely, and the amount of worry and misunderstanding resulting from it cannot be measured. There is only one safe rule to follow—answer all business letters promptly, concisely and courteously. Delays are dangerous to your business.

A Sales Record Book.

A sales record book is one of the most valued books kept by many manufacturing establishments, and some of the most successful agents for farm implements and machinery keep such a book, which shows at a glance the date of every transaction together with sufficient data about the deal to bring everything back to the minds of those concerned. It is a simple "ready reckoner" of all transactions, and goes a long way in straightening out any differences which may arise or in tracing up all articles which have been sold. Most farmers are not bookkeepers, but the simple fact that they are not is scarcely sufficient reason for their neglecting what should be a valuable asset to their business. Whether or not a complete record of the year's operations on the farm is kept, there is one thing which should always be done and this is particularly true of the stock farm, and that is a concise record should be kept of all sales of pure-bred stock, giving the name, age and registration number of the animal disposed of, the sire and

dam of the animal, with the new owner's name and address, and the price received.

A small ruled book suitable for such a record could be purchased at small cost, and would prove a time and money saver almost every month in the year. It is often no easy matter to trace such transactions a year or two after they have happened, and all registration papers have been forwarded with the animals. How handy it would be to have a sales record book with all the necessary information at hand. This same feature could be extended to departments of farm activity other than pure-bred stock. For that matter all sales could be kept on record in such a manner. It is not advanced bookkeeping by any means, but it is a record system which tends to lead up to further work of a like nature. Try it.

It Must be Done.

"We used to grow good fruit and we never sprayed either"—Did you ever hear that statement wafted through the air on a spring day, when fruitmen are rinsing out the barrels and packing the pump, preparatory to spraying? We have, and it is a remarkable statement too, in that it is true and at the same time as ridiculous a remark as could be uttered at the present time unless it be uttered in a tone of regret that conditions have undergone such a change. The tone, however, is usually one of disgust at the ignorance and folly of anyone so unwitting as to spend time and money spraying their fruit trees. These remarks, deprecatory to the practice, have little weight for they come from the throats of those who are at least ten years behind the times.

In some districts, the results last year were not as favorable as should be hoped for but peculiar weather conditions during the season of 1913 and the closing season of 1912 produced phenomena unprecedented in the history of fruit growing. Yet in it all there was nothing to discourage the grower but incidents occurred that will prompt him to more diligence and thoroughness in the future. The onslaught of injurious insects has made the winter spray a highly profitable operation, as none of the most injurious kinds can withstand the winter spray and come out healthy in the spring.

From year to year, the value of preparedness has been demonstrated for one day's delay may bring inclement weather that will postpone or prevent altogether a necessary application. In the case of the bud moth spray and codling worm spray the proper and opportune time is limited to two or three days and in a few instances, last season, an intercepting Sunday handicapped the sprayers in getting the desired results. The outfit and material should always be in readiness. Another outstanding mistake is made in the neglect to thoroughly execute the job. There is no magic connected with the operation, whereby the pointing of a bamboo and nozzle at a tree and having a man or engine working fifty feet away is going to insure clean fruit. Results are brought about by applying the mixtures to the leaves, blossoms and every part of the tree. Four to six gallons is none too much for a full-grown tree, and when the grower once does the work thoroughly and applies the mixture ungrudgingly the results are usually so gratifying that he will increase rather than diminish the amount the succeeding year.

The Farmer's Advocate AND HOME MAGAZINE,

THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

PUBLISHED WEEKLY BY

THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

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

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

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THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

Broadcast or Drill.

Spring seeding each year brings up a point as to whether largest yields generally come from broadcasting or from drilling. Experiments have shown that on the average, taking into consideration early, late and medium seeding, that drilling has a little the advantage one year with another. It is generally conceded that in a dry season drilled grain stands a better chance than broadcasted grain. Of course, there is a little extra cultivation given generally where drilling is done. Most people nowadays who broadcast sow with an ordinary cultivator, having a seed box attachment and cultivate the seed in, whereas where the drill is used an extra stroke is given with this after the cultivator has finished its work.

In cases where the land works particularly well, is in good tilth, with a fine, dust mulch prepared on top, where there is no clogging and the tillage implements go through fairly well, and where the seed may be put into the ground early in the season, broadcasting often gives as good results as drilling, but as the season advances and some of the fields are being sown rather on the late side, we would advise holding fast to the drilling system. It takes a little longer perhaps to drill in the grain but generally pays in the long run, although as before stated, where the seed is in the ground early and the land is in first-class condition there are some points in favor of broadcasting, and there may not be very much difference in yields per acre. The main thing is to get the land in a good state of cultivation. It is not necessary on good, clean soil to work it to a very great depth, but whether broadcasting or drilling be sure that a good seed bed is prepared before the seed goes on, and, as so often advised through these columns, don't forget to use the drag harrow as much as possible.

Nature's Diary.

By A. B. Klugh, M.A.

THE PINES.

Of all the Canadian Pines the White Pine, (*Pinus strobus*) is undoubtedly THE PINE. This has been the chief timber tree of Canada, mainly because the wood is light, soft, close-grained and easily worked—the carpenter's delight.

It is a stately tree, one hundred to a hundred and twenty feet in height, with spreading, horizontal branches, in whorls of five. It is the only Eastern Pine with leaves in bundles of five, and ranges from Newfoundland to Manitoba.



Fig. 1.—Pollen-grain of pine, showing wings.

Clustered behind the new shoots are the staminate cones and from them in June, the pollen-grains descend like a shower of golden rain. The pistillate flowers show themselves in a cluster about the terminal bud, which keeps on growing, leaving them to ripen through two seasons, when at the end of the second summer they discharge their seeds. The Pines are adapted to wind pollination and wind dispersal. The pollen-grains have two wings (see Fig. 1) which help to maintain them in the air, and the seeds also are winged and are thus transported to considerable distances by the wind.

The buds on the crown of a baby Pine cluster at the top, a circle of five around the central bud. In spring the leader grows upward, and at its base five branches radiate. We can thus count the years of a sapling Pine by its whorls of branches. If anything happens to the terminal bud the trunk is maimed for life, as either one of the lateral buds will bend upwards and take the leader's place, or two will do so resulting in a forked trunk.

In the dense forest the lower branches die very early, thus giving a trunk which yields lumber free from big knots.

The great Pine forests of Canada seemed inexhaustible to the early settlers. But the avarice of lumber companies and the wilful blindness of politicians have squandered this vast, natural wealth.



Fig. 2.—Jack pines on rocky hill at Shawanaga River, Parry Sound District.

The Red Pine (*Pinus resinosa*) is a large tree from seventy-five to a hundred and twenty feet in height, with reddish bark and two needles in a bundle. It prefers dry sandy soil or rocky ridges, and ranges from Nova Scotia to Manitoba. It is often called Norway Pine, because an early Spanish explorer erroneously described it as identical with the variety of the Scotch Pine which grows in Norway.

The Jack Pine (*Pinus banksiana*) extends its range farther north than any other Pine, running, in the Mackenzie River region, almost up to the Arctic Circle. It also has a wide east and west range, extending from Nova Scotia to the Rockies. It grows only on barren ground, and along the north shore of Georgian Bay, it is found higher up the mountains than any other tree.

It is usually a rather low scraggly tree, but occasionally reaches a height of seventy feet.

The Pitch Pine (*Pinus rigida*) is a gnarled,

irregular, tree fifty to seventy-five feet in height, with a short trunk and rough branches. Its range is from New Brunswick to Ontario. While its wood is of little value, the tree is useful in another way—in holding sand dunes in place. It has a habit which is unique among the Pines—that of sending up suckers from its base.

The Silver Pine (*Pinus monticola*) is found in southern British Columbia, at elevations of from seven thousand to ten thousand feet, where it reaches a height of about ninety feet. The cones are twice the size of those of the White Pine.

The Limber Pine (*Pinus flexilis*) is a broad, stout-trunked tree, forty to seventy-five feet in height, which grows at altitudes of from seven to ten thousand feet in the Rocky mountains, where it is an important timber tree. Unlike most of the Pines it matures its seeds in one year. The staminate clusters are tinged with rose-color.

The White-bark Pine (*Pinus albicaulis*) keeps near the timber-line in the mountains of British Columbia, and is a low, shrubby, flat-topped species. One of these trees, three feet high and six inches in diameter was found to be 426 years old.

The Yellow Pine (*Pinus ponderosa*) is a spire-like tree with stout, short, horizontal branches, 100 to 230 feet in height and from five to eight feet in diameter. It is found in British Columbia where it is one of the main timber trees. It grows in a variety of situations but prefers deep well-drained soil on mountain slopes.

The Scrub Pine (*Pinus contorta*) is a stunted tree of exposed situations on the Pacific Coast.

The Lodge-pole Pine (*Pinus murrayana*) is a species which clothes the slopes of the mountains of Alberta and British Columbia. It is tall and slim, averaging about 5 inches in diameter and 50 feet in height, and forming a stand as thick as wheat in a field. The name Lodge-pole Pine was given to it because of the use to which it was put by the Indians. They also make a cake of the pounded and baked inner bark.

Hiring the Man.

The Farmer's Advocate has recently received several letters discussing what some call the hiring system on the farm, but the main point at issue, is whether or not farm hands should be hired by the month or for a term of six to eight months or by the year. Many men operating a comparatively small farm, require hired help during the summer months, but can, by doing a little extra labor themselves, or perhaps in some cases it is not necessary to do very much of this, manage during the winter. This class of farmer sees no advantage in hiring his man or men, as the case may be, by the year, in fact he thinks he would be money out of pocket by having to pay wages during the winter months when he had very little work for his men to do.

The man on the larger farm, requiring labor the year round, prefers to hire at least a part of his help for the entire twelve months, but he too, usually requires extra labor during the summer months and must depend upon short-term hired men or day labor. It would require considerable change in the farming system on many farms to warrant the hiring of men wholesale by the year. This paper has advocated that in so far as possible, the farmer should do so, that he would be greatly benefitted by getting his help for as long terms as possible, preferably the year and to do this it is necessary in many cases to provide a cottage for the laborer, seeing that the steadiest man is usually the married man.

Many new contracts between hired men and farmers are being made at this season and hundreds of men throughout the country will start work the first or fifteenth of April. Some have already commenced, but just now there are thousands of farmers looking for help and many men between whom negotiations are being carried on with a view to hiring. For the man who has not kept hired help by the year and who has done alone we believe it would pay in many cases if he would change his system of farming a little and endeavor, in so far as possible, to find work for his hired help in winter. The seventy-five or one-hundred acre farmer is in this class and he could very well increase his live stock, plan some teaming which might be done at a profit for the farm and several other odd jobs to keep the man over winter and if satisfactory he would then have him ready for a new contract another spring which would obviate a lot of trouble in the securing of hired help. The man on this size of farm would be safe if he worked it rightly to try this for at least one year. Once tried, we believe he would stick to it. Of course, it is necessary to find work for the man in winter but as a general thing the hired help does not expect as high pay in winter as in summer and by contracting for the year, a lower all-round wage would be possible and better satisfaction would result.

to all. Of course, there is a certain class of men who prefer to work by the day and these will generally find all the work they can do on the larger farms and on some of the very small farms, where the owners have not enough work for a man even by the month. These men on the small farms and those on the very large farms can profitably hire by the day. Of course, this only applies to extra summer labor for either of these classes of farm; the large farm must have considerable help the year round and of course, most proprietors try to hire their men under these conditions.

It is always advisable to have agreements drawn up and signed, and then there can be no misunderstandings between parties. It sometimes looks superfluous, but it is safer for both parties to the transaction if each man has a copy of his agreement. He knows just what is expected of him and there can be no disputes. Where it is possible to do so, the married man by the year is the man to hire, and where houses are not provided and single men hired, the farmer would do well to plan his work to keep these men winter and summer. Once a man is let go to the city for the winter, it is difficult to get him back to the country, and this has been responsible for a good deal of the dearth of farm help at the present time. Men have been hired for seven or eight months, and then turned loose and very often these men do not feel that they should be out of work all winter and leave for city factories, where work is available the year round, this very often to their own detriment and certainly to the detriment of agriculture in general.

THE HORSE.

The horses will take more salt while at the spring work. Keep a good supply before them at all times.

A steady gait in the fields accomplishes more in the end than sharp spurts and long rests and is easier on the horses.

Straw may be getting scarce at this season of the year, but even though some of the other stock is forced to put up with a scantier bed, give the working horses a liberal supply.

Keep the stable well ventilated during the spring season, but avoid direct drafts on the working animals. Colds often result from the raw night winds blowing directly on the sweaty coats of the tired animals.

Read the article in this issue on the care of the new-born foal. There is always something new to be learned about this subject and the most delicate animal which the farmer has to raise is, as a general thing, the foal.

When beginning the horses on the land, rest them at short intervals and lift the collars from off their shoulders and rub the shoulders down well with the hand. This removes sweat and dirt and goes a long way towards preventing ugly sores.

During the heavy work of spring seeding teamsters should remember that it is not good practice to give grain to over-tired animals as soon as they come into the stable. Give them a little hay at first, allow them to cool off and rest before feeding their grain ration.

This is the season when scratches are quite prevalent and many of the horses are noticed to stamp because of itchy legs. As a prevention with horses predisposed to this trouble, take a little time to dry the legs and fetlocks each night when they come to the stable.

Too much water, especially very cold water, given to an over-heated animal coming in from work, may produce colic or other digestive derangements. By all means, however, give the warm, tired horse a few swallows when coming in which will aid in cooling him off, moisten his parched mouth and throat and induce him to eat dry feed more readily.

Curing the Kicking Habit.

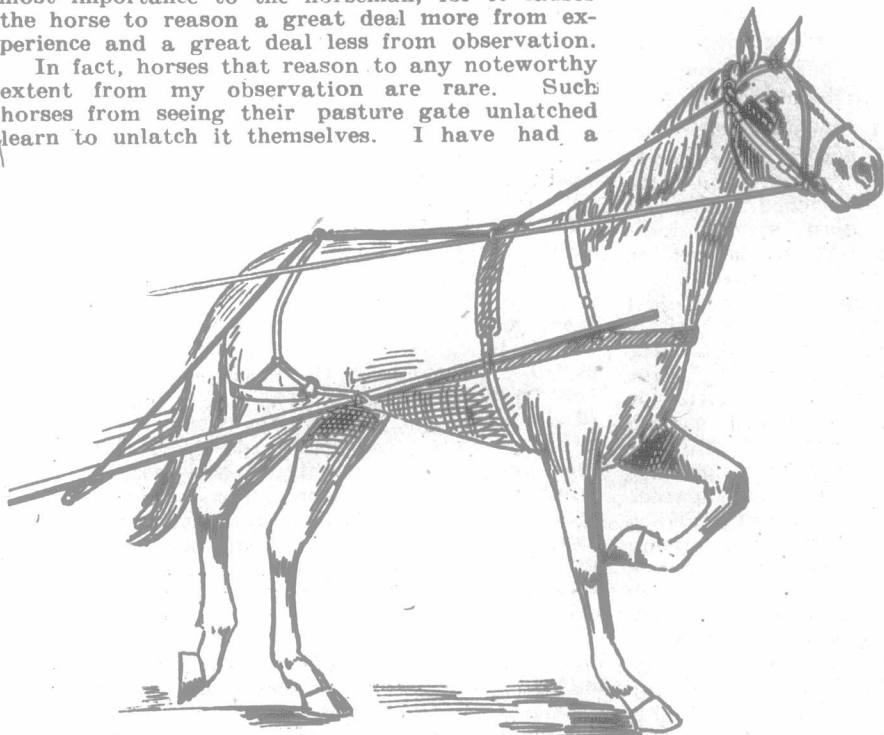
We have had several enquiries recently regarding kicking and switching in horses. The accompanying illustration and the article on the subject, written by W. H. Underwood, and published in "The Farmer's Advocate and Home Journal," of Winnipeg, Man., may prove of value in training young horses and curing kickers.

During the greater portion of my life it has fallen to my lot to have a great deal to do with horses. Some of the things I have been able to learn in this long schooling may be useful to

others. Every horse owner, however carefully he may select his stock, is certain to be confronted by emergencies which will try his patience and fortitude and in which, if he does not know just what to do, the horse will come off a winner.

The first essential in handling horses is to know the equine nature and its limitations. It has been shown pretty conclusively that the mind of the horse, like that of other animals, does not differ from that of man in kind but in degree. But the fact that it does differ a great deal in degree imposes a limitation that is of the utmost importance to the horseman, for it causes the horse to reason a great deal more from experience and a great deal less from observation.

In fact, horses that reason to any noteworthy extent from my observation are rare. Such horses from seeing their pasture gate unlatched learn to unlatch it themselves. I have had a



An Apparatus for Breaking a Kicking Horse.

horse that would not only do this but would also open the door of the feed room, pull out the slide in the grain chute with his teeth and help himself. These cases are unusual, however. The majority of horses see their pasture gate unlatched a thousand times without attempting to open it themselves, even though a simple thrust of the nose would do it. On the other hand, the little colt whose experiences in being halter-broken have taught him that he cannot break his halter rope, submits thereafter to being tied by a rope that he could easily break. Reasoning wholly by experience, he believes that a slender

without making the slightest progress toward breaking up the habit. If he realizes what he is being punished for—and it would seem in some cases as if he must—the punishment is still ineffectual, for he has learned by experience of his power to defy you, and as long as a horse realizes his power in any wrong direction he will not come to terms. The only way is to show him that it is in your power not only to handle him as if he were a toy, but to handle him very roughly, if you so desire. This must first be

shown in a general way, and then be applied to the particular habit that he may have contracted.

Let us now take what is generally and justly considered one of the worst of all vices—kicking in harness. The first lesson a kicker should have has no direct bearing upon the vice itself, but is simply an attempt at general subjection. There are few things that accomplish this purpose so well as laying a horse down a few times. The means that I have found entirely satisfactory are as follows:

Having first selected a suitable place where he will not hurt himself, put on him a bridle and surcingle and strap up his near forefoot with a breeching strap—the short loop around his foot between hoof and fetlock and the long one over the upper part of his leg. Fasten one end of a long strap to the off forefoot below the fetlock, pass the other one up through the surcingle and take it in your right hand, the bridle-rein being in your left. Push the horse sidewise and the moment he steps pull sharply on the strap. This will bring him to his knees. If he is a horse of any spirit he will generally make a valiant fight against this treatment, often springing high and plunging desperately, but, having the use of only his hind legs, he soon becomes wearied and rests with his knees on the ground. Now pull his head toward you and he will fall over the other way. By simply holding down his head he can be kept on the ground as long as desired.

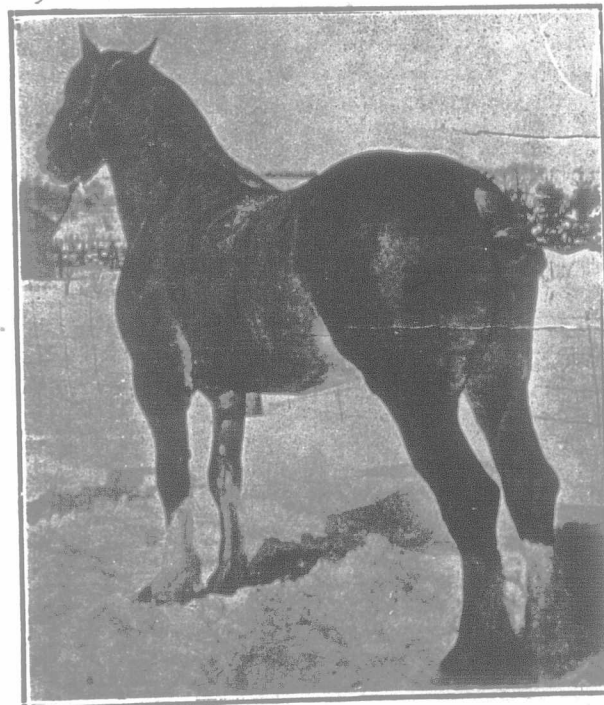
Though all this may sound very simple there is more to it than appears. If the horse be a large and strong one it will be wiser to have an assistant who may hold the horse's head by a long line attached to the bit while you handle only the foot strap.

After the horse has lain on the ground for a few minutes—long enough, say, to have taken in the situation fully—release the straps and let him get up. Then repeat the whole process several times until the horse ceases to make such resistance. By this time he will have lost much of his self-confidence—which is just what you have been working for—and will be in fit condition to be harnessed.

In harnessing proceed as follows:

Have ready a strap one and a half inches wide and eight inches long, with a ring sewed strongly into each end. Attach this firmly to the top of the bridle so that the rings shall hang just over the rosettes. Have an extra bit—a straight one, not jointed—in the horse's mouth. Fasten an iron ring securely to the back strap of the harness just where it is crossed by the strap that supports the breeching. Now take a firmly laid cord, about the thickness of your little finger, and tie one end round the off shaft just back of the crossbar, run the other end up through the ring on the back strap, forward through the off terret, thence through the ring above the off rosette, down through the off ring of the extra bit, over the horse's nose, through the near ring of the extra bit, up through the ring on the back strap and tie to the near shaft back of the crossbar, just as was done on the off side. Adjust so that the horse's head will be kept about where it would be held by an ordinary check-rein. Tie a string over the horse's bridle to where the cord passes over the horse's nose to keep it from slipping off.

With this device the horse cannot possibly kick, for every time that he attempts it his nose will be jerked up into the air in a way that has a very chastening effect upon him. The horse should be driven each day with this rigging on, seeing that he does his duty, but being quiet and gentle with him. After a time he will make no further attempt to kick. He should not be trusted too soon, however. Keep this rigging in use until you feel thoroughly sure of his reformation; then substitute a check-rein for it, formed



Bright Morn 2nd.

A great-grandson of Baron's Pride, owned by Norman Hisey, Stayner, Ont.

cord will hold him. But by some accident he some day breaks the rope; then if he fully realizes what he has done—which does not always occur—he has learned by experience a new thing, and will thereafter try the strength of every halter with which he is tied.

In breaking a horse of any vice it is necessary always to take advantage of the limitation in his mind that makes him reason almost wholly from experience, and to convince him that after all your will is superior to his and that he has no alternative but to obey you, and do so gently and quietly. In teaching him this lesson punishment has virtually no effect. Let us suppose that the horse has kicked a buggy to pieces. You may whip him as severely as you please

on exactly the same principle. I have never known this method to fail when applied as above suggested. Moreover, the cure is permanent.

Care of the New Born Foal.

As the season in which a large percentage of breeding mares will reproduce is approaching, it may not be considered unwise to discuss some of the precautions that should be observed, and the manner in which abnormalities should be treated, with the hopes that the discussion may be of some value to breeders that are beginners. In normal cases neither dam nor offspring requires any attention more than attention to comfort, and proper food and water, but abnormalities are of sufficiently frequent occurrence to make observance of precautions wise. Mares about to reproduce should be carefully watched. The attendant should be a careful man, who at least understands the normal procedure of the act, in order that he may be able to recognize an abnormality, and of course if he have a technical knowledge and ability to handle abnormalities all the better, but even though he should lack the latter knowledge and ability he will at least be in a position to procure skilled attention if necessary. He should be provided with certain accessories which he will be liable to require, and in some cases the time necessary to procure them when their use has not been anticipated, may mean the difference between a living and a dead foal. He should have a knife; a strong cord immersed in a bottle containing a 5 per cent. solution of carbolic acid or other disinfectant, with the string projecting beyond the cork in order that it may be secured promptly; another bottle containing a few ounces of strong disinfectant, as a solution of corrosive sublimate about 15 grams to 8 ounces water; a 10 per cent. solution of carbolic acid or other strong disinfectant. The writer prefers the first mentioned. He should have a 4 oz. syringe and if he has a general knowledge of obstetrics he should have some parturition instruments; a small strong rope, so spliced as to form a neat loop in one end; a few hooks etc. As stated, the mare should be closely watched. When labor pains commence the attendant should if possible keep out of sight of the mare, but at the same time so situated that he can see her. In most cases the presence of an attendant tends to excite the mare, but there are cases in which his presence appears to have a salutary effect and of course such cases should be treated accordingly. When the progress is normal of course it is unwise to interfere, but if labor pains be well marked and delivery is not progressing, or has progressed to a certain stage and then ceases, the attendant should endeavor to ascertain the cause, and if he have sufficient knowledge and skill to remove the obstruction to delivery he should do so, if not he must procure more skilled attention. While it is not wise to interfere too quickly, in other words "give nature reasonable time to operate," when extraneous interference is required it should be given promptly, as delay or unskilled interference may cost the life of the foetus and not unfrequently of the dam also, on the other hand, both may be very easy and occupy only a very few minutes in which case it is not uncommon for the foetus and membranes to be expelled together and in some cases the latter are not ruptured and unless they be cut or torn and the foetus exposed to the air immediately it will perish from suffocation. Instinct is supposed to teach the dam to rupture the membranes with her teeth in such cases, but the fact is, she is seldom prompt enough and the young thing perishes. The attendant should cut the membranes with his knife and remove them from the foetus. In such cases, and frequently in cases when the membranes are ruptured, but expelled with the foetus, they are still attached but by the navel or umbilical cord. Conditions are more favorable when the cord is broken during parturition, but where not it must be severed. The attendant now takes the cord that is in the solution in the bottle and ties it tightly around the navel cord about one inch from the abdomen and should sever it with a scraping motion of the knife about one inch below this. Whether the cord be broken during parturition or severed afterwards it should be dressed as soon as possible after birth and several times daily afterwards until it dries and heals. This precaution is wise as a prevention of joint or navel ill. The attendant should now remove the afterbirth from the stall and also remove all wet soiled bedding. Scatter slaked lime on the floor and supply fresh, clean bedding. If the foal be strong it will soon be able to get up and walk and most cases will nurse without interference. If the mare be cross with the foal it may be necessary to apply a twitch to induce her to allow the foal to nurse and it may be necessary to do this for several times. If she be normal with the foal, but vicious or cross with the attendant and the foal be smart, it is wise,

in most cases, to leave them alone. If the foal be weak and unable to help himself, when at most two hours old, the attendant should assist him to his feet and see that he gets nourishment, and this should be attended to hourly day and night, until he is able to rise and help himself. Care should be taken to observe that the excretions are normal. If the ineffectual attempts be made to void urine, or it be voided through the navel, a catheter should be passed in order to ascertain that the normal passage be not occluded and if it is the occlusion will be broken down by the catheter. If the contents of the bowels, which exist in dark brown or black balls of various sizes and densities (called the meconium) be not voided spontaneously within a few hours of birth, and especially if ineffectual attempts be made to void it, the attendant should, first trim or cut his finger nails, oil his forefinger and insert it carefully into the rectum and remove all of these lumps that he can reach and then, with the syringe inject into the rectum a few syringe fulls of equal parts of raw linseed oil and warm water or warm water with a little good toilet soap in it. This should be repeated every few hours until the excretions become yellowish in color. This treatment for what is called "Retention of the meconium" cannot be too firmly emphasized. The too common practice of administering laxative or purgative medicines in these cases, causes the death of many foals that could otherwise have been saved. The trouble is in the rectum. The meconium exists in lumps so large that the foal has not sufficient expulsion power to force them through the anus. Medicines given by the mouth have little or no action upon the contents of the rectum, hence by causing a greater or less fluidity of the contents of the anterior intestine but not removing the lumps from the rectum they simply complicate matters. In rare cases it is necessary to give laxatives, but in most cases the careful use of the finger and syringe as stated, will suffice and not in any way deplete the energy or strength of the patient.

WHIP.

LIVE STOCK.

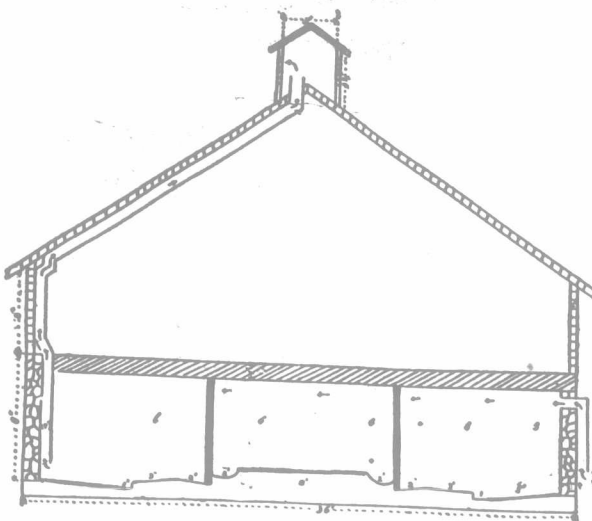
Ventilating the Piggery.

Editor "The Farmer's Advocate":

Referring to the two pig pen plans and descriptions of same in a recent number of the Advocate, I have to say that I think you had better keep on and tell us how to build a pen that will be dry in cold winter weather. Last fall I built a pen similar to your No. 1 pen. The ceiling was of inch lumber laid loosely on the joists. The building was double boarded on the outside of the frame with tar paper between. As soon as cold weather came, the whole inside of the pen was coated with frost. I have my own opinion as to what will have to be done to make my pen drier, but I would like to have you continue your article re pig pens and tell us how to build them properly.

Frontenac Co., Ont.

A. C. A.



A Good System.

The King System of ventilation as shown for a dairy barn or hog-house, from Productive Swine Husbandry, by Day.

These columns have always been devoted to the description of plans that are within the reach of the average farmer. Particularly have we tried to present the happy medium between the elaborate, palatial hog house, and the dark and filthy hovel so common on Canadian farms. Not only with us in Canada is this a fault, but in the hog raising districts of the United States, growers think that money invested in comfortable

quarters is thrown away, and the result is that millions of dollars' worth of swine fall a victim to diseases of a contagious nature. The soil is the natural habit of the hog and raisers should try and duplicate the light, abundance of good air and sanitary conditions that surrounded them in that state. The foregoing letter is a reminder of the general mistake made in the construction of farm buildings at the present time. The absence of ventilation and lack of light are too common to be pardonable but epidemics and diseases will, in time, bring our farmers to a realization of the fact and be instrumental in the construction of better buildings.

Regarding ventilation in the piggery nothing has ever been achieved that is universally satisfactory. If we might venture a suggestion in connection with our correspondent's letter, we would say that the lack of ventilation in the building is responsible for the frost accumulating on the walls. There is another improvement which might have been made in the construction of the building and that is to have used the studding to provide an air space between two layers of the wall. The best wall to exclude cold and insure dryness that we have seen or heard tell of is that recommended by Prof. J. H. Grisdale, of the Central Experimental Farm. It is constructed in the following manner—the inner side is of smooth or dressed lumber followed by one thickness of linofelt paper then will come the studding, an air space followed by two thicknesses of building paper overlaid with matched lumber and battings. This, of course, is a more expensive wall than one would wish to provide for a piggery, but the principles therein set forth are of use in studying the nature of a wall to insure dryness and the exclusion of cold.

Ventilation is a great help in preserving dryness, but it is difficult to secure it without sacrificing warmth to a certain extent, yet the pigs will be more comfortable where the ventilation is good rather than in stagnant warm air. In modern piggeries one idea is being put into practice and that is doing away with the ceiling and providing more air space in the building. This however, necessitates lining the inner side of the rafters with dressed lumber and increases the expense. The principle which must be worked out is to admit fresh air into the house and provide some exit for the stagnant and impure air. There are systems in vogue which provide this and usually it is a combination of the many which gives the best satisfaction. The Rutherford System allows for the inlet of air with an exit leading up from the ceiling of the building to an outlet at the top. The King System provides inlets with the outlet starting from near the ground going up the wall, up the side of the roof and opening at the ridge-board or peak. In their entirety they are somewhat expensive, but a cheap and inexpensive system might be provided as a modification of the two.

In the case of the King system, the inlets should start on the outside, enter near the ceiling and diffuse the air over the top of the pen. The outlet flues which might be four inches by eight inches should start near the bottom in order to collect and carry off the impure and stagnant air. The cupola or outlet at the top should be so arranged that snow or a downward current of air could not trouble in the outlet flues.

In the case of the Rutherford system, this flue instead of starting from the bottom of the pen opens at the ceiling and a current is generated upwards through this flue. The dimensions of this outlet flue in the Rutherford system should be somewhat larger than were described for the King system. We are inclined to believe that a ceiling made of small poles placed a few inches apart and covered with straw would control the moisture to a large extent. In this case, the straw should be removed yearly for it will become a harbor for insects and disease germs. In addition to this, it would be a simple operation to construct the flue upwards through the ceiling as described for the Rutherford system and as for inlets some cheap system or aperture might be constructed in the wall or a part of the sash of the window to act as a means of admitting pure air.

Where a feed cooker is installed in the building, the flue and the long pipes will provide a good circulation. If it is a small building, the stove should be at the opposite end of the building from the flue and the heat of the pipe going through the length of the building will generate an upward movement of air. Where the building is quite long, the stove might be situated in the centre of the building, in order to do away with the long length of pipe. A small outlet could be opened at the bottom of the flue and the draught up the chimney would insure sufficient suction to carry off the air and furnish a circulation throughout the building.

Our Scottish Letter.

The month of February was crowded with events affecting stock-breeding, each of which would easily form matter for a complete letter. The Spring Show of Clydesdale stallions was held at Glasgow, and of Shire horses in London; the great spring sales of Shorthorn, Aberdeen-Angus, Galloway, Highland and Ayrshire bulls are past and gone, and this week (the first in March) has witnessed the Hackney Show in London, an event of declining importance, on account of the advent of the motor car, or as you term it, the automobile. The Spring Show of Clydesdale stallions was certainly the best we have had for several years. Horses were of a weightier class, and some of them were quite outstanding in respect of draft character. In this respect the show was a decided improvement on some held in recent years. Perhaps the most marked deficiency from the standpoint of the foreign buyer and patron of the Clydesdale was the gaudy color of some of the best horses. To whatever cause it may be attributed the fact is undoubted that the colors and markings of Clydesdales are much less satisfactory than they used to be. Darley was a remarkably well-colored horse. There was a minimum of white markings on him altogether, and, as a rule, his sons were well-colored bays and browns with a minimum of objectionable white markings. His great compeer, Prince of Wales 673, was also a well-colored horse, but as both of his grandams were grey his progeny occasionally came rather unsatisfactory in that particular. This, however, did not happen often, and regard being had to the fact named, Prince of Wales could not be accused of doing the breed any injury in this respect of color and markings. The horse which really did damage in this respect was Lord Erskine 1744. He was himself colored rather like a Hereford, and he left his produce of diverse hues. As he was not unpopular as a sire, and many of his sons were retained as stallions, the breed in respect of coloring owed him not a little that could have been done without. The influence of Prince Robert 7135, although he was himself quite well marked, was also in this respect not good. His own brother, Prince Leopold, was of variegated hues, and their dam was a parti-colored mare. Prince Robert became a potent influence in the modern breed through his son Hiawatha 10067, and although he, too, can be classed as not unsatisfactory in color and markings, some of his progeny are not quite free from gaudy markings. Wherever a chestnut cross comes into a pedigree there is risk of ill coloring Clydesdales; not necessarily chestnuts but irregular white markings all over the place. Shires in this respect have been greatly improved. When we first visited the Shire Horse Show nearly 30 years ago colors were very varied. One found chestnuts, greys, sorrels, roans and blacks, as well as bays and browns, and there was little uniformity. This year we saw all the mares and fillies in the London Show, and with the exception of a few greys among the older mares, the colors—bays and browns, with an occasional black—were all that could be desired. The Shire men have certainly worked hard to improve their breed, and have a good deal to show for their labor.

But to return to the Stallion Show at Glasgow, the senior champion honors went to William Dunlop's Dunure Stephen, a popular son of Baron of Buchlyvie. He was unfortunately going lame, and the judges threw the responsibility of saying whether he should be placed or not upon the veterinary surgeons. As they had examined him thoroughly on the previous afternoon and found him sound, they declared the lameness to be only temporary, and the judges acted in accordance with this verdict. The Cawdor Cup, open to all ages, went to another of Mr. Dunlop's horses, Dunure Refiner, a two-year-old, got by the grand horse Dunure Footprint, which himself won in the aged class. Last year Dunure Refiner, which his breeder Robert Bryan, Orchardton, Curnnoch, exhibited successfully as Lord Bute, was first at the Stallion Show as a yearling. He was more or less successful all through the season. He is descended on the dam's side from the sometime champion mare Moss Ross 6203, thirty years ago the best Clydesdale mare on the road. Should Dunure Refiner grow and develop he will make a great horse. At present he is not very big, and it is not easy for the outsider—and especially the oversea buyer—who likes to see a champion horse matured, to follow intelligently an award which gives the supreme honors to a two-year-old colt. It ought to be mentioned that the two best old horses at the show, Dunure Footprint and Scotland Yet, respectively placed first and second in their class, have already both won the Cawdor Challenge Cup and were not eligible to compete for it a second time. Both district premiums of the Glasgow Agricultural Society were awarded to horses owned by Mr. Marshall, Stranmaer, Miltiades and Royal Daylight, as they

are named are a pair of grand, big horses with plenty of flat bone, good quality and weight. A curious fact in connection with the show is the position of Miltiades. When exhibited as a three-year-old he was disqualified on veterinary grounds. Now he is on the Register of the Board of Agriculture for Scotland, passed as sound by their veterinary inspector. To the average layman it appeals as very funny, and such incidents add strength to the skepticism of many breeders as to the value of veterinary examination for soundness in breeding horses.

The Hackney Show has fallen on evil days, and yet it is long since so many fine horses were exhibited at London as have been seen this week. The most successful sire of harness horses—that is horses shown in harness—was Mr. Robert Scott's Mathias 6273 at Thornhome, Carlisle, Scotland. A splendid lot of about a dozen horses and mares were shown after him, in leather, and the worst of the twelve was a good harness horse. In the final his representatives were defeated by a white-legged horse named Gay Boy, owned by Martinez de Hoz, an Argentine magnate who resides meanwhile in England. Gay Boy was bred in the Argentine, and is of prime Hackney pedigree. His action while very fine lacks the distinction of the action of the Mathias group, and Gay Boy was certainly lucky to take champion honors from his successful opponent of last year, Wm Phillip Smith's King of the Air. This is a beautiful mover, and his name indicates the character of his action. He moves with easy grace, and is only to be adversely criticised in respect perhaps that his action in front might be a little more uniform. In the produce group competition for harness horses Mathias swept the field—nothing facing the three chosen exhibits—King of the Air, Robert Black's Footprint, which won the novice class, and also his height in the open class, and A. W. Hickling's superb black horse Adbolton Black Prince, which won third in his class, and is

shipped direct from the Clyde. This is being done, and the northern breeders have reaped a rich harvest. The Aberdeen-Angus breeders have benefited from the policy of the Board of Agriculture for Scotland in awarding premiums to a large number of bulls to serve the cows of small holders. The result of a similar policy in Ireland has been of untold benefit, and there is every likelihood that like results will follow in Scotland when, in spite of the high standard of excellence attained by pedigree cattle, the common feeding cattle of the country could stand a deal of levelling up. The Ayrshire breeders are reaping the benefits of the farseeing labors of the late John Speir. He labored for years at endeavoring to foster the milk-record system among Ayrshire breeders; but for long as it appeared to little purpose. But at last he got the Highland and Agricultural Society to move in the matter, and bit by bit the ground was occupied until now there is a regular publicly controlled system recording milk yields, and farmers have learned that to get a good price for a bull they must have not only a good individual animal but also an authenticated and guaranteed milk record behind him. The result is that Ayrshire bulls to the tune of nearly 200 at Lanark this week have made an average of £18 apiece, and the top-price has been recorded as already named at £170.

SCOTLAND YET.

THE FARM.

**Farm Engineering.
PAINTS AND PAINTING.**

The coming of spring is a signal for painting everything, house, barn, fence and machinery. Not all paints are of equal value for this work. A paint for woodwork consists of some dry coloring material, a lead or zinc base, a drier and a vehicle or liquid. It is the vehicle which is often wrongly chosen, and in ready-mixed paints the vehicle is the part which is most likely to be adulterated. For outdoor work, except decorations, boiled oil is best. For indoor work linseed oil and turpentine are preferably used. A little drier, litharge for dark paints and sugar of lead for lighter paints, should be added to each batch of paint mixed.

Undoubtedly linseed oil paints are more expensive than others, but they are well worth the difference in price. This oil enables the paint to spread well, dry hard and opaque, and leave a protecting skin over the wood surface. If adulteration is practised with



Sittytton Favorite.

Winner of the junior calf class at the Canadian National, 1913.

quite one of the greatest harness horses on the road. Mathias is a son of the old London champion Ophelia, and another of her sons Hopwood Viceroy, also owned by Martinez de Hoz, for the second time won the stallion championship, while her direct descendants, Beckingham Lady Grace 18902 and Beckingham Lady Gracious 22388, were respectively champion and reserve champion female. Their sire was Beckingham Squire 8070, and their dams are mother and daughter. Beckingham Squire is a son of Polonius, another son of old Ophelia, and while Beckingham Squire won the Produce group for females, Polonius was reserve. The winner of Produce group for stallions was a horse named Admiral Crichton 9578, whose sons bred two firsts. We rather think he is also of Polonius breeding. Indeed without old Ophelia and her sons the modern Hackney would scarcely have any existence.

The bull trade this year in Scotland has been abnormally active. Increased averages were obtained in almost all breeds. The highest price for a Shorthorn was 710 guineas, for an Aberdeen-Angus 360 guineas, for an Ayrshire 170 guineas, and for a Galloway 50 guineas. The reason for the splendid Shorthorn trade is that while cases of foot and mouth disease are scheduled in both England and Ireland, Scotland is free and has been consistently free for years, and the Argentine Government have kept their ports open to Scots cattle, provided they are

either resin oils, mineral oils or fish oils, the paint will either remain sticky forever or will harden quickly, only to soften again in a week or ten days. Particularly should dark-colored paints be looked upon with suspicion unless purchased from a thoroughly reliable dealer, because such paints when cheap, usually contain only unrefined resin oils which soften up within two weeks of the first drying. They never harden again but always give trouble.

One of the best paints for roofs and machinery, yet not a very expensive one, is known as asphaltum varnish. It may be purchased ready for use, and when applied leaves a splendid-wearing, black surface which thoroughly protects the metal from rust.

Water paints as substitutes for oil paints are not altogether unknown on the farm, but the following is a good waterproof paint containing considerable water and thus being cheapened in price. Add half a pound of brown soap to a quart of water and dissolve by heating. To this add three quarts of boiled oil and about one-half an ounce of vitriol. Mix the coloring matter desired with one quart of turpentine and then add this to the paint. If needed, strain the finished paint through a fine sieve.

Almost any paint may be sprayed upon the surface to be coated if the paint is well thinned. Use any ordinary spraying apparatus. Probably whitewash is more commonly applied in this way

than any other coating. For fences and out-buildings this method means a great saving in time. Yet ordinary whitewash is not as economical as a cement whitewash. While the former requires frequent renewals, the cement wash often remains satisfactory following several years wear. The combination is best made in the following proportions: Mix together one peck of white lime, a peck and one-half of hydraulic cement, six pounds of umber and four of ochre. The lime is first slaked and mixed with two ounces of lampblack moistened with vinegar. Then add the other ingredients. Allow the paint to stand for three hours or longer, stirring frequently. The addition of half a pound of Venetian red renders the appearance more pleasing and adds to the value of the paint.

If ordinary whitewash is used at all, the addition while hot of a small amount of flour mixed with boiling water, will prevent the whitewash from rubbing off so readily.

For finishing interior work, varnishes are best to use. They give an extremely hard surface which protects the wood beneath, and they are easy to clean thoroughly. It is not advisable for anyone but an expert to attempt to mix them at home, for many good ones are on the market as well as plenty of worthless mixtures called varnishes. True varnish is a solution of resins or gums in some suitable liquid, such as alcohol or oil of turpentine mixed with linseed oil. Those in which alcohol acts as the solvent are spirit varnishes and are far inferior to the oil varnishes in many ways, chiefly because the alcohol evaporates entirely, leaving the varnish so hard as to easily crack and chip. The oil varnishes, on the other hand, should never get brittle.

Nova Scotia.

R. P. CLARKSON.

Rotation and Cultivation.

Editor "The Farmer's Advocate":

As the time is approaching when we as farmers will be once more turning our attention to the planting of the spring crops, a few words on the subject may be appropriate. To properly treat this subject it will be necessary to go back the full length of a rotation. Part of our farm being high land and part low land, we practice two separate rotations. The high land is not well suited to growing corn, the soil being too heavy, and on this we use a two-year rotation, consisting of wheat or oats and barley, seeded with red clover, and the next year cut for hay or pastured. Part of this is sown with fall wheat, the rest is plowed at a depth of six inches in the fall, and sown to oats and barley mixed the following spring. The land sown to wheat is well manured, but we do not manure the ground sown with oats and barley. It is our practice, as far as possible, however, to alternate these crops; that is the fields having wheat in the present rotation will have oats and barley in the next rotation. So that the land is manured once in four years.

On the low land we practice a three-year rotation consisting of oats, seeded with red clover, cut for hay or pastured the following year, and planted with corn and potatoes the next. The corn and potato ground is always manured, and this ground is plowed six inches deep in the fall preparatory to sowing with oats in the spring. These low lands are all tile drained, and I might just say in passing that the best oats in the field grow over these drains, and besides, we can get on the field to work much earlier in the spring, which also increases the yield of grain.

As to preparation of the seed bed, as soon as the land is fit to work it is gone over with the disc harrow or spring-tooth cultivator to loosen it up and let the air in to warm it and hasten drying. It is then usually left a day or two before further working, after which the ground is well stirred with the disc or cultivator or both and thoroughly pulverized by the frequent use of the drag harrow, this latter operation being considered very important as it leaves plenty of fine soil to cover the seed. The grain is sown with the drill and the ground immediately harrowed. About five days after sowing the grain clover seed is sown, and the ground harrowed again to cover the clover seed and break the crust if one has formed, and thus help to conserve moisture.

Norfolk Co., Ont.

H. S. AUSTIN.

A member of Parliament recently remarked on the public platform that he sold 2,100 pounds of apples to a canning factory, the labor connected with which would cost him \$8.00. In return he received five pecks of corn, valued at \$4.06 and a check for 14 cents. Since the exchange on the check would amount to 15 cents he still has it. This will be valuable information to take to the House of Commons, where men high in the legislative art of the country are saying "Educate the farmer to grow two blades of grass where only one grew before." The slogan should be "give him a chance" and make possible a market where he may economically, profitably and satisfactorily dispose of that extra blade of grass.

The Concrete Aggregate.

Editor "The Farmer's Advocate":

Before it is possible to have strong concrete there must be a clean aggregate. The aggregate, to the man who is not likely to be doing any great amount of concrete work, may be considered to mean everything in the concrete except the cement. Sand, in this sense, is also included instead of considering it to be part of the matrix. The aggregate proper is of crushed stone, gravel or cinders.

All things being considered it is possible to get a stronger concrete with crushed stone than it is with gravel, particularly when the stone dust, or "crusher run" as it is called, is left in. This being finer than sand and at the same time much harder is very useful in filling the voids. Stone is sold by the ton at an average price, in most towns, of one dollar and forty-five cents. For the most part one inch stone is the best for farm concrete. This means that the stone is small enough so that it will just pass through a one-inch ring. It is often the practice of dealers in builders' supplies to sell crushed stone with ordinary sand and dirt in it as crusher run stone. The easiest way for the inexperienced man to find out if this is so, is to wash some of the stone. Stone dust will not dissolve and will form into a sort of paste, while the dirt will simply wash away. The more dirt the weaker the concrete. Another little trick is to sell stone of a very inferior crushing strength to that of a stronger power. Some dealers are in actual ignorance of the crushing strength of their stone and, to the man not doing work on a large scale, it isn't necessary that the buyer should know their strength. This trick is hard to guard against, but striking the stone with a fairly heavy sledge will give a general idea. Stone of a high crushing strength will break into gritty fragments

the workers standing on the bench below. In doing this, care should be taken to make benches wide enough so that there is no danger of the bank falling. The surface in front of the workers should be spaded level. The idea is to keep pushing back the pit by layers, and to throw down in rough divisions the different gravel met with by the men at the screens. This is the common method used in most of the modern gravel pits, but in a pit from which the farmers are hauling and where there is not a man in charge, difficulty might arise. One or two men dipping into a pit anywhere at all, simply spoils the gravel pit for everyone using it. To ensure a good road into the pit, the gravel should be taken out in a circular formation. The circle-pit allows more room to turn, leaves a low grade to the road and is fairer to all using the pit. The principal thing to watch is not to dig into the bottom of the pit, because the gravel slumps far quicker.

In connection with the pit there is the screen work. Two screens, at least, are necessary; one for sand and one for gravel. These screens can be bought at any wire manufacturing or ornamental iron works. The price depends on the mesh and on the size. They should be about three feet by five. The sand screen should be one-quarter or one-eighth inch mesh, and the gravel of one-half inch. The wire should be mounted on a frame of two by fours, and have two supporting legs. Screens made out of light metal are the best, as they are strong and will not bend too much. These screens will average in price, about three dollars each.

Screening is not as simple as it looks, but with a little practice the inexperienced man will soon learn enough for his purpose. The screen is mounted on a board platform with a board built around the edge. The gravel is simply thrown

against the sloping screen and is caught as it falls by twisting the shovel. The gravel should be thrown against the screen at least twice. In fine sand work it will be necessary to use a screen finer than one-quarter inch. Putting fly-wire against the screen will help, although such sand is more useful in plastering than in concrete.

Gravel may be said to be of three kinds: screen, pea, and pit-run, or bank-run, named in order of commercial value. Pit-run is just as the gravel is taken from the pit without screening, and is not that gravel taken from a part of the pit in which there is a shelf of coarse gravel. It, therefore, has pea and small-screen gravel in it and is quite

satisfactory for all small farm concrete jobs, such as walks and floors if it is reasonably free from soft sand and dirt. It is not suitable for walls of any size. In getting out pit-gravel, care should be taken to see that the top soil does not fall down and that soil seams are avoided. It is well to remember that it is almost impossible to remove soil, once in, from this gravel. Pit-gravel is usually the best for drainage, if not too fine, and this applies to all uses because the more gritty particles in it, the better. It should be coarse enough so as not to pour through the closed fingers and is not advisable to use when there is more than five per cent. of soil in it. The finer the gravel and the more dirt, the more cement needed and the harder it is to get a proper wearing surface of smooth concrete.

The gravel left after the pit-gravel has been thrown against the coarser screen is known as "screen-gravel" and is worth about twice as much as pit, or about one dollar and a half a load of one and one-half yards. This gravel should be of different sizes which can be arranged by mixing the different pockets of gravel. The very large stones should not be used, because they will make holes in the walls. The less soil in it the better. Dirt can be removed by screening and by washing like stone, only it is much easier to wash. A slow stream, from a pump for instance, will do. Once the gravel is wet in the pit from rain, the dirt cannot be removed until



Mutual Confidence.

while weak stone will be ground to powder. Trap-rock and crushed granite are the two best stones but they are too costly to use anywhere, unless there is a great deal of traffic. Nearly all crushed stone is strong enough for farm concrete, except limestone. This should never be used, because the lime gradually affects the concrete. This stone can be recognized by throwing water upon the pile, thus causing the limestone to show white in comparison with the rest. Washing is the best way to remove loam from stone but, owing to the difficulty of doing this in the country where it is seldom possible to get proper pressure, this work should be done at the supply yard. The distance from the crusher renders the use of stone out of the question to most farmers and therefore the selection of gravel is of more importance.

Gravel concrete, while of only about seventy-five per cent. of the strength of stone concrete, is strong enough for all farm work, provided there are not too many large stones included. Gravel pits are of different depths but the best gravel is usually found at some distance below the ground level. It will be noticed that the gravel appears to run, in what is known to gravel pit men as "shelves" and the greatest care should be taken to preserve this formation and to prevent the sides caving in. This can be done by stripping back the top soil for a distance of several feet, before beginning to take out the gravel, and then cutting down a little at a time,

dry. It is of utmost importance to have this gravel clean. It is very important to have all gravel quite dry before attempting to screen. Next to stone, screen-gravel is the most important aggregate for concrete, and is safe to use in all walls etc. if the sand is also good. It is harder to use than pit, but makes a better job.

The gravel left after the screen has been taken out is sometimes sold as pit-gravel, but usually it is screened again, and is sold as sand and as pea. Pea-gravel is simply small-screen. Anything that will go through a half-inch screen and will not go through a smaller one is pea-gravel. Often the farmer finds it better to use this with the screen and the same method and use applies to it as to the larger gravel, but its chief use is to make a top or to be put anywhere that screen gravel would be too coarse. Where a smooth top is not desired it is often better to simply mix it with the other gravel. It is worth about one dollar seventy-five a load in the pit. Gravel is usually sold by one and one-half yard loads.

Sand is of the greatest importance. It should be screened several times to remove all foreign dirt. Good sand is "sharp" that is, gritty to the touch and is of a brownish color. Soil can be noticed by taking the sand in the fingers and rubbing briskly. The soft sand and dirt will rub to pieces, while the good sand will remain. Soft sand is recognized by its whitish color and by the fact that it becomes hotter in the sun, on account of its color and its greater packing power. In looking at good screen sand through a glass, it will be noticed that the grains are of an angular shape and that the different grains will appear to sparkle. It is impossible to work in poor sand and thus get a good finish. Money spent on good sand is saved on the cement. Shore sand is not, as a rule, suitable for concrete work, although there are places where the shore sand is suitable if screened. Pea-stone and stone-dust are also in the aggregate class, but are too expensive for ordinary use and are not always easy to get. They are used in places where it is necessary to get a brilliant polish, such as in verandah posts.

Cinders are not used as much for an aggregate as formerly, but are satisfactory for certain classes of work, although they are not suitable for walls, because they break up in the concrete and will not stand weight. It is, however, of use in fireproofing work. It is not used to any extent on the farm. If used at all cinders should be black and free from ashes. Gas house cinders are the best, and are worth about fifty cents a load. In point of strength, cinder concrete is the least valuable of all.

Sandstone, slag-slate etc. are poor concrete aggregates. It is better to use limestone than any of these, although it is much better to use gravel than this. If it is possible to get it, quartz gravel is the best to be had.

There are many different brands of good cement on the market and the man using concrete for the first time is safe in taking any established brand, but the selection of the aggregate depends mainly on the farmer himself. The material is often at hand but it must be prepared for use. Most of the failures in concrete work are caused by poor aggregates, and if the farmer would succeed in concrete work he must use care in their selection.

CHAS. L. PITTS.
York Co., Ont.

Free Drainage Surveys.

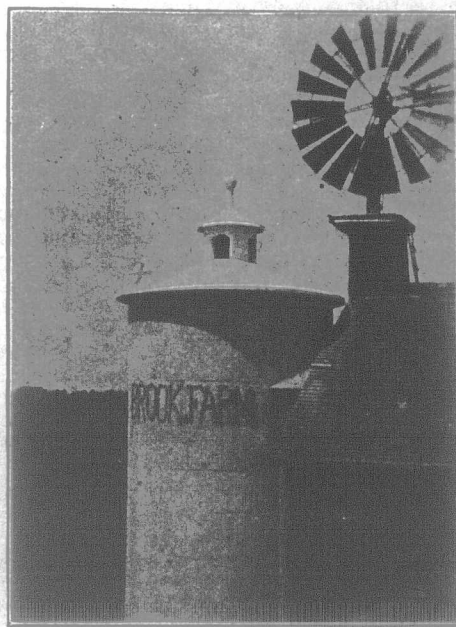
Have you a field on your place that is too "wet, cold and sour"? Drainage will reclaim it and make it one of the best fields on the farm. Drainage does four things. First it removes the surplus water and makes it possible to cultivate and seed about three weeks earlier in the spring than on the same land when undrained. Secondly it makes the land from ten to fifteen degrees warmer than if not drained, and this warmth germinates the seed properly and gives a good stand of grain. Thirdly, it lets plenty of air down to the roots of the plants, which is necessary for satisfactory growth. Fourthly, it makes the soil more porous, and this in turn causes the soil to store up more water for the use of the crops in time of drouth. Frequently the increase of crop in one year pays for the drainage, and seldom or never does it take longer than three years, so that drainage pays from 33 per cent. to 100 per cent. per annum on the money invested. Have you difficulties in drainage? The Department of Physics of the Ontario Agricultural College will assist you on application. They will make you a complete survey of the area to be drained, or run a single line of drain, and when done furnish you with a finished map showing location of drains, grades, sizes of tile, etc.—a detailed guide for the thorough drainage of the land in question. No charge is made for the services of the drainage advisers, nor for the maps, only the applicant pays the travelling ex-

penses in connection with his survey, amounting usually to not more than a couple of dollars. Drop a card to the Department of Physics, O.A.C. Guelph for the regular application form.

A Cement-Roofed Silo.

Editor "The Farmer's Advocate":

Having noticed considerable lately in your paper relating to silos and silo construction, I herewith send you a snapshot of one of our silos erected during the summer of 1912. It is built entirely of concrete, roof and all. We used the gravel from our own farm, building it ourselves, drawing the gravel as we used it, or at least not more than three or four loads at one single time. By so doing the gravel was always handy to the platform. We used wood forms that I had made five years ago in building a silo at another barn. The inside dimensions of this silo are 13 feet by 41 feet, the wall is six inches thick, plastered on the inside, and well whitewashed on outside with lime and cement. It is reinforced well with wire, the foundation (the vital part in all building) being well below



A Cement-roofed Silo.

Erected on Mr. Armstrong's farm at a cash outlay of \$140.

the frost line and free from water. The roof and cupola are well reinforced, and are constructed in such a manner that it is quite safe to walk around the lower edge to attach the pulley to draw up the blower pipe; pipe enters from roof. Regarding the cost, in the first place we are simply farmers not mechanics or builders, but I might say we have a "knack of doing things." Practically our only outlay was 40 barrels of cement at \$1.60, is \$64.00. Two young lads aged fourteen and eighteen years respectively and myself did the entire building, including hauling of gravel, construction of scaffold and completion of building, except outside whitewashing (which I did last summer) in less than ten days at a cost of say \$70.00. I scaffolded on the inside and used a horse to draw up forms. The material used in scaffold was all old stuff and of not much value.

Labor	\$70
Cement	64
Incidentals	6
Total	\$140

Perth Co., Ont. H. J. ARMSTRONG.

Rural Depopulation: Its Cause and Cure.

Editor "The Farmer's Advocate":

Much has been written recently about rural depopulation in Eastern Canada, and especially Ontario. In the last twenty years rural Ontario lost over one hundred thousand people, and many have naturally been enquiring the reason for this depletion.

Many and varied are the reasons given, but it is only by a study of the fundamental causes that we can get the correct viewpoint. That there are fundamental causes there can be no doubt. For the fact is that rural depopulation is not confined to Eastern Canada, but is taking place in such diverse countries as Great Britain, France, Germany, Belgium,—thickly settled countries—and also in sparsely populated regions like the United States, Canada and Australia. Such a world-wide movement of population, must have tremendous forces back of it. The nature of these forces is not obscure, and can be determined readily enough by a study of our own conditions in Ontario.

We find in the Bureau of Industries report for 1911 a table giving the rural population in

Ontario for each year from 1872 to 1911. From that table we see that the year 1886 is the high-water mark for rural population in Ontario. Previous to that year it steadily increased, and from 1886 onwards it has declined.

What causes mark the year 1886 as the turning point in the tide of rural population in this province? Simply these two: First, the general adoption of labor-saving farm machinery about this time; and second, the completion of the Canadian Pacific Railway. The gang-plow, the horse-fork, the sulky-rake, and greatest of all, the self-binder came into general use at this time. True, the binder was used before this, but not until 1883 did the use of twine in place of wire begin. From about the same time also we date the adoption of the silo, cream-separator, hay-loader, potato-digger, manure-spreader and farm motor.

The introduction of labor-saving machinery caused great changes. To quote from the Bureau of Industries report for 1886: "The marvellously rapid development of machinery in agricultural operations in recent years has in part wrought a revolution in the matter of farm labor. Each of these reapers dispenses with the labor of four men, at what in former times was the season of the farmer's greatest need."

It was fortunate for the farm laborers who were displaced by the introduction of machinery that new fields of work were open to them on the plains of the Northwest. Instead of remaining at home in Ontario and attempting to secure employment by the hopeless method of underbidding machinery, the one-time laborers and their children are now using the same kind of machinery on their own Western farms.

Many of our farmers have gone westward also. But it is important to notice that they have gone chiefly from our smaller farms. In spite of depopulation the number of farm over 100 acres has steadily increased. The small farms show a large decrease. Under the farm machinery regime small farms became uneconomical. The amount of capital required for machinery, horses and buildings was too great for the amount of land worked, and the competition of cheap Western lands had to be met. So the small farm had to go, and will only return where the adoption of intensive cultivation makes it possible.

Women have left our rural districts in larger numbers than the men. In rural Ontario there are to-day eighty-six thousand fewer women than men. Our farm women have also been displaced by machinery. Dairying and other work formerly done by women on the farm is now done in factories.—But while men have had their labor lightened by new inventions the women have received as yet very little benefit from them. Scarcely two per cent. of Ontario farm homes are equipped with a piped water supply, one of the most necessary things for women's work. With such conditions of living, and wages for female help on the farm in 1885 at \$1.50 per week, is it any wonder that the girls began to leave for the town? To-day female help is practically unobtainable and male help of the right sort very scarce. They will remain so until present conditions of living are bettered.

The town dweller naturally saddles on the farmer the responsibility for the present high price of food. The truth of the matter is that the farmer is not responsible. For while rural population has decreased, the farm production of Ontario has increased. Since 1885 the value of live stock has doubled. The Bureau of Industries reports show large increases in numbers of all classes of live stock except sheep. It is true that in recent years the number of milch cows has decreased in response to high prices for beef, but that is owing to the culling out of the poorer cows. According to Mr. Ruddick, the total production of milk in Ontario has increased steadily. The average yield of grain is better now than thirty years ago. Fall wheat shows an increase of 3.7, spring wheat 2.2, barley 4.7, oats two bushels per acre.

The fact is that Ontario farmers have done remarkably well under the changed conditions. Supply and demand regulate prices. The supply is larger than formerly, as we have shown, but the demand has increased out of all proportion.

The reason for high prices lies in the tremendous urban growth which has taken place. Our immigration is largely responsible for it. Taking Canada as a whole, in the last census period we have added, chiefly by immigration nearly two millions to a population of five and a third millions. Of this two millions of an increase only thirty per cent. has been added to the rural population, while seventy per cent. has gone to swell urban growth. High prices for food naturally follow, and if the movement continues prices must go still higher.

Of course, high prices for farm products will induce a re-population of our rural districts. In fact such a movement has already started near our best Ontario markets. Economic forces brought about depopulation, and economic forces will now give back the people to a depleted countryside. The forces which have caused depopulation have apparently spent their force, and an increase in the rural population of Ontario

will be recorded at the next census. But no great decrease in food prices need be expected on that account. The increase of our flocks and herds and of production per acre is a slow process—not the work of a day or of a season. The cities have prospered at the expense of the rural districts in many ways, but now the consequences are returning upon the head of the town dweller, and he must pay the piper in increased prices for farm products.

Agriculture is now coming into its own. In the prospect of continued high prices for the products of the farm we see its salvation. How else can it be accomplished? The profits in agriculture in recent times have never been commensurate with the capital or the work involved. Farmers have not been able to pay wages attractive enough to compete with city industries. With insufficient help they have been unable to apply scientific farming methods. Higher prices for their produce, providing more just remuneration and better conditions of living for the farming population is the only solution. It is the logical outcome of the present situation, and will result in the final elevation of agriculture to the position it should occupy as the premier industry.

Nature will surely restore the balance of population, but we must do our part. By organization a just share of the increased profits will go to the farmer instead of the middleman. By proper education an educated leadership will be saved for rural life. By bettering conditions of living in farm homes we can do more towards populating the countryside than in any other way. Our farm women have struggled against needless inconvenience too long, with the result that the birthrate is lower in the country than in the towns. Better roads will be a big help also.

As these means of betterment become increasingly effective, rural, social and religious life will be regenerated of itself. The rural church will become galvanized with new life, and all the old recreational activities of the countryside will return in new forms. These things are of the people themselves; they cannot be created by extraneous aid, however well meant.

Regrets on account of the past depopulation of our fair and fertile fields are natural but useless. Depopulation was inevitable. But we can now go forward with the conviction that the pendulum is swinging to the farmer's side, and that the future will see rural Ontario once more "A land of labor but of sure reward."

Wellington Co., Ont.

S. H. HOPKINS.

In the Sugar Bush.

When arrangements were being made for tapping the maples and making syrup, I tried to make it clear to everyone concerned that I should have nothing to do with the enterprise. They could go ahead, go as far as they liked, but they need not look to me for any help. I had other things to do, and plenty of them, and I had found by experience that I could not make money at the work. That was the way I talked, but I guess it is the old case of the moth and the candle—the unexpected happening—and that sort of thing. Though I have no interest in the sugar-making that is in progress I might just as well have been one of the partners. I have to do all the messages to town for them, do most of the chores when there is a rush on, and a couple of times I had to go to the bush to help out. But as I made no business arrangements I must take my pay in the form of enjoyment. I can enjoy the delights of the

sugar-bush in the spring, drink all the fresh sap I want, sample the hot syrup and have it cold with pancakes. I also get exercise, and as I am entirely without responsibility in the matter I guess I am not faring so badly. After all, the responsibility for work, seeing that it is done at the right time and done properly—is really the wearing thing about it. Anyone can do the work, but the managing requires thought and judgment. Under the present arrangement I am entirely care-free, and even though I have to help a little I guess I need not complain.

One experience was so much in the pioneer fashion that I am glad I had it, even though I grumbled some at the time. The boys wanted to go to a moving picture show in the village, and as might be expected, the performance was given on the one night when an extra run of sap made it necessary to boil in after dark, in order to catch up with the flow of the two hundred and sixty trees that had been tapped. As the boys do not get a chance to see the "movies" very often I agreed to take their place in the woods and help the other partner to finish the boiling in. It was sunset when I started, and after struggling through two ploughed fields in an effort to take a short cut I arrived at the base of operations in fairly good condition. It was a glorious sugar-weather evening, with everything except the mud soothing and inspiring. The red sun went down behind a grating of distant woods, and a haze of tender lavender overspread the sky until the stars began to come out. As the sap was almost boiled in and the back-logs were hot there was very little to do in the way of firing, so we sat around and talked while the shadows began to gather and dance away from the little flames that would spurt up whenever a blazing stick broke or fell into the fire. While gazing at the glowing coals which seem to have a strange fascination for all of us, I remembered an ingenious editorial by Arthur Brisbane, in which he demonstrated most logically that all civilization could be traced back to a group of savages sitting around a fire that had perhaps been started by a flash of lightning. The first step towards civilization began when one of these savages hit on the bright idea of throwing a stick on the fire so as to keep it burning. If I am not mistaken he reasoned that the one who threw on the stick was probably a woman, and that she did it because she wanted to keep the children warm. Anyway, he went on to make an excellent argument in favor of women's suffrage by showing that as the women took care of the children and cooked the meals they were the natural home-makers. They would be the first to realize the importance of fire, and they probably induced the lazy men to build huts to shelter it. In this way began architecture, and as the women discovered the uses to which fires could be put the men took to metal-working and puffed out their chests and felt important. He showed that from the care of the fire and its application to the needs of humanity all the arts and sciences were developed, and he gave the whole credit to the women and then asked in thunder tones why they should not be allowed to vote. It was a very pretty argument, and as I reviewed it by the fire in the sugar-bush I echoed his question.

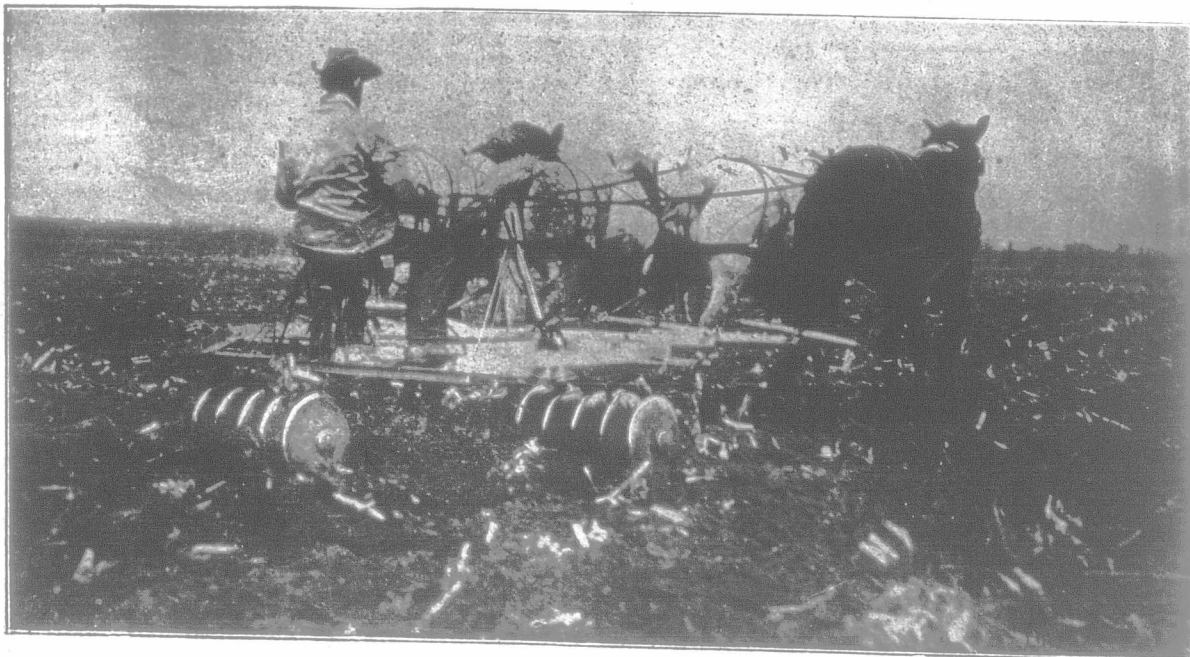
Along about nine o'clock it was found that the syrup was boiled in as nearly as we dared to thicken it in the woods. As the big kettle—really an old-fashioned potash kettle suspended by a logging chain—was hung from an old-fashioned swing pole, there was no trouble lifting it off the fire. Our troubles did not begin until about four gallons of black syrup had been dipped into a couple of pails. Then we looked

around and found that we were hemmed in by "thick darkness." There were stars overhead but with our eyes blinded by the fire-light the darkness among the trees seemed impenetrable. And, of course, I had forgotten to bring the lantern. The house to which the syrup was to be taken was three-quarters of a mile away, and at least half of the distance was through woods and a slashing. Still, we were both too much accustomed to the woods to be stumped by so ordinary a difficulty. We got a bundle of home-dry maple splinters from a tree that had been broken down by a larger one falling on it. We would make a torch. But how? There was not a string, strap or rope within half a mile. But as the Irishman said, "a man never knows what he can do till he's druv to it." After making several vain attempts to tie the bundle with green twigs I remembered that the "galluses" on my overalls were separate, and I took one of them and knotted it around one end of our bundle of maple. Then we thrust the splinters into the fire and soon had a blaze that gave as much light as half a dozen lanterns. Armed with this torch I took up one pail of syrup and the other man took the other. We started out hopefully but soon we were in trouble. Before realizing where we were going we were in a tangle of brush-heaps and fallen trees that neither of us could remember having seen in the day time. Then I remembered that the stars were in sight, and after some difficulty managed to locate the North Star which somehow seemed to be in the south. As a matter of fact we had got turned before we had walked twenty rods. Taking a fresh start and keeping one eye cocked towards the North Star we tried again. But there were fallen trees, cradle holes, swamps, thickets, or prickly ash and brush-heaps everywhere. I didn't think there was so wild and forlorn a spot in all Canada, and yet in the day-time it seemed like an ordinary, thin, Ontario wood-lot. I actually believe that before we reached the line fence we stumbled on every obstruction in those woods. The line fence gave us our bearings again, and after trimming the torch, which threatened to go out, we took what we thought was a straight line for our destination. But before going very far we landed in a corn-field that was ankle deep with the stickiest mud I had met with this year. But we at least knew where we were, and the stars could be seen more readily than when we were in the woods. Finally, after climbing two wire fences and mashing through a couple of swampy spots in a pasture field we reached the road and the rest was easy. After delivering the syrup without spilling a drop I started on a walk of another three-quarters of a mile to get home. As the whole walk lay along the road I did not expect any difficulty, but the worst proved to be ahead of me. I forgot that part of that road is the worst piece of road in the country. When I reached it I found that it was like the piece described by a travelling automobilist. He said "At this point I struck three miles of mud. I mean it was three miles wide. It was deeper than that." As the ditches were flooded I had to keep to the middle of the road where the mud was the deepest. Every time I lifted my feet I expected to hear the Chinamen call up through the holes I was leaving that I was taking away the foundations of their houses. When I got through it I pulled myself to the wire fence and scraped off a heap of mud that will stand there for many a day as a monument of my spring walk. After that I got home and went straight to the cupboard. I haven't had such an appetite since I used to work in the sugar-bush—on my own hook.

People's Banks in the Province of Quebec.

It has become the fashion in certain quarters to scoff at the ability of farmers to do anything for themselves. They are lectured on all sides because of alleged wasteful methods of farming; and yet it is safe to say that there are hundreds of farmers throughout the province who could give instruction in turn to many so-called experts. They have been discouraged by large commission merchants from attempting, by co-operation, to reach the consumer direct. Business men can do all these things, but for some strange reason the farmer cannot. It is refreshing, therefore, to turn to at least one shining example of successful co-operation by the people, and to note the extraordinary results secured by the farmers of Quebec in co-operative banking. And what has been accomplished there can be duplicated by the farmers of Ontario. Let me say here that the facts and figures quoted in these articles may be regarded as authoritative, as they have been secured directly from Mr. Desjardins, the man to whom credit is due for inaugurating this work.

First of all, may I be permitted to answer briefly those critics who point to the decline in interest in the Grange and the Patrons of Industry as an evidence of the inability of the farmers of this province to co-operate for their mutual interests. The answer to all this is



Double Work All Round Except the Teamster.

simple and clear. These institutions accomplished, and accomplished well, what was mainly expected of them. They broke down the old system of long credits, and heavy interest rates, at the country stores; and having accomplished this, their chief work was done. Because these organizations are no longer active does not at all imply that co-operation is a spent force. The spirit of co-operation was never so strong among the farmers of this province as it is to-day; and it is making its force felt in many directions. And in no part of the economic field is co-operation more to be desired, or more necessary, than in banking.

It is a well-known fact that in many cases, farmers are paying two prices for implements and household goods because of the lack of ready money. It seems so easy to accept a farm implement, or a sewing machine for the house, on the instalment plan. What the buyer generally overlooks is the excessive price actually paid. This heavy price is accounted for in three ways: the interest on the money invested, the risk run by the seller, and the agent's commission. Now, any safe method by which a farmer, under these conditions, can secure ready money at a reasonable rate of interest, would be an undisputed blessing. That method has been worked out in Quebec by Alphonse Desjardins, formerly a journalist by profession, but at present holding a post in the House of Commons, at Ottawa.

It was necessary to devise some plan to meet the conditions I have mentioned, because the Canadian chartered banks simply do not touch that kind of business. The chartered banks gladly accept deposits from farmers; they advance loans on two-name paper for a short period—thirty, sixty or ninety days; but they do not advance money for any considerable period, or in any way that will put that money in a fixed form of investment on the farm. This is neither to the bank's credit nor to their discredit; they simply cannot or will not engage in that kind of business. But the Ontario farmer—and especially the farmer who is just making his way—needs, above all else, advances of the type that has been described.

Mr. Desjardins saw the need, and attempted to meet it by establishing a network of People's Banks throughout the Province of Quebec. He had faith in the practical possibilities of co-operation; he had confidence in the capacity of the people to manage institutions of their own. He had an idea that if there was money in banking for the rich, there must also be something in it for the poor. Believing these things he associated with himself a few friends, and in December 1900, opened the first People's Bank in a room in his own house at Levis. Mr. Desjardins, with the help of his capable wife, was at once general manager, paying and receiving teller, and accountant. The success of the plan at once justified the venture.

In the brief period of six weeks the Bank had secured assets of \$240; and during the first year of its operation fifty loans were made, amounting to a grand total of \$3,700. From this small beginning the business of the bank has grown to phenomenal size. The Levis Bank—the parent institution—had at the end of January, 1914, total assets of \$266,550. Since its establishment it has loaned a total sum of \$1,262,776; and what is equally remarkable there has not been a cent lost. These banks have been established all through the Province of Quebec. At the end of 1913 there were 141 banks of this type in Canada, of which 122 were in Quebec and 19 in French-speaking communities in Ontario. The total membership was 65,700. The movement has also spread among the French in Massachusetts and New Hampshire, there being 23 institutions located in these states. All were organized and started in their career by Mr. Desjardins—truly a remarkable record by a remarkable man.

It should be made clear, at this point, that when these banks were first organized, there was no Dominion or Provincial law under which they might operate. It was not until the passing, in 1906, of the Quebec Syndicates Act that they were given a legal status. Thus, for six years the banks remained purely voluntary associations. But during these years, Mr. Desjardins was testing the soundness and the efficiency of his Levis organization, with the view of securing a perfect working model for other districts. As a result he did not push his organization to any extent during this period, establishing only two other banks. He wished first of all to establish the practicability of his plan beyond the shadow of a doubt. When at length the Syndicates Act gave his banks legal standing, he was ready to proceed. The act in question had laid down rules and regulations for the establishment of co-operative societies for production, consumption and credit purposes. The territory within which a co-operative bank could operate was limited to the electoral district in which the institution was located. Such a district is wide enough to pro-

duce sufficient business, yet not too wide to place the people out of touch with one another. The liability of members of the association was limited to the par value of the shares which each held. The next year a Bill was introduced into Parliament to provide similar institutions for the whole of Canada. The measure failed of passing the Senate by one vote. But without doubt the Dominion will be obliged in the near future to enact legislation covering co-operation in all its aspects. It is expected that Parliament at the present session, will deal with this matter.

In the next article I shall describe fully—and I hope, clearly—just how these institutions carry on their work.

W. W. SWANSON.

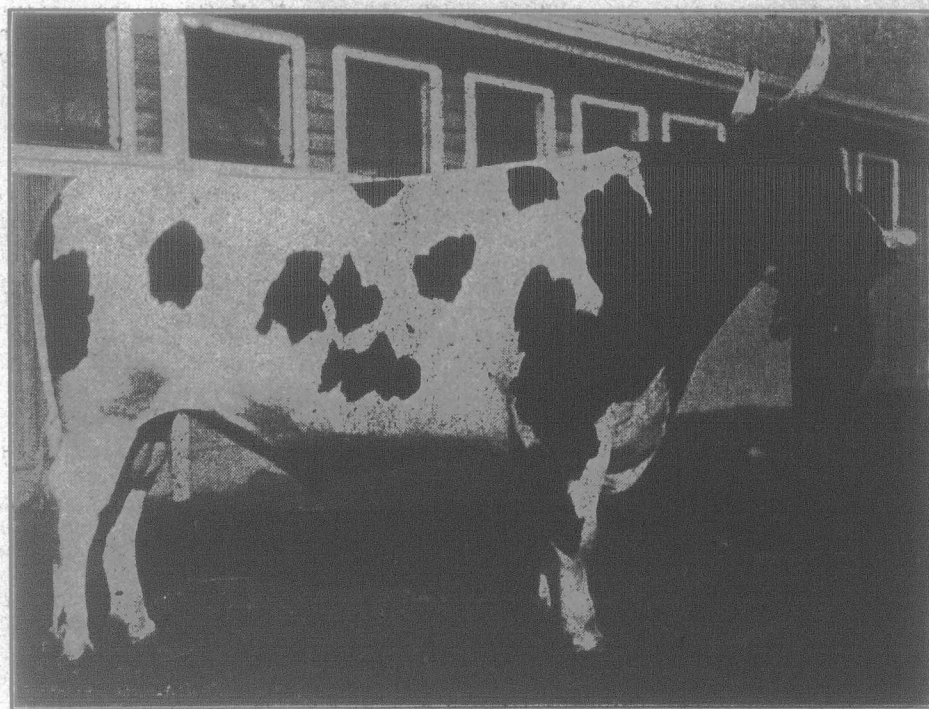
Kingston, Ont.

THE DAIRY.

The Efficiency of the Dairy Cow.

When we stop to consider the wonderful efficiency of the machinery of the dairy cow, is there any wonder that dairy cattle are maintained on high-priced holdings and the beef animals and steers are relegated to the cheaper lands. At the Missouri Experimental Station, Trowbridge, analyzed the entire body of a 1,250-pound fat steer. In the same time at the same station a Holstein cow gave in one year 18,405 pounds of milk. The analysis of the entire body of the steer and of the milk given by the cow in one year are contained in the following table:

	Dry matter in 18,405 lbs. milk.	Dry matter in 1,250-lb. steer.
Protein substance	552 pounds	172 pounds
Fat	618 pounds	338 pounds
Sugar	920 pounds	None
Mineral matter	128 pounds	43 pounds
Total	2218 pounds	548 pounds



Lessnessock Forest King.

Senior and grand champion Ayrshire bull at the National Live-stock Show in Toronto, November, 1913. Property of A. S. Turner & Son, Ryckman's Corner, Ont.

In the steer's body there were about 548 pounds of dry matter, and this included horns, hoofs, hair, bone and the flesh of the animal, whereas in the one year the cow produced 2,218 pounds of dry matter, which was wholly digestible and suitable for human food. During that time she produced enough protein to build up the body of three steers, nearly enough fat for two, mineral matter enough for the skeletons of three, besides 920 pounds of milk sugar.

It has also been learned that a fattening ox, when making the ordinary fat gain of 15 pounds weekly, produces protein or nitrogenous substances to the extent of 1.13 pounds, and this is mostly in the form of water-free, lean meat, in the same time the cow producing 30 pounds of milk daily gives up 7.67 pounds of casein and albumin, or nearly six times as much nitrogenous substances. During the time the ox is laying on 9.53 pounds of fat the cow puts 7.35 pounds of fat in the pail. In addition to this she secretes 9.67 pounds of milk sugar, for which there is no equivalent substance produced by the ox. Changing this sugar to its fat equivalent, the cow is shown to yield somewhat more fat or fat equivalent than the ox. During that time the ox stores .22 pounds of ash or mineral matter mostly in his bones, while the cow puts into the pail 1.57 pounds of ash or over six times as much.

Henry, in his "Feeds and Feeding," comments

on the wonderful efficiency of the dairy cow as exemplified in these remarkable tests. From further experiments it has been shown that a well-nourished dairy cow uses about 43% of the food she consumes to build up her body, 30% in the work of converting the food into milk and nearly 27% finally appears as milk. This places the dairy cow ahead of man or machine for producing energy from amount of food consumed.

Atwater found that a man returned 19.6% of the fuel value of his food as external work, the best steam engines have about the same efficiency while the average engine shows below 10%. Gasoline engines range in efficiency from 18 to 25%. Thus the dairy cow proves herself to be pre-eminently the economic producer of energy and human food.

Huntingdon Dairy Association.

The Thirty-second annual convention of the above association was held at Huntingdon, Que., on Friday, March 13, 1914. In opening the sessions the President, Robt. Ness, Howick, Que., referred to the advancement in agriculture since the Association was organized, thirty-two years ago, and considered much of the progress, so evident in the district, as due to the work and influence of the association.

The improvements made in the district were also referred to by J. A. Robb, M.P., of Valleyfield, who drew the attention of the meeting to the fact that the creamery and cheesery had given place to the production of milk and cream for city consumption or cream for the American market and advised farmers to meet the changed conditions. He also warned dairymen to beware of the various feeds put on the market, that they did not contain as large a percentage of feeding value as grain feeds that could be purchased for the same or a slight advance in price over that of the made-up feeds.

Prof. A. R. Ness, of Macdonald College, gave an interesting talk on some experiments made at Macdonald College in the feeding of roots in conjunction with silage. These experiments showed where a daily ration of silage had been reduced 25 per cent., and the amount made up of roots and that the milk flow had increased 5 per cent. Where the silage ration had been reduced 50 per cent., and an equal weight of roots added, the milk flow had increased 8 per cent. Where the silage rations had been reduced 75 per cent., and roots added to make up the difference, the increase was only 4 per cent., showing that a ration made up of equal portions of silage and roots gave the best results. Also comparisons made in the growing of corn and roots, showed the average

tonnage per acre of corn was from 18 to 16, and of roots 30 to 36, and the growing cost per ton of roots was \$1.85 and of corn \$1.30 per ton. He advised farmers to grow more roots to feed with the corn silage and thus cheapen the cost of production by increasing the milk flow. He also recommended the feeding of small quantities of molasses where little roots or silage was fed. John Fixter, of Ottawa, spoke briefly on clover growing, and advised farmers to sow from 10 to 14 lbs. of red clover per acre. This sowing would give a yield of at least a ton of hay more per acre over a sowing of 4 to 5 lbs. He also advised the practicing of after harvest cultivation to increase the yield per acre, of a 4-year rotation of crop, of selecting only choice seed corn for planting, the putting of manure on forage crops, and the plowing up of the old pasture or meadow and sowing a mixture of 2 bushel oats, 1 bushel each of peas and vetches, and 10 lbs. red clover per acre. When the grain is about six inches high then turn in the stock. This would give rich and abundant pasturage well into the fall months.

"The Successful Production of Milk for City Consumption" was the subject of an interesting address by W. F. Stephen, of Huntingdon. The speaker pointed out that the successful milk producer was one who met the conditions imposed by the city authorities, produced a high-class

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milk and reaped a profit in doing so. He contrasted the conditions which govern the supply of the city of Ottawa with those of Montreal. How at the former city the dealers paid a price to the producers to encourage the production of a high-class milk, while Montreal dealers refused to pay the price asked for by producers of high-grade milk. He showed that it cost more, under present conditions, to produce clean milk over dirty milk; better stables were required, healthy cows must be kept, cleanliness had to be exercised on every hand, and all this cost money, time and labor. Experiments at various experimental stations showed that with cows producing an average of 5,000 lbs. milk per year, milk cost to produce from 15 to 17 cents per gallon, and there was little or no profit to the producer unless he had a herd of cows, each producing from 8,000 to 10,000 pounds of milk per year and fed on economical rations.

At the evening session, C. F. Whitley of the Dairy Division, Ottawa, gave an interesting talk on co-operative cow testing work as done from record centres. He illustrated his address by charts showing contrasts between the best and poorest cows in some of these centres. Some cows had produced 9 boxes of butter or 503 lbs. fat in one season, while others had only produced 2 boxes or 110 lbs. fat. Last year he and his staff had made 86,000 tests. He graded all cows into three classes, profitable, paying their way and unprofitable, and had found whole herds in the latter class.

Cheese Chat.

Editor "The Farmer's Advocate":

The time is approaching when the cheese factories will awaken from their long winter's sleep and period of inactivity. The machinery, vats, presses, etc., will need a thorough overhauling. The vats particularly need careful attention to see that there are no leaks, that the woodwork where rotted is repaired, as decaying woodwork around a vat of milk gives off flavors that are more or less harmful to the milk. In addition, there is always the danger of the vat springing a leak, or breaking down some morning when the cheesemaker is the very busiest—probably on a Monday morning during a rush of milk. If the pans were not painted on the underside last fall, it should be done now. The woodwork on vats, and the presses, scales, and if possible the whole inside of the factory (outside too if a wooden building) should receive a coat of paint to freshen and brighten the appearance, kill mould spores, etc.

If the steel hoops are rusty, they should be galvanized so as to prevent marking the cheese with rusty spots. These spots always look bad on cheese, and indicate a careless maker.

The floors, gutter, trap and drain should be carefully inspected. If a wooden floor, it is sure to need some repairs, but a factoryman should carefully consider whether it would not be better and cheaper to tear out the old wooden floor and put in cement, rather than waste time and material on an insanitary wooden floor. In some cases these wooden floors are two or three feet above the ground, and the space will have to be filled in with stones or dirt, making it somewhat expensive and also making conditions favorable for cracking of the cement floor; hence as a rule, it will be cheaper and better to lower the cement floor to about six or eight inches above the dirt, first putting on a good coating of cinders or gravel on the graded ground. The cement should be faced up on the foundation for at least six inches. If the factory is on posts, a stone or cement foundation should be put under the building, joining the floor to it. As a rule if this is done properly there will be no need for digging a trench for the foundation in order to get the wall below frost line. This will lessen the expense considerably, and those who have tried it say it works all right.

We shall not presume to tell Ontario cheesemakers how to make cheese, as they probably know far more about the practical operations of cheese manufacture than does the writer. But there is one point on which he may venture to offer a suggestion. So far as we are able to discern the signs of the times, it looks as if we should be wise in catering more and more to our Home Trade, particularly the Western Canada market, and possibly, in fact probably, also to the American market. In the past we have given attention almost exclusively to the wants of the English and Scotch trade, as interpreted by Canadian cheese buyers. The class of cheese asked for by this trade has been a "firm but meaty cheese." In consequence of this, makers have sought to get rid of as much moisture as possible in the process of manufacture, which is all right from a speculator's viewpoint, and was possibly necessary when shipping to a market 3,000 miles distant, and with comparatively slow transportation. But things are changing, and one market for cheese is likely to be nearer home in the near future—at least for a good share of Canadian cheese.

We have seen the pounds of milk required to

make a pound of cheese steadily rising. Instead of "one pound for ten" it is now nearer "one pound for twelve"; that is, whereas formerly manufacturers used to guarantee to make one pound of cheese out of ten pounds of milk, they now find it is taking, in some cases, nearly twelve pounds of milk to make a pound of cheese. There are various causes for this, among which is the bad system of paying all patrons the same price per 100 pounds milk, regardless of its cheese-producing properties, which naturally induced patrons to breed and milk cows that gave a large flow of milk regardless of its composition; but another cause, is the methods adopted by cheesemakers to meet the demands of buyers for a cheese that would be a safe investment for money—in other words, for what may be called a speculative cheese, lacking a better term.

Personally the writer has never favored this kind of a cheese. He believes that the consuming public does not want a "bony," hard, dry cheese. Plasticity, mellowness, silkiness, etc., in cheese is brought about by or through the presence or action of three things—presence of moisture, presence of a proper degree of milk-fat, and a change of the insoluble casein in new cheese, to a soluble, plastic, mellow form, as is found in old cheese.

For the person who likes new cheese flavor, the mellow texture is obtained by the presence of fat and moisture. As the moisture of cheese contains in solution, valuable food material such as albumin, sugar and mineral salts, it is not adulteration to retain as much moisture as possible in cheese. In this respect, cheese differs very materially from butter, the water of which is added, extraneous, foreign, and contains practically no food material. However, if a cheese contain too much moisture, say above 37 per cent., the conditions are favorable for abnormal fermentations and the cheese are likely to spoil before they are consumed. To guard against this the milk should be in as nearly perfect condition as possible, and the cheese should be ripened at as low a temperature as possible, depending upon the rennet, which is the natural agent for cheese ripening, rather than upon other ferments for ripening, which are not easily controlled. For this season we would recommend the use of a larger amount of rennet than is commonly advised, less stirring of the curd, and less salt, all of which are favorable for retaining moisture in cheese, and this will result in a smaller quantity of milk required to make a pound of cheese, and at the same time will produce a cheese which will be more likely to suit the Home Trade.

It looks, therefore, as if our cheesemakers will need, in the very near future, if not during the season of 1914, to make two types or classes of cheese—one for the Foreign or Export Trade and one for Home and American markets. This will make it somewhat difficult for the men in factories who may not know to which market their cheese will be shipped, but it would seem as if it would be better for certain factories to cater to one class of trade and others to the remaining, but for a time there is bound to be confusion until matters adjust themselves to the new conditions.

O. A. C.

H. H. DEAN.

HORTICULTURE.

What Spray Mixtures Shall We Use in 1914?

Editor "The Farmer's Advocate":

I have been asked several times what spray mixtures I should recommend for fruit trees this coming season. The following in my opinion are the best:

For the dormant spray lime-sulphur, either commercial or home-made. If there is San Jose Scale in the orchard, the commercial should not be used, weaker than about 1 gal. diluted to 8 or a specific gravity reading on the hydrometer of 1.032 to 1.035. Weaker solutions often fail to give good results. If there is no scale, the wash may be diluted 1 gallon to 9 or 12, the latter if there is no Oyster Shell Scale. On peaches, this should be applied early before the buds have any more than begun to swell, but on apples and pears it may be applied any time, from say two or three weeks before the buds burst right up to the time they are bursting. On plums and cherries it is better postponed until a few days before the buds burst.

For the second application on apples and pears which should be just before the blossoms begin to open, the earliest varieties being sprayed first, either lime-sulphur of the specific gravity strength of 1.010 or 1.009, which is equivalent to the commercial diluted not more than about 1 gallon to 30, or Bordeaux mixture 4-4-40, should be used as the fungicide, the latter being given the preference. To each forty gallons of either of these mixtures two or three pounds of

paste arsenate of lead should be added as a poison.

To prevent Apple Scab, this application should be done very thoroughly and as near the time advocated as possible. Many tend to overlook the importance of this spraying, but after such a bad season for Scab as we had last year, the greatest care should be taken this season.

The second application for plums and cherries should be in about a week after the blossoms have fallen or as soon as the fruit is well set. The same mixtures should be used as for apples, but in the case of Japanese plums, and possibly sweet cherries the lime-sulphur should be a little weaker.

If peaches receive a second application of paste arsenate of lead alone, two or three pounds to 40 gallons of water should be used when the fruits are formed and about one-third of an inch in size. This is to destroy Plum Curculio on the peach.

The third application for apples and pears should be, especially in the case of apples, as soon as from 80 to 90 per cent. of the blossoms have fallen, beginning with the earliest varieties. By this time the bees will have almost abandoned the trees and gone to other flowers. For this application it is not advisable to use Bordeaux mixture for these fruits as it often causes severe russeting, instead I prefer lime-sulphur of the strength of about 1.008 specific gravity which is equivalent to one gallon of the commercial diluted to from 35 to 40 gallons. To every 40 gallons of this diluted mixture two pounds of the paste arsenate of lead should be used. More than this is not necessary but does no harm. This is the great application for Codling Moth and Apple Scab and the trees cannot be too thoroughly and promptly sprayed.

For cherries and plums the third application should be about two weeks after the second and the same mixtures as for the second may be used.

If the weather in about ten days after the third application is cold, dark and wet it will be absolutely necessary to give a fourth application for apples and pears with the same mixtures as for the third, otherwise there will be an attack of Apple Scab especially in varieties like Snow and McIntosh. If the weather, however, is dry and warm there is no need of this application except in the far eastern part of the province where it should always be given.

Cherries should receive a fourth application with the above mixture or Bordeaux as soon as the fruit is off to prevent leaf spot. Plums that are inclined to rot should be sprayed as late as possible without danger of staining the fruit for market, either lime-sulphur or Bordeaux being used. Peaches may receive an application of the so-called self-boiled lime-sulphur about one month after the blossoms fall to ward off Brown Rot. For method of making this, see Spray Calendar or bulletin 198.

Towards the end of August or in early September cold, wet weather sometimes makes an extra application necessary to keep off late attacks of Scab and Sooty Fungus on apples. I should use the same mixtures as for the third application.

In the above it will be noticed that I have not included the new spray, soluble sulphur, or the powder forms of arsenate of lead. I think that soluble sulphur will prove satisfactory against San Jose Scale; it gave me good results on this pest last year, but even for this it would be better to test it further before strongly recommending it. As a summer wash I should advise every grower to be very careful in using it with arsenate of lead. There were not many cases of burning last year from its use but I am not at all sure that under different weather conditions it may not cause serious injury. Therefore, my advice would be to use it only in an experimental way. I doubt very much whether it will ever prove to be nearly as safe as lime-sulphur or Bordeaux mixture. It is a soda-sulphur compound, not a lime-sulphur. Further study by chemists as to the reactions that take place when arsenate of lead is added, to it may help to supplement the knowledge we shall soon have obtained as to its safety and efficiency.

I do not find that this wash will kill aphids as claimed by many of its advocates.

As for the powdered forms of arsenate of lead some recent experiments in the Laboratory, tend to show that it will be necessary to test these considerably before recommending them as a substitute for the paste form. The claim that they stay up in suspension much better than the paste form did not seem to be justified either when mixed alone in water or with lime-sulphur. Moreover, the sticking qualities were seen to be not quite so good as those of the paste forms, though different makes differ in these respects. The particles are not quite so small as in the paste form, at least in three brands examined. The greater convenience however, in using, shipping and storing justifies their being tested on a small scale by fruitgrowers.

In conclusion I should perhaps mention that

for grapes and potatoes Bordeaux mixture should always be used instead of lime-sulphur. For potato beetles most men will get better results from Paris Green than arsenate of lead. From one to two pounds of Paris green should be used to every 40 gallons of Bordeaux for these.

L. CAESAR,
Provincial Entomologist.

Note: The Spray Calendar will appear next week, Editor.

FARM BULLETIN.

To Our Advertisers.

It would facilitate matters greatly in this office if our advertisers would make it a practice in sending in their advertisements to keep the advertisement copy entirely separate from other correspondence. Place the advertisements on a separate sheet. Also, we again desire to draw our advertisers' attention to the fact that changes of advertisements reaching the office at least eight days in advance of the date of issue of the paper in which it is desired that they should appear are sure of insertion without delay.

Our Amazing Railway Situation---By Peter McArthur.

For the past hour I have been trying to locate an old Scotch song—it may be one of Burns'—but I cannot find it. I am sorry, for it has a refrain that might well be sung by everyone in Canada just now—

"Such a parcel of rogues in a nation."

If I could find it I would write new verses for it that would make it apply to the present situation in Ottawa. Did you ever see the like of it? The papers on both sides are so hysterical, that it is practically impossible to get at the real facts. Both political parties have so much to conceal, that they are afraid to be definite about anything, for fear the awful truth may leak out. Wild rumors of deals and scandals are flying so fast that one does not know what to believe. The Staunton-Gutelius Report on the G.T.R. will be suppressed, if the Liberals will allow the C.N.R. guarantee to go through without opposition—and that sort of talk. Politicians are changing their positions so rapidly, and so often, that the news editor of a leading paper said to me a few days ago: "If I were away from my desk for a day, I wouldn't know what political party I belong to." But there is one outstanding fact that we may all look at and meditate upon. Our real rulers—the railway corporations—are fighting in the open where we can see them and get some idea of their power. As nearly as I can figure it out, the Canadian Northern Railway needs a lot of money, with which to complete its transcontinental line; the C.P.R. is opposed to this because it would like to see a forced sale of the Canadian Northern that would enable it to take over all the desirable parts of the new system. The Grand Trunk Pacific has been scotched by the Staunton-Gutelius report and if its contract with the Government could be broken, the C.P.R. might come in for some more valuable pickings. But what about the people of Canada who have paid for all these railways—paid many times what it cost to build them? Well, I am hopeful that when this exhibition of railway politics is over, they will know more about what is going on and be in the humor to put a stop to this kind of plundering. Railway building in Canada has given us a crop of millionaires that is the wonder of the world and all their millions have come out of the resources of the country and the earnings of the people. There was a scandal about the building of the Canadian Pacific; there is a scandal about the building of the Grand Trunk Pacific and there are indications of a scandal about the financing of the Canadian Northern. Phew!

Let us deal first with the Canadian Northern whose request for government aid has brought matters to a crisis. This road is practically owned by MacKenzie & Mann—now Sir William MacKenzie and Sir Donald Mann. These amazingly enterprising men have succeeded in building a large part of a transcontinental railway by getting the Federal Government and the various Provincial governments to guarantee their bonds. They have been dealt with liberally but there seems to be no end to their needs. Because they have been able to pledge the credit of Canada they have raised vast sums of money in England to push their railroad building. Between bonuses and guarantees and land grants, they have been aided to the extent of over two hundred millions and now they are asking for another guarantee of bonds, which, at the time of writing, is variously estimated at from thirty to fifty millions of dollars. No wonder that our representatives

The annual meeting of the Winter Fair Board was held in the Secretary's office, Parliament Buildings, March 16th, 1914, at 2 p.m., when the following officers were elected: Hon. Pres., Wm. McNeil, London; President, Wm. Smith, M. P., Columbus; Vice-Pres., R. H. Harding, Thorndale; Sect'y-Treas., R. W. Wade, Toronto; Executive Committee, Wm. Smith, Columbus; R. H. Harding, Thorndale; Wm. McNeil, London; W. W. Ballantyne, Stratford; Jno. Gardhouse, Highfield; Jno. Flatt, Hamilton; R. W. Wade, Toronto.

Editors have always been exposed to the ammunition of dissatisfied parties, and have suffered abuse, disgust and maltreatment from those whose misdemeanors they have unveiled, but now when they become the target for five genuine, round, lead bullets prepared and fired by the wife of the opponent, especially when the back is turned, conditions become serious, and going down all they can say is, "Et tu Brute."

At a meeting of the Toronto Live Stock Exchange, March 12th, it was the sense of the meeting, that the resolution of the Exchange, providing for a deduction of \$2.00 per head on all horned cattle sold on markets in the city of Toronto, be put in force April 1st next, as was originally resolved.

in Parliament are becoming alarmed. Why is so much money needed and where is it all going? Sir William has issued a statement in which he denies that any of the money raised in this way is being used to finance other enterprises. But some people are becoming curious to know just where the money is coming from that is used in their other ventures. As the owners of the Canadian Northern they let contracts to themselves as railway builders, presumably at a very fair profit. What becomes of their earnings? Are they being used to push the construction of the railroad of which they own all the common stock or are they diverted to other uses? This question is justified by the magnitude of their other enterprises. Sir William, at least, is deeply interested in railway properties in Mexico and South America. The firm owns street railways in Winnipeg, Toronto and Montreal. Some time ago a lawsuit by a man who wanted his commission for the sale of a new process of making steel brought out the fact that Sir William MacKenzie was the purchaser. A similar suit about the purchase and re-organization of some breweries discovered the same financier at the helm. A couple of years ago the whaling industry of the North Pacific was purchased, fleets of vessels, factories, docks and all appliances of the trade. Shortly afterwards it transpired that the purchasers were MacKenzie & Mann. It is said that they are interested in both the lumber trade and the meat trade of the country. The names of the new knights appear on the directorates of trust companies and corporations in which they are presumably interested. In short, their interests spread into almost every department of Canadian business. As the people of Canada are enabling them to build the Canadian Northern they surely have a right to ask whether all these activities are made possible by undue profits from the work of building the Canadian Northern Railway. A full and frank answer to this question is due from MacKenzie & Mann, before they are granted further aid.

Probably no nation in all the world has been so extravagant in the matter of railroad building as Canada. Up to the present we have given to our railways: Cash subsidies, Dominion, Provincial and Municipal \$217,800,000; Bonds guaranteed, Dominion and Provincial \$275,000,000; Land grants, 55,000,000 acres at \$5 per acre \$275,000,000; Finished line given to C.P.R. Co. \$37,000,000; Eastern section G.T.R. cost to date \$130,200,000;—Total, \$935,000,000. This is more than \$37,000 per mile for every mile of railway in the Dominion, a sum sufficient to meet the whole cost of construction. Besides cash bonuses the C.P.R. was given land grants that amount to an empire. Its promoters made millions and its revenues are now said to be greater than that of the government. The people whom it is supposed to serve are groaning under its exactions and fighting its rate charges by every means in their power. It was found necessary to appoint a Railway Commission to make it and other railways give the people anything like fair treatment and this commission seems to be unable, to say the least, to give any effective relief. A correspondent in the West writes me that no feudal monarch in the dark ages ever had such power over the property of his subjects as the C.P.R. has over the business and property of the people of the country it serves—all citizens of the boasted free country of Canada. In the case of the Grand Trunk Pacific it is alleged in the Conservative press that forty millions of dollars were

wasted. The evidence is said to be at hand although it has not been published as yet in such form that it may be considered on its merits by the public. And now the Canadian Northern, after receiving lavish aid is asking for more. That railroad building is profitable is beyond question. If an earthquake were to shake up our chief cities, millionaires would tumble from the windows of every railway head office. And still they were not satisfied. The aggressive lobbies they maintain at the seats of the Federal and various provincial governments are constantly striving to influence legislation in their favor. It is alleged with more than a suspicion of truth that these great corporations have placed both political parties under obligations to them by contributions to campaign funds. The fact that they are the greatest beneficiaries by special legislation, points to them as the logical providers of such funds. In any case, the confusion they are causing among our legislators in Ottawa at the present time shows that they have more power over them than is good for the country.

It is high time that the people understood clearly just what our railway extravagance means to every citizen. No matter who builds the railways or where the money comes from the burden is placed on the shoulders of the people. The interest on the bonds and the dividends on the common stock must all be paid by freight and transportation charges taken from our pockets. If the building of the railway has been wasteful, the burden is increased and the wastefulness causes a loss to everybody except the contractors and promoters. They get rich, even though the country may be plundered. The time has come when the people of Canada should insist on a careful government supervision of all money spent on railway building, so that they may get fair rates from the railway when it begins to operate. Government ownership may be a step too far in advance, but it is the logical outcome of the situation if matters become too difficult. In the meantime, there is urgent need of government support for radial railways that would handle much of the local traffic and so curb the greed of our present railway system. But these are matters that need to be dealt with separately, in future articles.

Those who urge that MacKenzie & Mann should be granted the bond guarantee they ask at the present time, point to the necessity of completing this great undertaking on which so much money has been spent. If the work were stopped, many other institutions might be embarrassed for these enterprising men have had access to the savings of the people in the banks, as well as to the credit of the country. It is pointed out that in no case where the bonds of the company have been guaranteed has any government been forced to assume the obligations. This is the same as if a farmer were to boast that although he had often backed notes for friends he had never been called upon to pay one and that he thought the practice a safe one. I have no doubt that many readers of "The Farmer's Advocate" are opposed to backing any man's notes, and yet they are being asked through their representatives in Parliament to back the notes of MacKenzie & Mann for millions. That is exactly what it amounts to. If the present deal goes through, every farmer will be backing the notes of these men for at least the price of a good cow, though they might decline to go on their notes if they met them at a spring sale and were asked personally to back them. Whatever you may think of this, you will surely admit that if this new guarantee is granted, the gentlemen who are being favored owe it to the country to show how the money they have had has been used—to the last dollar. If anyone is making undue profits we should know about it, for there will be interest and dividends to be paid on those profits for all time, when the freight rates are arranged. The time has come for the government to assume such control as will safeguard the credit of the country and the rights of the people. You owe it to yourself to let your representative in parliament have your views on the present negotiations.

An Outlet for Production.

The population of the earth is now computed to be in the vicinity of 1,900,000,000. The Bureau of Universal Statistics allots 933,000,000 to Asia, 484,000,000 to Europe, 188,000,000 to Africa, 187,000,000 to America and 57,000,000 to Oceania. The Bureau also estimates an increase in the World's population in the four years previous to 1912 of 140,000,000 people.

It cannot be claimed that production has increased by the same proportions and with this increase of population, over production has developed a demand for certain commodities produced on Canadian soil. The wheat crop of North China has been poor for the past two seasons, thereby creating a demand for foreign flour which the Chinese are quickly learning to use in the manufacture of food stuffs, as well as in the raw

form for table use. At Amoy and Chefoo Vermicelli is manufactured in large quantities and 20 per cent. of the flour imported at those places is used in the production of this commodity. The Governor of Hong Kong in his report on the trade of the Colony declares an increase of 16,620 tons or 20 per cent. and writes, "This increased use of flour is evident in the Colony, being noticeable even among the boat population of the harbor, where it is a common thing to see cakes and 'snappacks' being cooked and eaten instead of the formerly universal rice."

This increase in population is a strong argument against over-production ever becoming formidable in the near future. Prices may range low at times but we doubt if there ever was a period

of low prices due to over-production. Panics and financial depressions have been attributed to over-production, and at the same time, men and children could be seen almost naked in the streets; thousands were being maintained by charity, on one-third or one-half rations and the whole spectacle evidenced under-consumption. When Capitalists get grasping, when monopolists get oppressive, when times get hard, then the people get penurious and curtail their expenditures for food and clothes. The old shoes do a little longer, the new summer suit is dispensed with, fruit and dainties are absent from the table and meat is not found in the larder. Even then, when thousands are being kept alive through the instrumentality of the city soup kitchen, the cry of over-production goes out over the land when

under consumption, to right and left, is staring us in the eyes.

If our governments will see to it that a system of equity reigns, and that all institutions countenanced and bonused by them will work to the advantage of the general public; force transportation companies to give the proper service and assist them in it, and distribute the revenue of the country so it will return in part, at least, to those from whom it is derived, then a long stride will be taken towards the goal of good times. Let the agricultural producer then tell the public what he has to sell that's good, and he'll find a place for it. Then farmers will not be slow to grow two blades of grass where before only one grew, for they will be confident of a good market for that extra blade of grass.

"The United Farmers of Ontario" Launched.

It is launched! Scores of smaller vessels built on similar principles had been previously launched. While some had proved too frail for the tempestuous seas upon which they were forced to ply their trade others had weathered the storms and after years of fruitless discussions the larger craft was thrust off the dock and slipped into the sea with a loud splash, which may cause a large wave to rise and roll on until it covers the entire ocean or may stir up only a few ripples within the harbor, which may vanish before reaching the open water. Modelled after like craft carrying on business in the Canadian West, the twin-screw flotation of The United Farmers of Ontario and The United Farmers' Co-operative Company, Limited, was accomplished last Thursday and Friday in the Labor Temple, Church St., Toronto. The one ship to carry these two burdens is amalgamated co-operation. In other words The United Farmers of Ontario is an association projected to amalgamate all local farmers' organizations in the province, whether they be Fruit Growers', Farmers' Clubs, Branch Granges, Vegetable Growers', Breeders' Clubs, or representing any other branch or branches under one central head, and the joint stock company, The United Farmers' Co-operative Company, Limited, is to attend to the financial end of the business. In short the former is educative, the latter is operative.

For years such a central head has been talked of at the annual meetings of various organizations of agriculturists, and last year a central association, to handle the products of the orchard, was born at a meeting in the Parliament Buildings, Toronto, but nothing approaching the magnitude of this gigantic undertaking has ever before been attempted by the farmers of Ontario. During a few weeks past some of the active members and officers of the Dominion Grange made a personal canvass of local Granges, some Farmers' Clubs, Fruit Growers' and other local associations in the province, and urged that delegates be appointed to attend a monster meeting for organization of the central body. In due time literature on the subject was sent out by the secretary of the Grange, calling the meeting which was held last week. In the meantime the Master of the Grange and four of his neighbors as Provisional Directors submitted by-laws to the Legislature, and applied for a charter to become incorporated with \$10,000 capital to operate a business with very wide privileges, directly connected with the manufacture, purchase and sale of products necessary to the successful carrying on of agriculture in this Province. With plans very well laid and a good deal prepared before the first session convened, everything was in readiness to hurry through matters with great facility, and to the complete satisfaction of the promoters.

As one would naturally suppose from the origin of the movement, representatives of subordinate Granges dominated the gathering. They may not have been present in greater number than those representing other organizations, but nevertheless they were a dominating influence. A well-prepared program gave representatives from Fruit Growers' Associations, Farmers' Clubs, Poultry Circles, Dairy Companies, Breeders' Clubs and Granges opportunity to tell what they knew of co-operation from experience in one or another of these organizations, and the work of the Grain Growers on the Prairie was set forth by Roderick McKenzie, of Winnipeg, but when it came to the essential features of organization it did seem as though a great deal was fore-ordained, and it also seemed unfortunate that more of the most successful salesmen and managers of co-operative organizations could not have been present to give others the benefit of their experience, and if available to have gained a place on the Board of the organization. The program also ignored the fact that there is at present a Co-operation and Markets Branch of the Ontario Department of Agriculture, and the head of that Branch was given no place on the program, which did not seem in entire keeping with the objects of the meeting—co-operation.

A. G. Gurney, of Paris, Ont., discussed co-operation as it has worked out in the Brant County Fruit Growers' Association. Elmer Lick, of Oshawa, Ont., and manager of the Oshawa Co-operative Fruit Growers' Association, outlined the success of his company. Henry Glendinning, Manilla, Ont., spoke of the Egg-Circle movement. T. H. Binnie, Durham, Ont., gave a little history regarding the Chatsworth Marketing Company. A. J. Reynolds, Solina, Ont., spoke of the Farmers' Dairy Company of Toronto. Seed corn growing was discussed by T. H. Adams, of Essex County Corn Growers. E. G. Hoover, of the Erie Farmers' Association, an organization chiefly concerned in the handling of grass and clover seeds, showed how this organization saved those interested in it \$18,500 in one year. A. Groh, of Preston, explained the municipal telephone system as it has worked out in Waterloo township. G. A. Brethen, of Norwood, Ont., from his experience in the Belleville Holstein Breeders' Club, pointed out a few of the advantages of co-operative breeding.

Geo Keen, of Brantford, speaking on the true spirit of co-operation, stated that the annual turnover of co-operative societies in Ireland amounts to \$17,000,000; in Germany to \$1,200,000,000, and in Great Britain to \$3,000,000,000.

W. C. Good, Grand Master of the Dominion Grange, pointed out that not only in the sale of farm products did the middleman take his heavy toll, but also in the purchase of articles required on the farm. On the word of an implement agent he stated that it costs as much to sell implements as it does to manufacture them.

Jos. Gilbertson, President of the Norfolk Fruit Growers' Association, said that the farmer and his wife had laid the foundations of and made this great country, but that they do not get the credit for what they have done. We are surrounded by large corporations but hear very little of farmers' organizations, but the time is near at hand when all farmers must organize in some way, for in no other manner can the farmer get his due.

Roderick McKenzie, directly connected with the great Grain Growers' movement in the West, brought greetings from those organizations. Since the organization in the West farmers have received from three to five cents per bushel more for their wheat than they otherwise would have done. Going into the milling business has also forced flour down in Manitoba to the same price as that prevailing for it in Britain. Twine is to be handled direct at a saving of from one to one and one-half cents per pound. On a carload of lumber \$150 is saved, and the organization has been entirely satisfactory. Farmers, he said, must learn to take themselves seriously, and it is the duty of every one of them to take his place in the business of the community. Organization is the best means to accomplish this end. There are over 1,200 branch associations in the Western Provinces, each holding regular meetings, and each of which sends delegates to the annual central association convention. Branch organizations are used to educate the people, with two results: The development of social conditions, and the teaching of business methods to farmers. Farmers lose in marketing their goods individually, and to get over this drawback organization is the only practical scheme. The educational side of the work helps the commercial side, thus the advantage of the two departments. Farmers look too much to others, and do not show enough self-reliance.

The constitution of the new organization was prepared by a special committee and on paper looked fairly good, but all local organizations affiliating with The United Farmers of Ontario must accept and abide by the constitution of the central body. This in itself may be sufficient to keep many of them out, and unless all or practically all come in the success of the venture swings in an uncertain balance. Their motto is equal opportunities for all, and their objects to further the interests of farmers in all branches of agriculture by fostering mutual understanding, encouraging the study of farm and household ques-

tions, promoting social intercourse, disseminating literature, establishing libraries, watching legislation referring to the farmers' business, study and teaching co-operation, providing halls and places for holding meetings, suppressing class prejudices, etc. The central association shall consist of all duly admitted and fully paid up members of branch associations. Delegates from each branch association may be elected as follows, one delegate for each branch, and one extra for every twenty members or major portion of twenty. The annual convention is to be held between December first and March first each year, the date to be fixed by the Directors. A life membership may be received by payment of \$12, and one-half the annual membership fee to the branch associations. Two dollars of this goes to the general reserve, and \$10 is to be invested or used for organization purposes. Fifty cents of each membership fee paid to local branches must be forwarded to the central association. Farmer's wives and daughters are admitted as honorary members, and farmer's sons under twenty-one at half the membership fee. A quorum at the annual meeting is to be not less than twenty-five. Ten qualified persons may organize a Branch with a President, Vice-President, Secretary-Treasurer and six Directors, all Branch elections to be held in November.

The officers of the Association as elected are: President, E. C. Drury, Simcoe Co.; 1st Vice-President, G. A. Brethen, Peterborough Co.; 2nd Vice-President, R. H. Halbert, Dufferin Co. Directors, J. F. Breen, Dufferin Co.; John Service, Northumberland Co.; R. H. Johnson, Victoria Co.; A. E. Vance, Lambton Co., and T. H. Adams, Essex Co.

The commercial end of the organization, a joint stock company called The United Farmers' Co-operative Company, Limited, has an advisory Board of Directors from which the permanent Board will in all probability be elected, consisting of C. W. Gurney, Brant Co.; A. A. Powers, Durham Co.; E. C. Drury, Simcoe Co.; W. C. Good, Brant Co.; Col. Fraser, Brant Co.; Jas. R. Anderson, P. E. Co.; A. C. Vance, Lambton Co.; John Pritchard, Wellington Co.; W. J. Webster, Leeds Co.; Geo. Carlaw, Northumberland Co.; A. Groh, Waterloo Co.; G. Brownlee, Grey Co., and J. Whitaker, Dundas Co.

The original draft of directors as brought down by the committee contained eleven names, the majority being Grangers. Someone took exception to the unfair representation as compared to that of Farmers' Clubs, there being 250 clubs and about 100 local Granges in the Province. To get over the difficulty those engineering operations decided to increase the number to thirteen and to quiet down the objections by electing two extras from Farmers' Club representatives, and altering one or two names. About two-thirds the Directorate are Grangers, and the remainder represent all other organizations. This scarcely seems like co-operation at the start, and yet the motto of the sister organization is "equal opportunities for all." There was also a noticeable unwillingness on the part of certain representatives of strong co-operative societies, now doing a successful business, to allow their names to be in any way connected with the Board. This does not seem to augur well for the organization. The meeting allowed the committees to sway it as they wished, and discussion was somewhat stifled because of lack of time. Certain parts of the election seemed to be carefully premeditated. In fact during the nominations for the presidency of one of the organizations two names were before the meeting, when it was brought out in discussion that the committee had decided that while the two men were equally capable, one should be placed at the head of this particular organization and the other at the head of the other branch of the organization. The meeting agreed, and they were elected. Now, they may be the best men available and both are extra good men for the positions, but best success does not always attend such methods. Publicity is the life of the movement, and if more had been done by the 800 farmers present and less by the committee, the work might meet with more general approbation.

The charter of The United Farmers' Co-operative Co., Ltd., was read together with some of the most important by-laws. It is a joint stock company with \$10,000 capital divided into four hundred twenty-five-dollar shares. Three Directors retire each year in rotation, but these are eligible for re-election. Capital cannot draw more than seven per cent. interest. Net profits after providing for interest and reserve fund are to be divided amongst the shareholders in proportion to sales or purchases made through the company. Non-shareholders may be entitled to rebate given to shareholders. One shareholder no matter how many shares he holds has only one vote. No voting by proxy allowed, but ten or more shareholders may call a meeting and may elect one delegate to represent them at shareholder's meetings, by giving him a signed statement concerning the question or questions to be discussed.

Many seemed to think that it would be easier to make a success of this work in Ontario than it was in the West, but in reality it will be more difficult. Ontario farmers are comparatively speaking well off and are not forced into co-operation as were the grain growers of the West; Ontario has dozens of branches of agriculture, whereas the West was interested only in grain growing; and Ontario has hundreds of local organizations now operating under different constitutions, whereas the Western organizations had a clear field. Those interested must remember that no easy task confronts them. In fact it might have been better had a little more time and thought been devoted to the matter before launching the enterprise. The success or failure of the movement depends upon the attitude of the local organizations, and if the constitution and management should suit only a few of these it is more than likely that the others may not care to affiliate. A strong association with 400 or 500 members may think twice before they throw down their own rules, send 50 cents per member to a central of which they know little and give up an efficient local salesman of great ability for an unknown quantity. On the other hand a small organization, membership to which has been low, say 25 cents, may have a struggle to get the extra 50 cents per member for headquarters. All these things might well have been considered at more length. The importance of the organization, the magnitude of the work in hand was altogether too colossal to be crowded into two short days of late starts. A week could profitably have been spent and more discussion encouraged. Besides, such a movement should have been even more representative. More live stock men should have been present and all angles should have been smoothed off in an open representative meeting.

The United Farmers of Ontario should grow into a great movement if it gets the support of all organizations now active and many more yet to be organized. Upon these and upon the open straightforwardness of all the workings of the movement and the efficiency of the management depends the success of what we would be pleased to see the greatest movement for the good of the man on the land any part of Canada has yet witnessed. "Equal Opportunities for all" should be sufficient incentive. Let us hope that it is lived up to.

Regina Winter Fair.

On March 10th to 13th, 1914, Regina was the seat of their annual Winter Fair, which is a recurring success, but this year, following up the pace set by Brandon, all records were broken in attendance and exhibits. Robt Leckie's Regal Sensation went down before The Bruce, the property of R. H. Taber. Considerable interest was focused on this judgment, which involved the best Clydesdale stallions in Western Canada. The Countess of Moray secured the female championship for W. H. Bryce, and the Canadian-bred honors were won for him in females by Doune Lodge Floradora, while R. H. Taber's, The Bruce of Hillcrest, was the best of the home-bred horses. There were no championships awarded in the Percheron classes, but first in aged stallions and in two-year-olds went to Alex.

Galbraith on Garou and Hercules; Alex. McLaren won first on three-year-old stallions with his Kameleon, and R. P. Stanley won first in yearlings with King John.

Among the fat cattle H. L. Emmert defeated J. D. McGregor's Black Rock with the Shorthorn heifer, Sittyton Lady 3rd.

Bringing the Bees from the Cellar.

Moments of perplexity are at hand when the bee-keeper begins to think of removing his hives from the winter depository and setting them in the yard. The proper time to do this is a conundrum and it will depend much upon the condition of the bees in the fall and the way in which they have wintered. If the bees were put in the cellar quite late in the fall and on the previous day or two they had a successful flight they will be much better in the cellar late in the spring than if they were put in the depository under less favorable conditions. If the temperature of the cellar has been quite warm or quite cold, the necessity of the bees getting out is increased.

Some apiarists have advocated taking the bees out and allowing them a clarifying flight on a fine day, even if they have to be put back into the cellar again, but the advantage here again is more than counteracted by the loss through labor and those who leave them in the cellar until they take them out permanently have considered themselves ahead in the end. When they are taken from the cellar it should be done as quickly as possible and on a fine day. When they are brought out slowly there is some danger of robbing as the first ones out have acquired some activity, while the later ones are still dull and sleepy, in this case robbing may take place. In addition those brought out during the latter part of the day may not be ready for their flight until the cool of evening comes on, in which case there might be considerable loss.

It has been the practice of some where open framed hives were used to remove the cover from the hive and allow the sun to shine directly upon the bees. Under these circumstances the bees are excited at once to assume their flight and they return again to the hive before the danger of cold threatens.

When the bees are put out, the temperature should be at least 45 degrees in the shade, and perhaps as good a time or season of the year by which to regulate the outcoming of the bees is the buds of the elm or soft maple. Just when these buds begin to show expansion of the outer parts which have protected them during the winter. In this way, the bees have gotten under way before the blossom finally comes out, the brood rearing has started and in the end they are a stronger colony to conduct their business during the special honey flow.

Bees have a remarkable memory for their old location, and as nearly as possible the apiarist should endeavor to return them to the stands they occupied the previous year. They should first be cleaned off and made ready to receive them. If they are moved to other places, it would be wise to have a slanting board placed in front of the hive.

A little water is also necessary in the spring in order that brood rearing may proceed, and if the keeper neglects to provide it, the bees are obliged to take long flights in order to procure this requisite. A little water placed in empty combs will furnish this need, or a very thin syrup will supply the need for water and to a certain extent that of nectar.

So long as the bees are quiet in the cellar, the keeper should not be in a hurry to put them on their summer stands. If they come out too early, and the spring is unfavorable, the results of a favorable winter might be diminished by serious spring-dwindling.

Advertising Brought Buyers

Editor "The Farmer's Advocate":
I am thanking you for the success of my sale, as the advertisement brought out the buyers.
Haldimand Co., Ont. ROBT. NICHOL.

Requeening.

If the manner of introducing new queens by the smoke method is successful, it will be one of the best things that have been discovered by apiarists during recent years. There is some loss connected with any method of introducing queens, and a writer to the Bee Gleanings of January 15th claims to have had a loss of 40% when introducing queens by the cage method. This necessitates a rearing of a greater number of queens or an additional expenditure for queens to requeen the hives. Beekeepers are beginning to realize the advantage of having young queens in the yard, and if they are to be introduced satisfactorily many will grasp this method of running in the queens under the smoke method if it is universally satisfactory. Much will depend, of course, upon the beekeeper who is adopting the method. If the queen is run in and he has not the fortitude and courage to remain away, but must be constantly lifting the cover of the hive, the new queen may become frightened and run to some obscure corner of the hive or she may pipe, and the result is that she is almost immediately balled.

There are a few phases connected with "requeening without dequeening" that our beekeepers must ascertain through experiment. One is the proper time and the proper place to run in the new queen. If she is run in at the side there is a possibility that the old queen may be at the opposite side of the hive and a day or two will elapse before they meet, in this case the new queen may be filled up with eggs and be under a disadvantage when the final conflict comes. Another circumstance which might militate against the newly introduced queen is that the old queen may be undergoing a rest preparatory to swarming, and the result is a decided advantage for the old queen. If this method of requeening is successfully done, the queen is simply run in and the beekeeper looks for the old queen at the mouth of the hive the next day. She is usually there surrounded by two or three workers who are nosing her about.

At a recent meeting of the District Beekeepers' Association at London, several expressed themselves as successful in the operation of requeening under the smoke method, while others expressed dissatisfaction with it. The columns of this paper are open to beekeepers who have had any experience in this connection, and we know our readers will be glad to read the result of their experience.

Notes From Essex.

Editor "The Farmer's Advocate":
The enthusiasm created by the much patronized and widely-known annual corn exhibition is increasingly manifest in provisions which are being made throughout the corn-belt to secure the best results possible in producing and curing the highest grade seed corn. From all appearances the time is approaching when Eastern farmers will purchase with greater confidence the supply of seed required for silage in dairying sections. If the spirit of co-operation could be more fully established between "Farmers' Clubs" in such sections, and responsible members of "Corn Growers' Associations" in Kent and Essex, it would assist in removing the possibility of having had seed changing hands.

North Gosfield tomato growers are somewhat disconcerted over the assignment of a company who erected or attempted to operate a factory in Chatham last year. The Township having advanced a loan of \$15,000, have now a substantial and well-equipped factory for which they would like to procure a purchaser. While the land-boom conducted by various American companies has passed the initial stage of excitement, yet considerable property is exchanging hands at established prices. Some Americans have purchased a farm of 145 acres fronting on Lake St. Clair, paying the sum of \$30,000 for the same. However, with such good investments at home many of our best citizens are being induced to venture upon schemes that have no permanency; despite the many warnings given by those who are in a position to know the value of such propositions, numbers are being gulled.

Markets

Toronto.

Receipts at the Union Stock-yards, West Toronto, on Monday, March 23, numbered 114 cars, comprising 1,706 cattle, 128 hogs, 240 sheep and lambs, and 17 calves. Trade slow; quality of cattle generally good, and prices tending lower. Choice steers, \$8 to \$8.25; good, \$7.75 to \$8; medium, \$7.40 to \$7.60; common, \$6.75 to \$7; choice heifers, \$7.75 to \$8; choice cows, \$7 to \$7.25; common to good cows, \$3.75 to \$6.50; bulls, \$5.50 to \$7.50; calves, \$5.75 to

\$11.50; milkers and springers, \$45 to \$85. Sheep—Ewes, \$6.50 to \$7.25; rams, \$5.50 to \$6.50; lambs, \$9.25 to \$9.75. Hogs, \$9.25, fed and watered, and \$8.75 f. o. b. cars.

REVIEW OF LAST WEEK'S MARKETS

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

	City.	Union.	Total.
Cars	4	238	242
Cattle	68	3,127	3,195
Hogs	15	6,046	6,061
Sheep	48	357	405
Calves	—	475	475
Horses	—	160	160

The total receipts of live stock at the two markets for the corresponding week of 1913 were:

	City.	Union.	Total.
Cars	8	245	253
Cattle	117	3,053	3,170
Hogs	—	4,896	4,896
Sheep	25	1,031	1,056
Calves	43	572	615
Horses	—	192	192

The combined receipts of live stock at the two markets for the past week show a decrease of 11 cars, 651 sheep and lambs, 140 calves, and 32 horses; but an increase of 25 cattle and 1,175 hogs,

compared with the corresponding week of 1913.

Receipts of live stock at the City and Union Stock-yards for the past week were light in nearly every class. In the cattle classes the supply was quite equal to the demand, and prices have varied very little in the past four weeks.

Butchers'.—Choice, heavy steers sold at \$8 to \$8.25, but there were only three choice animals brought the latter price; good steers and heifers, \$7.75 to \$8.10; medium, \$7.40 to \$7.60; common steers and heifers, \$6.75 to \$7; choice cows, \$6.75 to \$7; good, \$6.25 to \$6.50; medium, \$5.75 to \$6; choice bulls, \$6.75



System-Saving

The surest way to save is by system. If you deposit a certain amount each week or each month in this bank's Savings Department, you will soon find that you have the means to do something worth while. You will also find that the habit of thrift has fostered your spirit of independence and self-reliance.

The Bank of Nova Scotia

Capital and Surplus \$17,000,000
 Total Resources over \$30,000,000
 81 Years in Business
BRANCHES OF THIS BANK
 in every Canadian Province, and
 in Newfoundland, West Indies,
 Boston, Chicago and New York

to \$7.25; medium bulls, \$6 to \$6.50; common bulls, \$5.75 to \$6.

Stockers and Feeders.—Receipts of feeders were light, but quite equal to the demand. Choice steers, 800 to 900 lbs., \$7 to \$7.25; medium to good steers, \$6.25 to \$6.75; stockers, 500 to 700 lbs., \$5.75 to \$6.25.

Milkers and Springers.—Receipts of milkers and springers have been moderate, and common to medium milkers and late springers have been slow sale; good to choice, fresh milkers and forward springers still bring good figures, as high as \$100 each being paid for two choice Holstein springers.

Prices ranged from \$60 to \$100 each, the bulk going at \$70 to \$85 each.

Veal Calves.—Choice calves are scarce; in fact, calves of all classes are wanted, and prices are high. Choice calves sold at \$10 to \$11.50; good, \$9 to \$10; medium, \$7.50 to \$8.50; common, \$6 to \$7.25.

Sheep and Lambs.—Receipts light, and prices as high as ever. Sheep, light ewes, \$6.50 to \$7.25; heavy ewes, \$5.75 to \$6.25; rams, \$5.50 to \$6.50; heavy lambs, \$8.25 to \$8.75; choice lambs, \$9.25 to \$9.75.

Hogs.—Liberal receipts from the Northwest kept hog prices from soaring. All the large packing houses received liberal consignments of Northwest hogs. Selects sold at \$9.25 fed and watered; \$9 f. o. b. cars, and \$9.50 weighed off cars, the bulk of hogs going at these figures.

BREADSTUFFS.

Wheat.—Ontario, No. 2 red, white or mixed, 97c. to 98c., outside; \$1, track, Toronto; Manitoba, No. 1 northern, 99½c., track, bay points; No. 2 northern, 98c.; more at Goderich.

Oats.—Ontario, new, white, No. 2, 37c. to 38c., outside; 40c. to 40½c., track, Toronto; Manitoba, No. 2, 42c.; No. 3, 41c., lake ports.

Rye.—Outside, 62c. to 63c.

Peas.—No. 2, 98c. to \$1, outside.

Buckwheat.—No. 2, 73c. to 75c., outside.

Corn.—American, No. 3 yellow, 74c., all rail, track, Toronto.

Barley.—For malting, 54c. to 55c.; for feed, 43c. to 45c., outside.

Flour.—Ontario, 90-per-cent. winter-wheat patents, \$3.55, bulk, seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.30; second patents, \$4.80; in cotton, 10c. more; strong bakers', \$4.60, in jute.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, \$15 to \$15.50; No. 2, \$13 to \$14.

Straw.—Baled, in car lots, \$8.50 to \$9.

Bran.—Manitoba, \$22.50 to \$23.50 in

bags, track, Toronto; shorts, \$23 to \$25; Ontario bran, \$23 in bags; shorts, \$24; middlings, \$26.

COUNTRY PRODUCE.

Butter.—Receipts were liberal, and prices unchanged, at 32c. to 34c.; creamery solids, 28c. to 30c.; store lots, 24c. to 25c.

Eggs.—New-laid, 29c. to 30c. per dozen, by the case.

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

Beans.—Imported, hand-picked, \$2.25; Canadians, hand-picked, \$2.25; primes, \$2 per bushel.

Poultry.—Receipts principally cold-storage, which were quoted as follows: Turkeys, 21c. to 25c.; geese, 18c. to 20c.; ducks, 20c. to 22c.; chickens, 18c. to 20c.; hens, 14c. to 16c.

Potatoes.—Car lots of Ontarios, 80c.; New Brunswick Delawares, 85c. to 90c., track, Toronto.

Honey.—Extracted, 9c. per lb.

HIDES AND SKINS.

No. 1 inspected steers and cows, 13c.; No. 2 inspected steers and cows, 12c.; city hides, flat 13c.; country hides, cured, 13½c.; calf skins, per lb., 16c.; lamb skins and pelts, \$1 to \$1.50; horse hair, 38c. to 42c.; horse hides, No. 1, \$2.50 to \$4.50; tallow, No. 1, per lb., 5½c. to 7c.

TORONTO SEED MARKET.

Alsike. No. 1, per bushel, \$8.50 to \$9; alsike, No. 2, per bushel, \$7.50; alsike, No. 3, per bushel, \$6 to \$7; timothy, No. 1, per bushel, \$2.50 to \$3.50; timothy, No. 2, per bushel, \$2 to \$2.50; red clover, per bushel, \$8 to \$8.50; red clover, No. 2, \$7.50 to \$8.

Montreal.

Live Stock.—There was practically no really choice cattle offered on the local market last week. Supplies were small all the way round, and no doubt the offerings of fancy cattle were being reserved for Easter. Best steers, however, sold at 8½c. to 8¼c. per lb.; fine stock selling around 8c. to 8¼c.; good sold at 7½c. to 8c.; medium down to 6¼c., and common down to 5c. per lb. Butchers' cows and bulls ranged from 5c. to 7c. per lb. There was still a good demand for milking cows, and the best of these sold up to \$100, while mediums were \$75 to \$80, and common, \$60 each. There was very little doing in sheep and lambs, and prices were 5½c. to 6¼c. for sheep, and 8¼c. to 9c. per lb. for lambs. Calves were in good demand, and the price ranged from \$3 to \$6 for common, and up to \$15 for choice, with some extra fine stock selling as high as \$25 each. The market for hogs was firm in sympathy with advances which took place in the Western markets. Ontario hogs were \$9.80 per 100 lbs., and Manitobas \$9.50 per 100 lbs., weighed off cars.

Horses.—Enquiry for horses was fairly active. Carters are buying for spring. Horses weighing from 1,500 to 1,700 lbs., sold at \$275 to \$300 each; light draft, weighing from 1,400 to 1,500 lbs., \$225 to \$275 each; broken-down, old animals, \$75 to \$125, and choicest saddle and carriage animals, \$350 to \$400 each.

Poultry.—The market was very firm, and demand was moderately active. Turkeys were 22c. to 24c. per lb.; ducks, 16c. to 18c.; chickens, 19c. to 21c.; fowl, 16c. to 18c., and geese, 14c. to 16c.

Dressed Hogs and Provisions.—Market for dressed hogs was steady, prices being 13½c. to 13¼c. per lb. for fresh-killed, abattoir-dressed stock. Smoked meats steady, medium weight hams, 18c. per lb., and breakfast bacon at 19c., while selected Windsor bacon sold at 22c. per lb., and boneless Windsor at 24c. Lard sold at 14¼c. to 14½c. for pure, and 10¼c. to 10½c. for compound.

Potatoes.—The market continued firm, and stock was scarce. Green Mountains were 85c. to 90c. per bag, ex track, in car lots, while Quebec varieties were 75c. to 85c. In a jobbing way, prices were 20c. to 25c. higher, ex store. Bags weigh 90 lbs.

Honey and Syrup.—There was very little old syrup offered. Tins of old syrup sold at 9c. to 10c. per lb., while syrup in wood was 7c. to 8c., and maple sugar, 9c. to 10c. per lb. White-clover comb was 15c. to 16c. per lb.; extracted, 10½c. to 11½c.; dark comb, 13c. to 14c., and strained, 7½c. to 8½c. per lb.

Eggs.—Prices of eggs declined owing to the recent mild weather having started the hens laying. Almost everything offered was Canadian stock, and the price of these was 30c. per dozen.

Butter.—The market for butter held very firm, and an immediate decline is likely to take place. Choice creamery, 29c. to 30c. per lb., wholesale; fine, 28c. to 29c., while second grades were 26½c. to 27½c. Dairy butter was firm, at 23c. to 24c. per lb. for Ontarios, and 22c. to 23c. for Manitobas.

Grain.—Oats steady in price. No. 2 Western Canada oats were quoted at 44c. to 4½c. per bushel, ex store, in car lots; No. 3, 43½c. to 43¼c., and No. 2 fed at 42¼c. No. 3 American yellow corn was quoted at 7½c. Ontario malted barley, 68c. to 70c.

Flour.—The market held firm. Manitoba first patent flour was quoted at \$5.60 per barrel, in bags; seconds being \$5.10, and strong bakers', \$4.90. Ontario winter-wheat flour was firmer, at \$5.25 to \$5.50 for patents, and \$4.70 to \$4.90 per barrel for straight rollers, in wood.

Millfeed.—The market for millfeed was steady. Bran sold at \$23 per ton, and shorts at \$25, in bags, while middlings were \$28, including bags. Mouille was \$30 to \$32 per ton for pure, and \$28 to \$29 for mixed.

Hay.—Prices of hay were a shade on the easy side. No. 1 pressed hay, car lots, Montreal, on track, was \$15 to \$18 per ton, while No. 2 extra good was \$14 to \$15, and No. 2 \$13 to \$13.50.

Seeds.—Merchants were buying hay seed pretty freely, but farmers were still holding back. Prices were: Timothy, \$10 to \$11.50 per 100 lbs., Montreal; red clover, \$22 to \$24 per 100 lbs., and alsike, \$20 to \$24 per 100 lbs.

Hides.—The market for hides was unchanged, and quality poor. Beef hides were 13c., 14c. and 15c. for Nos. 3, 2 and 1, and lamb skins were \$1.20 to \$1.25 each, with horse hides ranging from \$1.75 for No. 2, to \$2.50 each for No. 1. Tallow sold at 1¼c. to 3c. for rough, and 5c. to 6¼c. for rendered.

Buffalo.

Cattle.—Lower trade at Buffalo the past week. Conditions of the beef trade all over is of the most adverse nature. Packers find their coolers well filled, and a reduced consumption. Trade is generally bad during Lent, but this year, packers say, that conditions have been the worst for many years past. The general form, also, of the hindquarters selling for more money than the forequarters, appears to have been reversed, at the present time the coarser forequarters bringing more money, by from a cent to three cents per pound, than the generally accepted better cuts. The reason is plain. Jewish demand is holding up the demand for the forequarters, as foreign beef cannot come in competition with it, while the hinds find competition in the Argentine stuff, and besides the retail trade generally for the past few weeks has been on the hand-to-mouth order, which demoralizes the general beef situation. The retail butcher is buying less, wants small and cheaper quarters, and is making a hard effort to furnish the complaining consumer cheaper cuts. Receipts the past week at Buffalo were rather liberal, Monday showing 165 loads, 35 of which were shipping kinds of steers. Several loads of Canadian steers that were bought here several months ago and returned to the feed lots to be finished up, sold at \$8.95, the top price for the week. Nothing in the handy butchering steer line ranged above \$8.15, and it was a slow deal on all butchering cattle, at a decline figuring from 15c. to 25c. Prime, heavy steers, showed around a steady basis, with good kinds about a dime lower, some in-between, half-fat steers showing as much as a quarter take-off. After Monday, the trade was very weak, local demand calling for very light buys, and there was light outlet to the East. Murmurings of large numbers of workmen being out of employment are heard, and some authorities are of the opinion that this means nothing very substantial for the meat trade generally. Some are predicting lower prices for cattle during

April and May, but some sellers are still inclined to believe that real prime cattle will sell to pretty good advantage, while the warmed-up ones are showing weakness. Receipts for the week reached 4,350 head, as against 3,675 for the previous week, and 4,500 head a year ago. Quotations:

Heavy steers, good to choice, \$8.50 to \$9.25; heavy steers, medium to good, \$8 to \$8.40; butcher steers, good to choice, \$7.75 to \$8.25; butcher steers, medium to good, \$7.25 to \$7.75; butcher steers, common, \$6.75 to \$7; best cows, \$6.25 to \$6.75; fair to good cows, \$5.75 to \$6; cutter cows, \$4.50 to \$5; canner cows, \$3.50 to \$4.25; good to choice heifers, \$7 to \$7.50; fair to good heifers, \$6.50 to \$7; light and common, \$5 to \$5.50; best stockers and feeders, \$6.50 to \$7.25; fair to good, \$6 to \$6.50; common, \$5.25 to \$5.75; stock bulls, \$5.25 to \$5.75; bologna bulls, \$6.50 to \$7; fat bulls, \$7 to \$7.50; best milkers and springers, \$65 to \$85; common, \$40 to \$50.

Hogs.—Hog market held up to a high level again the past week. At no time of the week did good-weight grades get below \$9.25, and Friday packers paid up to \$9.40. Pigs the fore part of the week sold down to \$8.90 to \$9, and the latter part they were jumped up to \$9.25 to \$9.30; roughs, \$8.25 to \$8.50; stage, \$7 to \$7.75. Runs totaled 24,160 the past week; 25,120 the previous week, and 23,840 a year ago.

Sheep and Lambs.—Lamb values took a tumble the past week, buyers getting tops down to \$7.85. There was a reaction the latter part of the week (Friday), best bringing up to \$8 to \$8.15. Cull lambs sold high, compared to tops, ranging from \$7.50 down. Yearlings made \$7.25 during the week, and sheep were firm, choice wethers selling from \$6.25 to \$6.40, with ewes from \$5.50 to \$6. Cull sheep, \$5 down. Receipts the past week, 28,200; previous week, 31,800; year ago, 28,000.

Calves.—Values considerably lower the past week. Tops dropped down to \$10, and at no time did they sell above \$10.75. Culls, \$8.50 down; feds, \$4.50 to \$6. Receipts for the week were 1,850, against 2,100 the previous week, and 2,725 for the corresponding week a year ago.

Chicago.

Cattle.—Beeves, \$7 to \$9.55; Texas steers, \$7.15 to \$9.15; stockers and feeders, \$6.65 to \$8.10; cows and heifers, \$8.75 to \$8.50; calves, \$6 to \$8.75.

Hogs.—Light, \$8.65 to \$8.85; mixed, \$8.60 to \$8.85; heavy, \$8.40 to \$8.85; rough, \$8.40 to \$8.50; pigs, \$7 to \$8.65; bulk of sales, \$8.75 to \$8.85.

Sheep and Lambs.—Sheep, native, \$4.70 to \$6.35; yearlings, \$5.80 to \$7. Lamb, native, \$6.75 to \$7.80.

Gossip.

At the Birmingham Spring Show and Sale of Shorthorns the first week in March, the highest price received was 425 guineas, for Hon. H. C. Lewis' Augusta's Diamond 2nd, winner of first prize in the class not exceeding twelve months old. Four hundred guineas was given by Mr. Maclean for Mr. L. de Rothschild's Ascott Magnet, which was first in the class not exceeding 21 months. The average for 232 bulls was £49, and the sale average for 273 head, including cows and heifers, was £46, the highest price for a female being 42 guineas.

STOCK SALE DATES CLAIMED.

March 26th.—W. A. Hartley, Woodstock, Ont.; Holsteins; dispersion.

March 26th.—P. S. Riddell, R. R. No. 3, Granton, Ont.; Holsteins and grade Shorthorns.

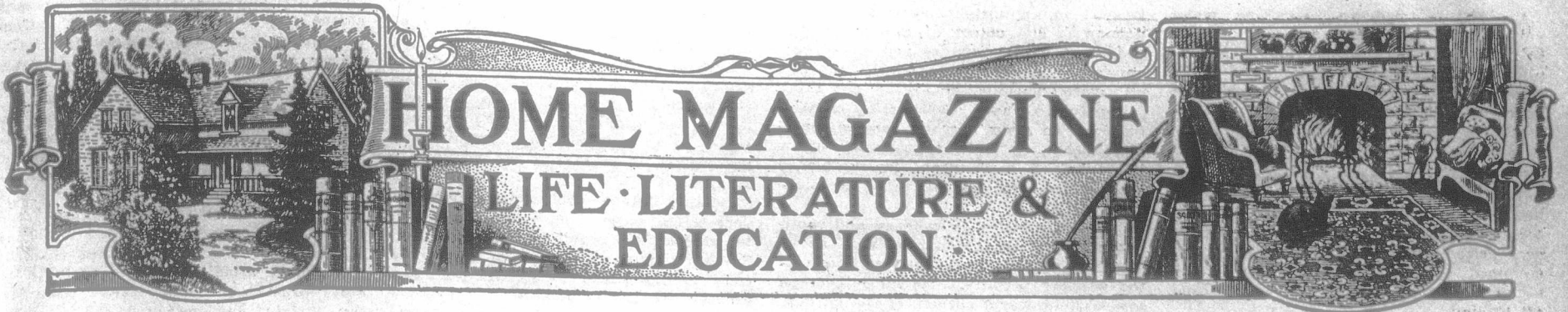
March 26th.—R. McCormick & Son, Paris, Ont.; pure-bred and grade Shorthorns.

March 26th.—T. Alex. Lawrence, Thamesville, Ont.; Clydesdale stallions and mares.

April 3rd.—J. Loyd Jones, Burford, Ont.; Shropshire sheep and Shorthorn dairy cattle.

April 8th.—Camby Charlton & Sons, Springfield, Ont.; Shorthorns.

April 9th.—P. J. Salley, Lachine Rapids, Que.; Holsteins.



A Hill Song.

There is a little hint of spring,
A subtle, silent, unseen thing
By shadowed wall, and open way,
And I, a gypsy for the day,
Go straying far beneath the sky,
And far into the windy hills,
Where distant, dim horizons lie,
And earth with gleams of heaven fills.

My quest is but a singing bird
Whose voice on uplands lone is heard,
And this my path where none hath been,
And this my tent, an evergreen;
The hills are mine own open way—
I hate the smother of the town—
I love by breezy hills to stray,
When thawing streams come leaping
down.

O, joy it is, and free of care,
With the sun and the wind in my face
and my hair,
Alone with the shining clouds which
trail

Silently each like a phantom sail,
Over the hills on the blue of heaven;
O, joy it is to wander here,
Where the wilding heart of the young,
sweet year
Quickens the earth, and Spring is near.

And joy it is, the shorelark's cry—
Full well I know he walketh by;
A sudden winnow of grey wings,
And in the light he soars and sings,
And pausing in his heavenward flight,
A heart-beat, on from height to height,
He trails his silver strains of song
By paths eye may not follow long;
Grey glimpses in the azure fade,
I only hear sweet sounds in the skies,
As if the soul of song had strayed
Invisible from paradise.

—Helen M. Merrill, in The Globe.

Some Echoes of the Horticultural Society's Convention.

Now that planting and seed growing are in the air, the time may be especially opportune for the publishing of some very excellent papers given at the Convention of the Horticultural Association in Toronto at the close of last year's gardening operations. It may be stated that the papers have, in some cases, been abridged, only those parts of interest to farm folk being given. It is obvious that statistics, etc., connected with the Horticultural Society, although of interest to the members, could not appeal to the vast majority of our readers.

OPPORTUNITY FOR ALL.

(By J. Lockie Wilson, Superintendent.)
The new Act regulating horticultural societies and establishing them as a separate entity became law in 1906, and in the seven short years we have worked together a good deal has been accomplished, but there remains much yet to do. Opportunities arise on every hand for our members in every hamlet, town and city (and farm—Ed.) in Ontario, and if each one of that army of 14,000 men and women who are enrolled with us would do even a little in encouraging a neighbor to become imbued with the spirit of the beautification of home and city surroundings, if only to the extent of planting a shrub, vine or flower, what a transformation would take place in the homes, and gladness would fill the hearts of even the strangers temporarily within our gates.

It is pleasing to note that many of the railways on this continent are beginning to appreciate the value of bright, clean, decent stations and station grounds, and some of these corporations are offering prizes to the station

agents who keep their premises in the best possible shape. Green grass, vines and flowers add materially to the pleasure of travellers when they disembark from the trains. There are many stations in the towns and villages of Ontario which are a disgrace, not only to the railway companies but to the citizens who reside therein. How many of the delegates attending this convention know of railway stations in their localities where the paint brush has never been used, and which are neither a thing of beauty or a joy to the travelling public? The influence of our members with the railway companies and station agents in such localities, if properly applied, will remove the grievance. In England, Scotland and Ireland great pride is taken by railway corporations and their employees in beautifying not only the station and grounds but the homes of the employees as well. Let us follow the example of the Motherland in this regard, and the inaugurators of similar improvements here will not have lived in vain.

Writing on this subject in "The American City," Mr. J. Horace McFarland, President of the American Civic Association, says in part: "It will be found that whenever a railway begins to clean up and then to 'green' up about its station, its employees begin to do likewise. Always they are interested. Nearly always they are helpful. Frequently they do civic things at home. One switchman along a great railroad secured permission to bring good earth and establish little beds north and south of his switch shanty, in which he put the product of a five cent package of portulaca. The situation was one of great heat and the portulaca flourished amazingly. There was splendid flash of color as one

as nearly as possibly of what may be called the naturalistic character.

"I protest against the so-called 'flower beds.' Many a beautiful lawn has been made ineffective through an expensive, tortured combination, worked as a wiggle, an anchor, a wheel, or some other unsuited form, into its grassy surface."

"All these flower bed abominations are relics of the recent dark ages of decoration."

"The planting that gives a restful feeling, that gives double the effect of distance and space on the ground, is the group planting usually treated as a background, with irregular edges involving, as I have said, the shrubs and plants of the neighborhood. Such planting should look as if it had happened along the roadside of a lovely valley or mountain highway. I have seen miles—yes hundreds of miles—of God's planting of this sort which would enrapture travellers if it might have been transplanted in small sections in the vicinity of scores of railway stations."

"If there is ever any doubt as how best to plan the suggested planting of railroad surroundings, let the investigators go to the nearest woodland and on its edge he will almost inevitably see a reasonably perfect example.

"I have seen very few herbaceous plants used about railway stations. Iris, asters, delphiniums, phlox and other more vigorous subjects would well serve as an adjunct to the shrub planting, and I sincerely trust that those who undertake to persuade railroads to improve, and who make the undertaking more concrete and helpful by direct and detailed suggestions, will see the wisdom of availing themselves not only of the native and near-by things, but of the

benefit of not only ourselves but of each of our neighborhoods. Standing together shoulder to shoulder great things will be accomplished in 1914.

"As the ivy that girdeth the tree trunk,
This law runneth forward and back,
For the pack is the strength of the wolf,
And the wolf is the strength of the pack."

VEGETABLE PRODUCTION ON A THIRTY-FOOT LOT.

(George Baldwin, Toronto.)

I hope it is no egotism to state that in both the floral and vegetable department of amateur gardening, in which I have been engaged for the past eight years, I have been entirely successful from a prize-taking point of view. For instance, in 1912 I won \$101 in prize money, one gold and four silver medals and a silver cup; and in 1913 I have won about \$80 in prize money, one silver and two gold medals, and the \$100 silver cup for the third year in succession. Consequently it now becomes my own property, and, believe me, there is no prouder man in Ontario to-day. (Applause). You will also agree that I have to work hard, when I tell you, that all my gardening operations have to be done before seven a. m., and after six p. m., with an occasional Saturday afternoon and holidays.

The happiest life, in my opinion, is that which is full of the most agreeable occupation.

Now if gardening be considered as an amusement, as a game in which your neighbors and competitors are striving to win it becomes truly delightful and gives such results in return for the energy you put into it.

Any kind of gardening will become a science, full of interest and enjoyment, provided you go at it with a will, and in the right way. Otherwise you will meet with disappointment.

Original wealth came from the soil, and, while I do not garden from a commercial point of view, the foregoing list will convince the most sceptical that there is still wealth in the soil.

The two most important qualifications or essentials in gardening are energy and ambition. Energy is as necessary to a garden as hay and oats are to a horse, if you want results. Ambition in a gardener is like steam to an engine or butter to bread. With these qualifications in gardening a man never knows when he is beaten.

Gardening should be regarded, as I have already intimated, as a game which is played from the love of it rather than from necessity.

It is infinitely the most absorbing hobby or amusement you can think of. Knowledge is essential to success, though there is no royal road to that knowledge. But get up early in the morning and get busy. Noting the mistakes and omissions you make this year so as to rectify them next year. Join the horticultural society of your district (one dollar per year) and get all information therefrom for all kinds of gardening.

Let it be distinctly understood that you cannot be a base ball 'fan' or an automobile enthusiast, as well as a successful gardener.

The main thing is to grow well what you do grow, and that means a study of your garden. It means procuring good seed. It means learning how to fertilize and fight the insects. It means a lot more than I can tell you in the short space of time allotted me. But I shall make a few suggestions which may help the amateur to make the most of a back yard similar to my own where I put in hours and hours of pleasure.



A Bit of Mabel Osgood Wright's Garden.

passed on the trains. Investigation showed that this man had later given away hundreds of packets of portulaca seeds to his neighbors, and that a whole vicinity had been started in flower loving through this action.

"Summing up the whole matter, I propose then, first, that the stations themselves shall be improved into convenience, courtesy and availability inside; that the colors with which they are painted shall be harmonious and relatively inconspicuous; that the planting, aside from the universal grass which helps so much in most cases, shall include, if possible, shrubs, plants and possibly trees common to the neighborhood, and that this planting should be

wide variety of splendid herbaceous plants, satisfactory, economical and delightful—found in this country. It might sometimes prove practicable to propose to a railroad that if it would do the lawn making, a community or civic body would supply the planting of native and characteristic shrubs, upon a carefully considered plan."

This has been the most successful year in our history, both in regard to membership and to expenditure for civic improvement, and, in conclusion, I wish to thank the members of the Association for the cordial assistance rendered continuously through the seven years of our existence, and trust that we will all be able to continue our efforts for the

In 1912 I tried to see how many varieties of vegetables it was possible to grow in my garden, and I accomplished 82 varieties. Here is a rough sketch or plan of the garden for that year, and I may add, that I always work to a plan, which I prepare in the winter time.

Hot Bed.—To make a success of your garden it is necessary to have a hot bed or green house. I prefer the latter, and I built one for myself out of my prize money, 12 by 15 feet, and equipped it with a small hot water boiler and three rows of 1½ inch pipe all around.

Sowing Seed.—About the second week in March after buying what seeds you require, look over your plan and see which seeds need to be started in heat, sowing some each of the following: cabbage, peppers, eggplants, tomatoes, lettuce, onions, celery, melons and citrons. If you used a hot-bed sow the seeds in rows three inches apart. If you use a green-house sow in seedpans or shallow boxes, empty cigar boxes are good, keeping them as close to the glass as possible, so that the seedlings will not get spindly. Use lots of seed, as it is easy to thin out. Press seeds in firmly, cover thinly with soil and keep moist. When they have the second or third leaf, transplant into berry baskets, putting about six seedlings in each, and keep them growing on until time for planting out in the open.

Preparing Garden.—The garden should be heavily manured and dug roughly in the fall, only digging that part of the garden again in the spring where you intend growing cabbages, cauliflower, lettuce, tomatoes, eggplant, peppers, etc., but merely rake the ground over in the spring where you intend planting beets, carrots, parsnips, salsify or other root crops. This will prevent the roots growing crooked.

Along about the 15th of May prepare your garden to receive the seedlings which have been raised in hot-beds, also for seeds which you sow in the open, following your plan to the letter. I find it a good method to take a rule, with a pot of white paint and brush, and make a mark every eighteen inches along the fence, as this is the usual distance for planting vegetables. Cucumbers, squash, tomatoes, etc., need more room. Give them two spaces.

Date of Planting.—All planting, both seeds and plants, should be completed by May 24th or 31st at latest, being governed, of course, by weather conditions. The first week in June is time enough to plant out pickling onion seed, celery and winter radish seed.

Squash, Marrows, Cucumbers.—Sow the seeds of squash, marrows and cucumbers in hills that have been prepared three feet apart each way, by digging out the holes fifteen inches deep, putting in well-rotted manure, and covering over to the depth of four or five inches. Press the seeds in edgewise, firm down thoroughly, and scatter a few radish seeds in each hill for the squash bug to feed on.

Planting Tomatoes.—Prepare the ground for tomatoes similar to the squash, putting the plants the same distance apart, except the ornamental varieties, which do best growing up the fences, besides giving your garden a better appearance.

Varieties of Tomatoes.—The best varieties for a city back garden, from my experience, are Livingstone Globe, Livingstone Coreless, Earliana and Chalk's Early Jewel. You can economize on space and get better results by only allowing four shoots to each tomato plant, which should be trained up sticks one inch square, four feet six inches above the ground, at an angle of 75 degrees outward. You will find by adopting this system that you will have four sets of fruit ripened, and one set for green tomatoes on each stick. The fruit will ripen quicker, have a better flavor and be smoother and larger than if allowed to run all over your lot.

Pick the fruit as fast as it ripens to give the rest a chance to fill out. I also have a method of planting tomatoes which I have found very successful, and that is, after preparing a hole, fill in with soil on the slant from the level of the ground at one end of the hole down to six inches at the other end. Then lay your plant on this slanting bed and fill in with soil, firming it down well. Tie the plant to a small stake so as to

keep it in an upright position from the ground. The object of this is to give the plant more moisture and more root, and consequently better growth above.

Carrots, Turnips, etc.—I do not think it needful to waste your time by explaining how to grow carrots, turnips, parsnips, beans or peas, as they will grow in spite of inattention, provided they are thinned out and cultivated occasionally.

Cabbage.—For early cabbage and cauliflower, sow seeds in hot-bed about March 15th, and plant out as soon as the weather permits. As for late crops sow seed in warm corners of the garden.

Varieties of Cabbage and Cauliflower.—Winnigstadt, Henderson's Summer and Glory are three of the best cabbages, and Snowball is the best cauliflower for narrow gardens between board fences.

Onion Culture.—Onion seed should be sown in heat about March 10th, forced along, hardened off, transplanted about May 10th into good rich soil, such as your last year's celery bed, planted from four to six inches in rows eighteen inches apart to enable you to get between with the hoe to cultivate deeply and regularly. If you want big onions, feed once a week with strong liquid manure. When plants are in the young stage, scatter some slacked lime or powdered sulphur occasionally to keep down the onion maggot. The Southport onions are the best, red, yellow and white, but have a row of prize-taker as well.

Celery Bed.—The celery bed should be prepared in the spring in the following manner. Mark off with string the size

Garden cucumbers should have the earth about them constantly stirred up and kept moist.

Eggplant.—Do not forget that if you grow eggplants you must ever be on the watch for potato bugs, as they will leave your neighbors' potato patch and eat up your eggplant in short order if not picked off regularly, and the plants sprayed.

Pickling Onions.—About June 10th sow your seeds of pickling onions and winter radish. The soil need not be rich. Sow the onions thickly so they will come up like grass. They will push one another out of the way.

General Remarks.—A few general remarks in conclusion. Constant vigilance is truly the price of success in the growing of garden crops. What with worms, bugs and all manner of flying and creeping things, plus blight, mildew, and rust, the path of the garden maker is edged with thorns as well as roses. However, let me hasten to tell the beginner that rarely do all things come at the same time, and some not at all in many gardens. The best way to insure immunity from garden pests is to grow strong, vigorous plants, use good seed and keep the ground well enriched and constantly cultivated.

The best time for watering is the evening, but above all do not sprinkle the foliage in the hot sun, as that causes brown spot and blisters. I am a firm believer in nitrate of soda in liquid form, a handful to a pail of water in the early part of the season, also during very dry spells.

The main point to be regarded in

to \$1,549,000,000, and it expresses shame that it is the Christian nations of Europe who have been guilty of this offense against the teachings of Christ.

Sikorasky, a Russian aviator, has invented a "sky bus," an aeroplane provided with wings which have a spread of 121 feet. Not long ago sixteen passengers were conveyed by it for a considerable distance. It is lighted and heated, and provided with a sleeping apartment. Aviators say that Sikorasky has shown aerial passenger craft to be quite practicable, and that when Mr. Mr. Wright has perfected the "stabilizer" on which he is working, its addition to all aerial craft will do much toward putting the popular motor-car out of demand.

Hope's Quiet Hour.

Will Ye Also Go Away?

Then said JESUS unto the twelve, Will ye also go away? Then Simon Peter answered Him, Lord, to whom shall we go? Thou hast the words of eternal life.—St. John vi: 67, 68.

Our Lord had fed great multitudes of hungry people in the wilderness, and they wanted to take Him by force and make Him a king. He slipped away from them and returned secretly to Capernaum, but He could not be hid. Those who had received physical food from His hands crowded after Him, but received more blame than praise for their action. The Saviour from sin was disappointed to find sin-sick souls caring chiefly for temporal blessings, so He spoke words which changed the admiration of many into dismayed indignation. Solemnly He told them that He was the Bread of Life, that those who should eat His flesh and drink His blood, should live by Him, should have eternal life, should dwell in Him and He in them.

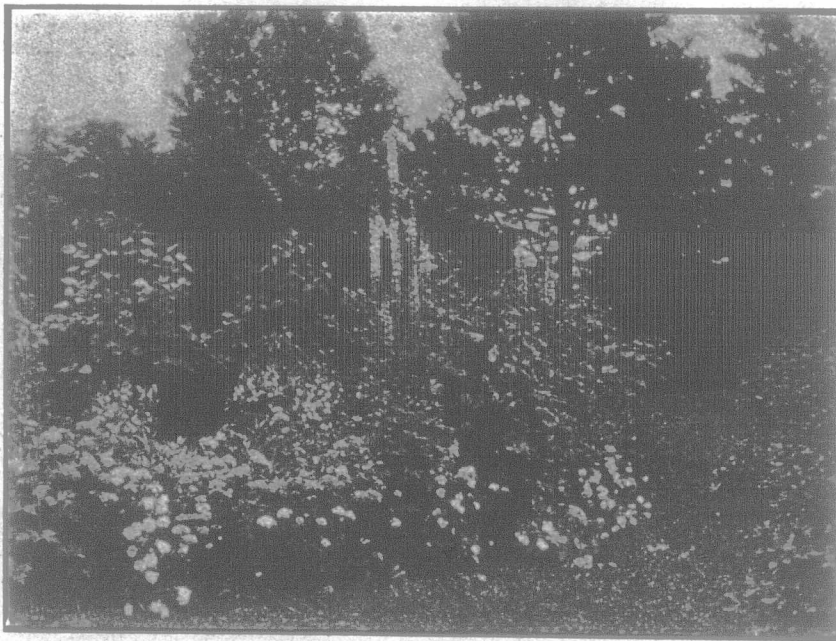
It is little wonder that the Jews said doubtfully or indignantly, "How can this man give us his flesh to eat?" It is not surprising that many, who had joined the company of disciples, went back and walked no more with Him. No explanation of the mysterious words was offered at that time, and even the apostles could not understand what their Master was telling them to do. He did not explain, but appealed to their loyal affection, saying to the twelve, "Will ye also go away?"

St. Peter voiced the thoughts of all when he answered, "Lord, to whom shall we go? Thou hast the words of eternal life. And we believe and are sure that Thou art that Christ, the Son of the Living God."

Because they trusted, when they could not understand, and did not go away, their Master afterwards showed them how they could obey the command which seemed so unnatural and impossible—the command to eat His flesh and drink His blood.

Three times lately I have had the privilege of eating the Lord's Supper in the company of sick people who will probably very soon see the Lord Himself face to face. Three who have lived their lives—as so many do—in absolute disregard of their Master's command: "Do this in remembrance of Me," when they found death staring them in the face, felt constrained to obey, even though they could understand very little of the meaning of the great sacrament.

We all must die, and it is "Christianity or nothing" for us. Either Christ will be the Light of the new life on the other side of death, or there is no light and no life. To whom can we look for hope, fellowship and life, if not to Him? This is a negative way of putting it, but I am not now speaking to those who can walk fearlessly and joyously through the dark gateway into life—knowing that Christ is with them and is their very Life—but I am speaking to those who scarcely know what they believe. "Will ye also go away?" He says to hesitating souls, who are quite ready to echo St. Peter's question: "Lord, to whom shall we go?" but are not prepared to say whole-heartedly, with him: "We be-



Luxuriant Growth in Mabel Osgood Wright's Garden.

[Perennial larkspur, tall nasturtiums, hollyhocks, perennial phlox, asters, and other midsummer bloomers, will give a luxuriant growth such as this is,—if the ground be rich and mellow enough.]

of bed required, say for four varieties, eighteen inches apart. Consequently it will need to be seven feet six inches wide or five spaces on your fence, rows running north and south. Shovel the earth out to a depth of eight inches, throwing it up in a ridge on either side. Fill the trench up with well-rotted manure, which dig in deeply, tramping over this and digging it again to insure the manure being well incorporated with the soil. Then throw three or four inches of fine soil on the top, into which put the plants eight inches apart in rows, keeping the bed moist and constantly stirred right up to the time for bleaching. Use the ridges for growing radishes for the table. You may get two or three crops before you need the earth for bleaching.

Bleaching.—I prefer earth in preference to boards for bleaching the celery, as it gives a sweeter and nutty flavor.

Varieties of Celery.—For varieties I have the best success with White Plume, Paris Golden, Roseribbed Paris and Evan's Triumph, the latter two for late varieties. Have your plants good and strong before putting out, plant firmly, and give liquid manure regularly up till earthing up time commences.

Leeks and Salsify.—Leeks should be treated the same as celery. In fact, I always plant them in the same bed.

Salsify need the same treatment as parsnips. Rich soil is not necessary.

transplanting is to handle the plant carefully. Dibble your hole big enough to allow you to put all the roots in a downward position, especially with the cabbage family and celery, as this is the primary cause of stunted growth. Always plant firmly and shade to prevent the sun from scorching and withering.

It should be borne in mind that it is not nature's design that a plant should be transplanted, and we ought to show sympathy for a plant as well as for our fellow creatures.

And now, having taken a walk through the kitchen garden, all I have further to say is, may you have a successful season next year, and may you be favored with reasonable rain and sunshine. For, be it remembered that without the co-operation of the elements all our efforts are in vain.

The Windrow.

An alliance of the churches of Switzerland has invited the churches to a conference to pronounce against war in all its forms. The appeal calls attention to the fact that during the past thirty years the Christian nations of Europe have increased their standing armies from 2,650,000 men to 4,200,000, and their military expenditure from \$697,000,000

love and are sure that Thou art that Christ, the Son of the Living God."

The great sacrament of unity, intended to link together in living fellowship the Church—which is the Body of Christ—seems to stir up more disunity than anything else in Christendom.

I am writing to Christians who differ greatly in their opinions about the meaning of our Lord's words. He has not seen fit to explain His meaning—probably it was as impossible to make men understand as it would be for a great mathematician to make some abstruse problem clear to a little child. We have to take his words on faith a little while. The men who listened to that mysterious discourse, in the synagogue of Capernaum, were permitted to go away without any explanation being offered. If they did not trust Him enough to wait until His time for explanation should arrive, then they must go.

Now, I don't intend to try and explain the mystery which my Master chose to leave unexplained, but I want to echo His pleading words, "Will ye also go away?" and tell you as clearly as I can something of what you will gain by obeying His dying command, and what you will lose by turning your back on Him who says, "Do this in remembrance of Me."

Let us look at the body, and its way of gaining strength. We eat food which is lifeless and powerless—bread, milk, meat, etc.—and the life within our bodies mysteriously draws life, power, warmth, and strength, from cold and lifeless food. How can warm, red, living blood, be made out of cold, white, dead milk? We don't know, yet we don't refuse food because we can't understand. We do know that the best food can give no life or warmth to a dead body. The life within us must do its part or the food will be useless, or worse than useless. Give a typhoid patient roast beef and you will probably kill him.

So we don't know how the outward visible part of the Lord's Supper can nourish and strengthen our souls, but we do know that it cannot do us any good—may do great harm—if we don't digest it spiritually. As St. Paul says, those who eat and drink without "discerning the Lord's body," bring judgment on themselves, and are weak and sickly.

Right here I want to say a few words to those who are afraid to obey our Lord's command because St. Paul has warned us of the danger of "eating and drinking unworthily." They seem to think that "coming unworthily" and being "unworthy to come" are the same thing. Our Lord's own parable of the guests bidden to the great feast may show the difference. The servants were sent out to gather in beggars and outcasts from the road. These, in their rags, and ignorance of palace manners, were all unworthy to come. But at the gate each guest was offered a wedding garment from the king's own wardrobe. Those who felt themselves unworthy, thankfully accepted the gift—and so came worthily. One—who thought his own clothes good enough—refused the offered garment, and was rejected because he had not on a wedding garment.

So a man who comes to the Lord's Supper, knowing himself to be unworthy—but knowing also that God above has power to cleanse from sin—accepts thankfully the offered cleansing and is clothed with the spotless robe of Christ's righteousness, and so comes in a worthy manner, though he is still unworthy to come.

If an angel should come down from heaven, announcing that next Sunday the Saviour of the world would be visibly present in our midst, sinners who felt their need of help would not go away. The only reason for turning our backs on Christ is doubt of His power to save, or a love of sin which makes us keep as far away from Him as possible, lest we might have to give up something evil which we desire.

In Eastern nations, friends were linked together by a covenant of bread, and a covenant of blood was the pledge of a lifelong friendship. God offers to link us to Himself by a double covenant of bread and blood. Shall we presume to refuse that glorious offer?

When we eat bread it becomes one with us, giving life to our bodies. So the true Bread of Life offers Himself to be the Life of our souls, saying: "He that eateth Me, even he shall live by Me."

Here the children of God's Family gather week by week around their Father's table, eating of the same loaf, drinking of the same cup. No matter where your loved ones may be you can meet them there, and know that the Life of Christ is linking your hearts and throbbing through your veins.

A bridegroom's parting gift to his loved bride is treasured by her in his absence; so the gift pressed by the hand of Christ into the hand of His bride, the Church, the night before He died for her, will be treasured by her until the Bridegroom's return. Read the last half of the sixth chapter of St. John's Gospel, and answer in all honesty the searching question: "Will ye also go away?" Will you turn your back on the Lord and refuse His invitation? The question is His—He is waiting for the answer.

DORA FARNCOMB.

The Ingle Nook.

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

Mrs Pankhurst.

A few years ago Mrs. Pankhurst delivered an address within a few blocks of where I was staying. I did not go to hear her. Pure prejudice kept me away. I was disgusted with the tactics of the militants in England; I did not see why women should be so crazy to vote,—there were so many other interesting things to learn and to do; surely there were enough good men in Parliament to safeguard women's interests;—and so on, and so on.

Now, I am frankly sorry I did not go. Whatever he said, Mrs. Pankhurst has established herself as a world-figure. For the time, at any rate, her name is as familiar as that of Mr. Lloyd-George or Dr. Sun Yat Sen, nor will history find it possible to omit all mention of her "women's war," the first of its kind ever known. It may laugh at her ammunition, but it will pause upon her aims, and perhaps it will settle the question as to whether the women's war was a result of the Pankhursts, as so many seem to think, or the Pankhursts a product of a world-irritation among womenkind.

Personally, I am inclined to think the latter. In the old days, when the higher institutions of learning were closed to women, and even the rudiments of a liberal education to the great mass of them, woman did not question. She accepted conditions as they were, or rather as they had been impressed upon her. Man was the head and the superior. He had the mind, she had the bodily charm. The woman must be dependent upon man—no other course was open to her—therefore her chief business in life was to secure a husband; by coquetry, by enhancing her personal charms, by appealing to his emotions, his vanities,—anyhow, so long as she got him. If she were fortunate enough to capture the right sort of man, well and good; if she had to be contented with a makeshift, she must live her life out somehow.

The interesting things of soul and intellect were not for her; she did not even know, for the most part, that they existed. If she chanced to be brilliant, she was so in spite of her opportunities, not because of them. . . . And so by far the greater number of "her"—if we may believe the old novels, which, presumably, were mirrors of their time—spent her days either in intrigue or in a stupid inanity. She simpered and sighed. She fainted—perhaps because her corsets were too tight. She tinkled on a spinet. She made "elderflower wine." She had few worth-while ideas, and, worse still, did not recognize the deficiency. She could not engage in healthful sport, because that would be "unladylike," so she was daintily fragile,—a pretty, alluring creature, from a mere animal standpoint, in youth, an ugly, uninteresting old woman, when her Dresden china charms had faded.

But two loop-holes saved her, as

woman. In the first place, a sufficient number of her forged forth into new lands, where conventions were perforce shaken off, and where, working shoulder to shoulder with her husband, she regained her place as a human, and helped to found a new foothold for all women. The woman pioneer,—what has she not meant to the world? . . . In the second place, those of her who did not so fare forth, oft-times "found" herself in motherhood. As a mother she learned—something; yet mere motherhood never yet completely revolutionized a woman. The mother of the past was far different from the best type of mother of to-day, the universal type—we will hope—of tomorrow: the mother who knows how to care for her child, not by haphazard, but scientifically; the mother whose own mind is so broad and so keen and self-controlled, that from his babyhood, the child spends his days, not only with a superior animal, but with a personality; the mother who can never by any chance stamp upon the impressionable mind of the child a narrowness that will require half of his life to slough off—fortunate if he does so, then.

Is it not true that the only mother who can discharge her obligations to the child in the highest possible way is the thinking mother, the educated mother, the inspired mother, the mother who, though she may have missed the schools, insists upon self-education for the sake of her child?

But the world moved on, and woman, the major part of it so far as mere numbers are concerned, could not stand still any more than anything else was standing still. Little by little she got glimpses into the realms of the beautiful world of the mind, and then came a vague unrest and a longing for more. "The mind is the man." Woman began to realize that the mind is the woman, too. She began to long for opportunities for self-development. She began to think less of sex and more of soul,—for what is soul but mind at its highest?

Tentatively and timidly she began to step forward, then, before long, she began to find herself blocked almost at every turn,—because she was a woman. Sex, sex, sex!—Everywhere that was hurled in her face until she almost began to hate the word. She wanted to be a human being, with all of a human being's rights and opportunities,—all that without sacrificing any of her duties as a woman,—but her meaning was misunderstood or misconstrued. As a result, there were evolved many Pankhursts, differing, it is true, in temperament, but united in unrest and in aspiration. Of the number, three mounted pre-eminently to the crest of the wave,—Mrs. Pankhurst and her daughters, Christabel and Sylvia.

Just here will you pardon me for jotting down a personal opinion? You, of course, have yours, and just possibly you may justify militant methods; two or three among the fine—and gentle—women whom I know, do so unreservedly. For my own part, however, I have never really been able to work up any sympathy whatever for them.

Of course, a plausible case is brought forth. "Constitutional methods have been tried for forty years," the militants declare, "ever since the days of John Stuart Mill. We ourselves worked steadily in that way for eighteen years. All else has failed. Men have had to fight for every privilege they have won; the only difference is that our battle is a bloodless one. The only life sacrificed yet has been that of one of our own, self-immolated last year at the Derby."

All very true, yet to some of us it seems that such tactics as smashing windows, putting acid in mail-boxes, pummeling cabinet ministers, and kicking and fighting against policemen, involve too much loss of dignity to promise accomplishment of much that is important. When a thing is made ridiculous, half the force of the "cause" is lost. When men laugh "at" instead of "with," they forget to think.

Even the mutilation of fine works of art, and stretching of barbed wire covered with paper as a bulwark against the police, as was done last week, savor over-much of the "catty." Women cannot afford to be cats, either to purr or to show vindictive claws. Their purpose in life should be too deep and true to permit of either.

A year or so ago—I forget the precise date—the most uniquely-beautiful procession ever seen in Washington, marched through the streets to the Capitol, and there, on and below its broad sweep of white steps, ended the parade by acting a play—clever, graceful, compelling, beautiful, before President Taft and the members of Congress. The procession was made up of women; the play was made up of them, composed by them,—women representing the suffragists of the United States. No one thought of calling them "suffragettes"; they were "suffragists"; and their presentation made its appeal. Perhaps it has not been as a result of it that woman suffrage has been granted, without noise or fuss, in so many States of the Union; but a scheme so appealing, so clever, and so well carried out, certainly did not retard the movement.

A few weeks ago, too, in Winnipeg, a burlesque, composed and acted by Canadian suffragists, was put on at one of the theaters of the big Western city, and voted a great success.

Now, one wonders, one wonders,—what would have been the result had the dramatic and the poetical been enlisted in England from the beginning, instead of window-smashing and minister-pummeling?

True, there were a few fine parades in London, but they came rather as the entr'acte of the drama. The drama itself has been rather uniformly of the militant species. Had the clever women of England devoted their energies and their campaign funds to the composition and acting of beautiful dramas and pageants, and the preparation of musical presentations and fetes,—all suffragist, all demonstrating the capability, and determination and self-control of woman-kind and the justice of their cause, what might not have been accomplished? After all, men are not as practical as they think they are. They are likely enough to succumb to beauty and sentiment, even though these be based on a good, hard platform of common sense.

But it is easy to talk, is it not?

At all events, it must be conceded, after reading her history, that Mrs. Pankhurst is unselfish in her aims, if mistaken in her methods. And it must be conceded also, that the "cause" is one not unworthy even of the life of the girl who met her death while trying to stop the King's horse at the Derby,—a foolish risk, no doubt, yet to her vision a justifiable one.

Indeed, when one knows the whole story, or even a part of it, one finds it impossible not to recognize that those who sneer most at the "woman's movement" are those who know the least about it or the need for it.

Again, will you pardon a personal reference? I have said that not so long ago I was bitterly opposed to the suffragettes, and could not see why it should be necessary for women to vote. My confidence in "the good men" in the governing ranks and their chivalry towards women was great. I had not counted upon the general laxness of humanity to deal with anything that does not personally affect it. Neither did I know anything of the medieval laws concerning women and children, still standing, ready to be resurrected, fairly or unfairly, on occasion. In short, I was supremely ignorant, so naturally supremely dogmatic in regard to the matter.

I think the first enlightenment came with the reading of an article by Elizabeth Robins—in McClure's Magazine, if I remember rightly—on the discrimination against women as crystallized in English written and unwritten law.

I remember that, after reading that article, I was for a few indignant, angry moments, ready to excuse the suffragettes for almost anything they might do. . . . Husband and wife one, but the husband that one. . . . A wife permitted to have separate property, but denied redress in case the husband, quite within the law, spent or squandered that property. . . . The husband entitled to all the money in cases where husband and wife work for wages. . . . The right of the husband to leave the whole of his property away from his wife and children. . . . The attitude of the lower-class Englishman, who holds that, as his wife is his

chattel, he has a right to beat her. . . These were just a few of the revelations that glinted, with sinister enough flicker, across those pages and the pages of similar articles read subsequently.

Surely, I thought, we in Canada cannot realize the conditions, legally, under which English women have to live, and I think so yet.

Nevertheless, we have Augean stables of our own. The next revelation came at the Convention of the Women's Institute, Toronto, in 1912, at which addresses on Canadian law as it concerns women and children were delivered by Mr. Alex. Mills, a lawyer of Toronto, and Mrs. Parsons, of Forest, who has made a searching study of the question. Many of you were present, and many more of you read the reports of that Convention published subsequently, hence it is not necessary, nor is there here space, to go over all the points in detail. You will remember that it was pointed out that our Dower Law needs remodelling; as it stands at present a wife can, of course, always claim her dower of one-third, or, if there are no children, one-half of the landed property. If, however, a man and his wife wish to retire from, say, farming, and the property is sold, the wife must sign away her right, and the husband who chooses to be mean or shiftless can do what he likes with the money. . . Again, our Divorce Law needs attention. As it stands, divorce is comparatively easy for the rich, almost impossible for the poor. . . Then there are the ridiculous laws in regard to illegitimate children, laws that make the mother, in Ontario, the only parent the child has, the father escaping Scot-free from any responsibility or obligation in regard to the matter. Similarly unjust laws obtain in regard to somewhat similar matters in some of the other provinces.

All this, reader, refers to conditions that may not affect you or me; the fact remains that such rulings may affect other women of our country, and so, in this way we must all be our sister's keeper.

More widespread is the grievance of the unwritten law which makes it possible for employers to force women to work for about one-half the salary given to men for doing the same work; and that other one which permits cities to compel women to pay income tax on much lower salaries than men are taxed for. Teachers, clerks, office-women, practically all women-workers come within these limitations, and, without a vote, without representation, with their petitions continually shelved for "further consideration," it is impossible for them to help themselves.

Yes, assuredly, women have a "cause," and it is only the narrow, unreasonable, and unchivalrous man, or the one with a streak of natural womansuffragephobia in him, who, knowing the whole story, will still refuse women the right to be recognized as "persons" in the eyes of the law.

I do not believe that, of late years at least, men in Canada have deliberately meant to be unjust. They have just been dilatory—because the matter did not touch themselves. They have neglected to remove the antiquated pronouncements, yet every now and then the "letter of the law" must be carried out.—Possibly, where salaries are concerned, there has been some deliberation. . . Had women the franchise, it is safe to say that these out-worn menacing statutes would quickly enough be amended,—not to speak of the newly-constructive work for whose doing women would unite almost en masse. Is it not significant that in 1912 the Brewers' Association of the United States voted \$1,000,000 to fight woman suffrage?

At the same time, personally, I am not among those who believe that by giving women votes all wrongs will be righted. Men and women are more alike than they think. When women have the vote, I believe there will be women grafters as well as men grafters.—Already I have heard of women who voted, locally, against their convictions in regard to local option, because they were told that if local option carried, the value of their property would be lowered.—I believe, too, that on broad national questions, such as tariffs and the naval problem, it will be quite possible for women to be hoodwinked and muddled and induced to

vote the wrong way, so far as the greatest good to the greatest number is concerned, just as it has been, and always is possible for the great majority of men to be so muddled and hoodwinked. Verily, the ways of politicians are past finding out. . . No; things will not be so greatly altered, on the whole, when women can vote,—but there will still be the few sweeping questions which they can all understand, and on which they



Mrs. Pankhurst.

will unite, almost shoulder to shoulder throughout their ranks, and these questions will be important—at least to women, as workers and as mothers who have children to be safeguarded.

But, dear me! I began to write about Mrs. Pankhurst, and my pen has run off on a dissertation on woman suffrage. Never mind; this will be the foundation. Next day we will come to the life-story of the little militant lady, who, after



Arrest of a Suffragette.

all, has made many warm friends as well as many bitter enemies.

JUNIA.

CRUMB CAKE.

Recipe for Crumb Cake for "Farmer's Wife."

Mix $1\frac{1}{2}$ cups flour, 1 cup white sugar, 4 tablespoons butter. Take out $\frac{1}{2}$ cup for icing. To the rest, add 1 cup buttermilk, 1 cup seeded raisins or currants, 1 teaspoon soda, 1 teaspoon each cinnamon and cloves. Put icing on before putting in oven.

FARMER'S DAUGHTER.

This "sounds" delicious, Farmer's Daughter. I'm going to try it when I go home for holidays.—J.

RE FLOWER GARDEN.

Dear Junia,—I have found your hints in the answers to questions asked very helpful, and I now come for help with my flower garden.

The soil about our house is very gravelly, and we find it very hard to get flowers to grow. I would like to know some good, hardy annuals, and how to grow them. Where could I send for some seeds? I would also like to know how to grow pansies, and if they are hardy. Thanking you in advance, I remain, yours truly, M. H.

Really, "M. H.," you can do nothing with a gravelly soil. Here is my suggestion: Get "the men" to excavate space enough for two or three borders this year, filling the space with good, rich soil, hauled from somewhere else. Next year have the same thing done, and so on, until you have all the space you want for flowers. This year, in a border close to the house or to a fence, you might sow morning-glories, scarlet-runner beans, and tall nasturtiums; or if you prefer shade rather than flowers in vines, you might put in a Japanese-hop plant. Another bed or border might contain phlox drummondii, correopsis, and candy-tuft, with a thick border of sweet alyssum, while a third bed, also bordered with sweet alyssum, might be given over to ostrich plume or chrysanthemum-flowered asters. If you wish a greater variety, you might add annual larkspur, Shirley poppies, mignonette, petunias (if you care for their reddish-purple tones), cornflowers, nicotiana and verbenas. Some like marigolds and zinnias, which bloom long and well; personally, I do not care much for them,—they are so "stiff." For a spot in which a massing of tall plants is desirable, dahlias and ricinus will be found to fill all requirements.—By the way, I forgot,—one plant will do well on a sandy spot where nothing else will flourish,—the portulaca, cheery and bright in spite of hot sun and neglect. I wonder if it is not a distant cousin of the irrepressible "pusley" which it somewhat resembles. Must "look that up" some day.

Recipes for Early Spring.

Vegetable Oyster Soup.—If you were wise last year you had some vegetable oyster plants in your garden. As you know, some of these, like parsnips and Jerusalem artichokes, may be left in the ground until spring, and may now be taken up, crisp and fresh, for using. To make a very nice vegetable oyster soup wash and cook in boiling salted water, as many of the roots as required. When soft, drain the roots and put them in cold water to which a little vinegar has been added. Scrape off the skins, then put the scraped roots through a vegetable ricer. Cook together a little flour and butter, add the oyster, then pour on gradually a little boiling water and bring to boiling point. Add scalding-hot milk, season to taste, and serve very hot with biscuits or croutons.

Hamburg Loaf.—Season 1 lb. minced round steak with salt and pepper and add half an onion, chopped fine. Add a beaten egg, then $1\frac{1}{2}$ cups bread crumbs. Make into a long roll, sear on a hot dripping-pan, pour on enough brown gravy to cover bottom of pan, cover, and bake one hour. Serve hot or cold.

Salmon Croquettes.—Beat an egg well, and mix with 1 cup bread crumbs. Add $\frac{1}{2}$ can salmon, seasoning to taste, and 1 tablespoon melted butter to the egg. Mix well, form into croquettes, roll in beaten egg, then in bread or cracker crumbs, or cornmeal, and fry in deep, hot fat.

Peach Pie.—Line a pie-pan with pastry, and partly fill with canned peaches. Make a custard and cover the fruit. Bake slowly in a moderate oven, and serve cold.

Baked Potatoes and Cheese.—Take 9 fair-sized potatoes and scrub clean with a vegetable brush. Cut them in halves, spread each half with a little butter, sprinkle with pepper and salt, and lay a thin slice of cheese on top. Place on a slightly greased pan, and bake in an even, hot oven, until soft and brown.

Eggless Chocolate Icing.—Put in a saucepan $1\frac{1}{2}$ cups sugar and $\frac{1}{2}$ cup sweet milk, let come to a boil and boil four minutes. Do not stir it. Remove from the fire, add flavoring, pour out on a platter, and beat until thick enough to spread on the cake. While preparing this cream icing, have $1\frac{1}{2}$ squares of chocolate melting. Cover the cake first with the cream icing, then spread the chocolate smoothly over it.

Nut Biscuit.—Sift together 2 cups flour, $\frac{1}{2}$ teaspoon salt and 1 heaped teaspoon baking powder. Rub in 1 large tablespoon butter, and 1 cup finely-chopped nuts. Add 4 tablespoons sugar, and enough milk to make a biscuit dough. Shape with the hands into small balls, place well apart on greased pans, brush tops with milk, sprinkle some of the chopped nuts on top, and bake in a hot oven. Serve hot with butter.

News of the Week

Hon. William Paterson, former Minister of Customs for Canada, died at Picton, on March 8th, in the seventy-fifth year of his age, and was buried at Brantford on March 21st.

The Royal Ontario Museum, a magnificent storehouse for curios, etc., on Bloor street, Toronto, was opened formally by H. R. H. The Duke of Connaught, on March 19th.

Senator Hewitt Bostock, of Kamloops, B. C., has been chosen as Liberal leader in the Senate in succession to the late Sir George W. Ross.

The new naval programme for Greece includes three Dreadnought battleships.

Prof. Mercalli, the world-renowned authority on volcanic and seismic phenomena, was burned to death on March 19th, through the overturning of a petrol lamp in his bedroom.

Mr. Winston Churchill has announced the naval estimates of Great Britain for 1914-15 as amounting to \$257,750,000, an increase of \$18,700,000 over those of last year.

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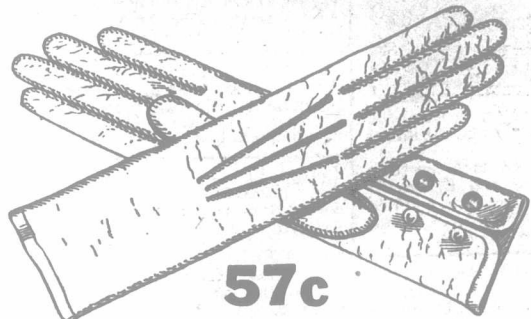


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51-AW29. "Riviera," one of the most popular hand-made hats shown this season. Shape is of fine straw braid, in Black, White, Burnt, Saxe Blue or Old Rose, with drooping brim, rolled at edge, fancy wired and shaped brim of fine lace, in Black or White, trimmed with high bow of beautiful quality silk Faille ribbon and dainty bunch of silk flowers in colors to harmonize at either side. Ribbon may be had in colors to match, or in Gold, Sky, Royal, Pink, Navy, Emerald, Cerise, Beetroot, Robin's Egg Blue, Amber or Tango. **3.65** Special bargain price.

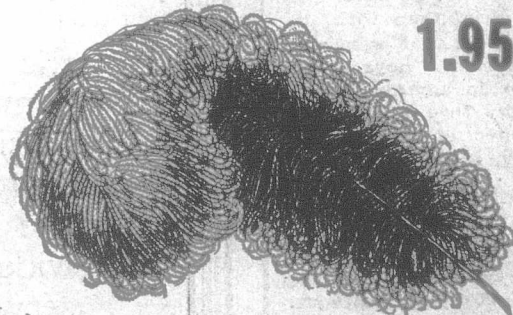
SEE OUR SPRING AND SUMMER CATALOGUE FOR BIG VALUES IN MILLINERY FLOWERS AND HOSTS OF OTHER ARTICLES.

BUY YOUR EASTER GLOVES AT THIS BARGAIN PRICE



20-A50. Women's Fine Quality Lambskin Gloves, with neat cord points, oversewn seams, gusset fingers and two dome fasteners, in the following spring colors: Tan, Brown, Navy and Grey. Sizes 5 1/2 to 8. Buy now for future need at this exceptionally low price. **57c** Per pair

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1,000 ONLY AT THIS PRICE 1.95

50-A27. Beautiful Ostrich Plumes, new flat curl, fine quality, measures 17 inches long x 7 inches wide laid flat, may be worn flat on hat, or used for the popular upright trimming. Black, White, Saxe Blue, Emerald, Old Rose, Tango (Mahogany shade), or Beetroot (the new Reddish Purple shade). A wonderful bargain. Order **1.95** early. Price



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WOMEN'S FINE All-Wool Serge Suit

JUST READ THIS

52-A608. The unsurpassed facilities of our own factory are plainly shown in this new Spring Suit of fine All-wool Serge, specially turned out for our Mail Order customers, at a price so sensationally low that nothing short of a furore will greet its appearance. The coat is 26 inches long, and lined with satin; the skirt is in two widths, and measures 53 inches around the lower hem, while openings are set at each side beneath the button trimming to ensure added freedom if required. Choice of Black or Navy. Bust sizes 32, 34, 36, 38, 40, or 42. Skirt lengths 38, 39, 40, 41, or 42 inches. The sensational price, each **7.50**

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VERY STYLISH

51-AW28. New Dressy Watteau Sailor Effect, the most popular hat in New York and Paris, showing the new side bandeau, trimmed with silk flowers. Shape is entirely hand-made of fine straw braid, in Black, White, Burnt, Old Rose or Saxe Blue. Side pleating of ribbon from back to front at edge of brim on left side, a folded ribbon around crown, with two smart ends and a knot at front. Ribbon may be had in colors to match, or in Gold, Sky, Royal, Pink, Navy, Emerald, Cerise, Beetroot, Robin's Egg Blue, Amber or Tango. Special bargain price **2.50**

BIG BOOT VALUES



WOMEN'S 13-BUTTON BOOT 2.45

MEN'S at 2.95

To be fashionable in dress is to well dressed. Fashion in foot dress is becoming more pronounced. Greater attention is paid to shoe styles. Variety, distinction, originality are demanded by folk who are recognized style leaders. Here are two new spring models we are offering at very special prices.

52-A56. The Women's is a 13-button Boot of fine select Gunmetal Calfskin, Goodyear welted soles, a stylish, graceful walking boot that gives real comfort to the wearer, and contains the latest fashion features. Sizes 2 1/2 to 7. You save at this **2.45 price. Per pair**

52-A57. The Men's, a Blucher Boot of fine quality Velour, calfskin uppers, bright finish, the tops are finished dull, Goodyear welted soles, perfectly smooth inside. A smart new style for business men's wear. Sizes 5 1/2 to 11. At a saving price. **2.95 Per pair**

The Governor of Texas has asked permission to send his Texas rangers into Mexico to arrest the Federal soldiers accused of the murder of Clemente Vergara, an American citizen. His body, when exhumed a fortnight ago, gave evidence of torture previous to murder.

At time of going to press there is news of "war in Ulster," and Government troops are being disposed in Ireland to be ready in case of emergency. It is believed by many, however, that no serious move will be made, notwithstanding the fact that 110,000 men have been enrolled to defy Home Rule.

The Beaver Circle

Competition on "Boys".

Dear Beavers,—All the letters in the last competition have been examined, but to-day we only give the names of the Prizewinners and Honor Roll Beavers who are girls. — "Ladies first," you know, boys.

However, as the girls were to write about "Boys," and the boys about "Girls," no doubt the boys will be as much interested in to-day's letters as in their own.

The prizewinners among those who wrote on "Boys" are:

Mildred Metler, Welland Co., Ont.; Effie Stoltz, Huron Co., Ont.; Florence McEwen, Middlesex Co., Ont.; May Lemen, Peterboro Co., Ont.; Mary Jeffrey, Bruce Co., Ont.

Honor Roll.—Ida Ball, Louisa Carson, Isabel Cruickshank, Grace Perry, Barbara Martin, Ethel Morton, Gladys Marshall, Myrtle Simpson.

Mildred Metler's composition, by the way, cannot be said to be exactly original, as it is the report of an address. However, as reporting is not at all easy work, and as hers was so nicely done, we decided to give her a prize with the rest. The prizes are equal.

WANTED, HAZEL YELLAND'S ADDRESS.

Some time ago we wrote to Hazel Yelland in regard to her Garden Competition Prize. The letter, however, was returned to us, so that it appears that Hazel's present address is not that which she gave us last year. We shall be pleased to hear from her.

BOYS.

Dear Puck and Beavers,—When I saw in the paper we were to have a new competition, the subject seemed to me an easy one, as I had recently heard an address about "Boys," given by Dr. Laidman. He was one of the principal

Do You Grow Oats?

In this day of intensive farming it has become absolutely necessary to secure the largest possible returns from the land, and as Oats have become the most important and valuable crop, special attention should be given to the selection of seed. Herewith find our prices for some splendid proven varieties. Prices are ex-warehouse, Toronto, in 5 bushel lots or over. Bags free.

American Banner, grown from Registered Seed, 75c. per bushel.

Siberian, grown from Registered Seed, 75c. per bushel.

O.A.C. No. 72 Oats. We feel confident that we have the purest and best stock of this variety that can be got—no Wild Oats. If you find any we want you to send the Oats back. \$3.00 per bushel, 5 bushels or over at \$2.75 per bushel, bags free.

Dauboney, practically free from Barley, \$1.00 per bushel.

Dauboney, good sample, contains odd Barley, 75c. per bushel.

Black Victor, very fine sample, 85c. per bushel.

or Corn?

See our Catalogue for prices and description. We pay freight on 10 bushel orders of Corn, bags free. We guarantee the Corn to be satisfactory.

or Timothy?

Ninety-nine times out of one hundred we can save you money on Red Clover, Timothy and Alfalfa. This week's prices are per bushel for our best brands. We pay the freight in Ontario and Quebec to nearest Railway Station on orders of 180 lbs. or more of Clover and Timothy. These all grade No. 1 Government Standard.

"Sun" Red Clover, \$12.00; "Ocean" Alsike, \$13.00; "Diamond" Timothy, \$4.25; "Gold" Alfalfa (Siberian grown), \$10.25; "Gold" (Canadian grown), \$15.00. Allow 30c. for cotton bags.

We have a small quantity of extra No. 1 Red Clover which we offer at \$13.50 per bushel.

or Barley?

O.A.C. No. 21, very fine sample, 90c. per bushel, bags free.

O.A.C. No. 21, No. 2, good clean seed, 80c. per bushel, bags free.

Our best sample of this Barley tests 54 lbs. to the measured bushel, and at O.A.C., Guelph, they report it 95 per cent. pure, with no weed seeds.

or Mangels?

Did you ever figure out what it cost you in returns you do not get when the root seed germinates poorly and leaves big empty spaces? Why not get Keith's tested seeds for 1914, and be absolutely certain of live seeds and a perfect stand. If you are ordering Clover and Timothy, Seed Grain or Seed Corn, your Mangels can go along with them by freight at 5c. per lb. less than prices quoted herewith (the 5c. is the postage charge). If you are ordering 5 lbs. made up of any of the varieties of root seeds offered figure at the 5-lb. rate.

Mangels—Keith's Prizetaker, Danish Shidstrup (a new intermediate very fine). Prices for both, post-paid, lb. 35c., 5 lbs. or over 30c.

Mangels—Keith's Yellow Intermediate, Yellow Leviathan, Mammoth Long Red, Giant Half Sugar. Prices, postpaid, 30c.; 4 lbs. or over, 25c.

Swede Turnips—New Century, Scottish Champion, Elephant. Price, postpaid, lb. 30c.; 5 lbs. or over at 25c. per lb. Keith's Prizetaker. Price, postpaid, 35c.; 5 lbs. or over at 30c.

Mammoth Smooth White Intermediate Carrot. Price per lb. 60c., postpaid.

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speakers at our Sunday-school Convention. As I had taken notes on some of the best addresses, I will now try and tell you all I can remember of Dr. Laidman's interesting address.

Every boy is a conundrum to himself and everyone else. Some men would like their boys to be angels instead of real boys, although perhaps they were not half so good when they were young. The reason is, they forget they ever were boys themselves. To teach a boy, you must be in sympathy with him. Some money ought to be spent in entertainment for the boys, and he should also be given a good education. It is said that in some schools they have more trouble with the girls than with the boys, but it is also said that women are more stubborn than men. Boys do not like to be driven to do anything, but if they are asked kindly they will do anything that is expected of them. Boys should be kept busy, although this is a hard thing to do. But boys generally have some special work that they like to do. Let them do it, and do not drive them into doing something they don't like. Encourage play. The boy cannot work without play, although work is good for him. In each period of the boy's life, he takes someone for his hero, whom he would like to be like.

There are five different periods in a boy's life.

First, is childhood age, the age from three to ten. They then look up to their fathers as being great heroes. A great responsibility rests on the fathers when boys are at that age.

Second, is the age from ten to fourteen years. This is called the "gang" period, when the boy likes to get with his chums or boys of his own age. His hero then is the leader of the gang. He no longer likes to play with his little sisters, and the worst thing to make him wear is curls. He is shy, too, except when he is with his chums. He is at the age when he wants to be more important than he has been. It is natural at that age for him to want to kill something (such as frogs or snakes). Try to keep him from cruelty, and don't scold him, and say he is the worst boy in the world.

Third, is the age from thirteen to fifteen, and we still find him looking for a hero. Teach him that the greatest Hero is Jesus Christ.

Fourth, is young manhood, the age from fifteen until manhood. At this age he is a very disagreeable being. The hero he worships now is himself; he thinks there is no one like him, and what he does not know isn't worth knowing, and he does not try to make himself agreeable with other people. Do not worry about him; he will come out all right in the end. Be patient with him.

Fifth, is manhood, when he is over thinking so much of himself, and is willing to work with others. He has now come to the age of wisdom, and can see how foolish he used to be, and he is willing to respect the rights and opinions of other people. As this is all I can remember of Dr. Laidman's address, I will close.

(Age 11 years, Jr. IN Class.)

North Pelham, Ont.

BOYS.

Dear Puck and Beavers,—What would this world be if it were not for the good and kind boys that dwell in it? It would be dreary, and the sunshine would soon leave your life, if it were not for the cheery whistle of the boys as they work and play. What should we do without our dear brothers? To think of it even makes me shiver.

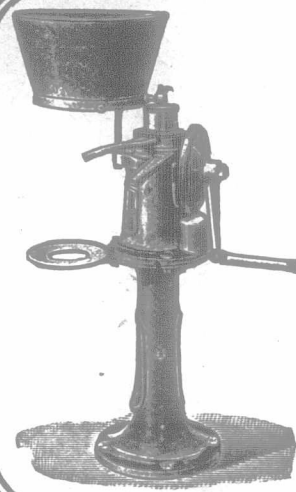
When you wake up in the morning, the first thing you hear is the cheery crackle of the fire, and the merry whistle of the boys as they split wood and pile it on the blazing fire. How would the paths be cleaned and the cows milked if the boys did not do it? Our dear fathers would have to do it, and they would soon break down if their sons did not take all the work and worry off their hands that they could.

Can boys work in the house? Why, of course they can, and work as well as girls if they feel like it. Now, you girls of the Beaver Circle just get a big apron on your brothers, and see if they are not real good kitchen-maids. Perhaps I should not have said this, for the boys will be getting their sisters out to shovel



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HIGHLY improved farm adjoining town of Melita, South Western Manitoba, of rare beauty and fertility. Unexcelled in ornamentation in Canada and recently illustrated in the Advocate. Write owner of this and other farms, who is retiring, for descriptive price list—farms, stock, implements, furniture. Land ready for the seed. Don't delay if you want a choice farm, large or small at a big bargain. R. M. Graham, Melita, Man.

I HAVE a large number of housekeepers and good domestics requiring advanced passage to Canada. I personally guarantee each person remaining in situation until fare repaid. Hughes, 3 New Street, Birmingham, England.

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WANTED—Experienced farm hand. Married or single. Must be able to milk. Good house furnished. Yearly engagement. Hy. Stead, Sparta.

WANTED—Persons to grow mushrooms for us at home. From \$15 per week upwards can be made by using waste space in yards or gardens. Illustrated booklet sent free. Address, Montreal Supply Company, Montreal.

WILL SELL or exchange for male puppy, grand big collie female young champion sire—imported dam ten dollars; also female puppy. B. Armstrong, Codrington, Ontario.

WANTED—A few competent farm hands of good references beginning April 1st, for 9 or 12 months, on a 1700 acre farm near Chatham, Ontario. Good board, good wages, and good management assured. Address: Bruce F. Bradley, Jeannette's Creek, Chatham, phone 962 r 1-3.

WHITE Rock eggs for hatching, bred direct from Rochester, N. Y. cup winners. Hermon Claus, Shannonville, Ont.

YOUNG MAN, good milker and early riser, wishes position on farm for year or summer. State wages to Tim Rielly, Belton P.O., Ont.

Must Be sold. Cheap for cash. IMPORTED CLYDESDALE STALLION rising three, a weighty fellow of good quality. Sired by Sir Hugo. Will give a cash guarantee that he is a successful foal getter. For particulars write Box 401 Bowmanville, Ont.

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Davies' Warrior Choice Stock bag, \$1.50.

D. A. McNAUGHTON Ontario

Lochabar STOCK FARM is offering a choice 2-year-old roan bull, Bobbie Burns 84269. He is one of the right good ones, deep fleshed, low-down, straight, thick and full of Shorthorn character; very sure and active; he is a show bull as well. Priced right for quick sale.

D. A. GRAHAM, R. R. No. 3, Wyoming, Ont. Strawberry Plants—Williams' Improved Parson's Beauty. Splendid. Sample; Fountain, Steven's Champion and other leading varieties. If interested, write for our catalogue and price list. W. WALKER, Port Burwell.



Why don't some flours behave?
 Why don't they keep good?
 Because they contain too much of the
 branny particles, too much of the
 inferior portions of the wheat—may
 be little pieces of the oily germ.
 Which act on one another—that's
 why some flours "work" in the sack.
FIVE ROSES is the purest extract of
 Manitoba spring wheat berries.
 Free from branny particles and such like.
 'Twill keep sound, and sweet longer than
 necessary.
 Keep it in a dry place, and when needed
 you find it even healthier, sounder, fresher,
 drier than the day you bought it.
 Buy lots of **FIVE ROSES**.
IT KEEPS.

Five Roses Flour

Not Bleached



Not Blended

LAKES OF THE WOODS MILLING COMPANY, LIMITED, MONTREAL

the paths and split wood; but I just said it to honor my brothers, and any other kind boy who helps his mother and sisters in the house.

In the city the boys are what make it so cheery, as they play and run along the streets. Some people say they are just a nuisance, but if all the boys left the city the people would find out what good they had been. It is the boys that run errands for their tired mothers, and who do all the work they can out of school to help their parents pay the rent and grocery bills.

Some days when I will be in the house wondering what I can do, a merry shout will greet my ears, and my brother will call, "Hello, Sis! You in the house this nice day? Come out and have some fun with me on the ice!" Just the thing I longed for, and soon we are having a great time on the smooth ice. Then, at dinner-time, it is always your brothers that come in looking so hungry, and when they start to eat they always have some recommendation to make, as "Say, mother, this pudding is great," or "Sister, you're a dandy cook. You know just what a boy likes." Now, girls, treat your brothers well and keep them at home nights by playing games with them and having a few boys and girls in once in a while. Then they will like home as well as anywhere. Now, Puck and Beavers, I have written this in a hurry, as I want to help my brother to build a snow-man, but I tried it anyway, and there is nothing like trying to write a composition, even if you think you can't. Good-bye, all.

FLORENCE McEWEN.
 Denfield P. O., Ont., R. R. No. 3.

BOYS.

Dear Puck.—Seeing your competition in February 12th issue of "The Farmer's Advocate," I thought I would write.

ENGLISH HAND-MADE LACE

MADE BY THE COTTAGERS OF BUCKINGHAMSHIRE.

This is the old-fashioned lace made on the cushion, and was first introduced into England by the Flemish Refugees. It is still made by the village women in their quaint old way.

Our Laces were awarded the Gold Medal at the Festival of Empire and Imperial Exhibition, Crystal Palace, LONDON, ENGLAND, for general excellence of workmanship.

BUY some of this hand-made Pillow Lace, it lasts MANY times longer than machine made variety, and imparts an air of distinction to the possessor, at the same time supporting the village lace-makers, bringing them little comforts otherwise unobtainable on an agricultural man's wage. Write for descriptive little treatise, entitled "The Pride of North Bucks," containing 200 striking examples of the lace makers' art, and is sent post free to any part of the world. Lace for every purpose can be obtained, and within reach of the most modest purse.



COLLAR—Pure Linen.
 \$1.00.



DAINTY HANDKIE—70c.
 No. 910.—Lace 1 1/2 in. deep.

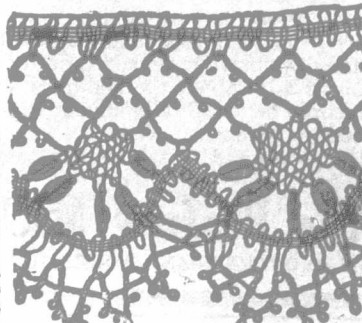
IRISH CROCHET.

Mrs. Armstrong having over 100 Irish peasant girls connected with her industry, some beautiful examples of Irish hand-made laces may be obtained. All work being old direct from the lace-makers, both the workers and customers derive great advantage.

Every sale, however small, is a support to the industry.



(1 1/2 in. deep.) STOCK—Wheel Design.
 Price 25c. each. (Half shown.)



No. 122.—50c. per yard.

Mrs. Addie Armstrong, Olney, Bucks, England

Boys are very mischievous, fun-loving fellows. They like to tease and play tricks constantly. They like playing football, baseball, croquet, tennis, and many other games. Baseball is very hard on them if they don't wear masks, for sometimes they get hit on the face. Some of them like turning somersaults and wrestling. Most of the schoolboys are well acquainted with that kind of exercise. Some boys are very fond of hunting squirrels, muskrats, rabbits, and other harmless animals. They generally trap or shoot them. The muskrat skins they sell to make a little pocket-money. They keep the rabbits and squirrels for pets. They also like to catch a few pigeons to sell. Very few boys like flowers. They would rather go fishing and get half-drowned when wading. The farmer boys like to ride horseback, and hitching dogs and calves to hand-sleighs. One boy hitched a big calf to an old cutter and went down to the school. He was a cruel, hard-hearted boy.

Boys are sometimes very proud and conceited. Little boys think they are men as soon as they can wear overalls. When they begin to wear long pants, they think they know everything and can do anything. Some think they are men when they can smoke cigars. I think most of them are a little above the last incident. One little boy set a match to a cat and it set the barn on fire.

Some like carpentering. Most of them can make little boats, cages, and other things.

Others like to read and study books and magazines. Still others just like to read funny little stories and jokes.

Well, I think I have written enough about boys, especially bad ones.

EFFIE STOLTZ (age 13).
 Auburn, Ont.

P. S.—I received a pretty card last

Please Mention The Farmer's Advocate

Progressive Jones Says:

"Get a Good Crop in Spite of Handicaps"

Take a pointer from Mr. R. A. Jackson, of Cottam, Essex County, who faced a small crop due to late planting and a bad dry spell. From an acre of fertilized land he reaped over one-third more bushels of corn than he did from an acre without fertilization. He has a high opinion of



Harab FERTILIZERS

Good fertilizing helps to win prizes, too. In the field contest for the best ten acres of corn in Kent County, the first, second and third prizes were won by Messrs. W. G. Stark, R. J. Wilson and Leslie English & Son. ALL of these gentlemen used Harab Fertilizers.

There is a sure way to bring back the old-time profits you got when your soil was fresh. Harab Fertilizers will build it up, nourish and enrich the soil while stimulating the crop.

There is a Harab Fertilizer especially good for your soil and the crop you wish to raise—it will be found among the 25 different kinds manufactured by the Harris Abattoir Company. Let their experts select it for you.

But first of all write for a copy of The Harris Abattoir Co.'s Fertilizer Booklet. Visit the Harab Agency in the nearest town or village and get fully posted about these tried and proven fertilizers.



*Yours for bumper crops,
Progressive Jones*

The Harris Abattoir Co., Limited, Toronto
Fertilizer Department

THE Easy Washer

Is different and better



The Principle is Right

Two vacuum basins force the air and suds through the clothes. Simply press handle. No wear, no tear. The Easy washes quickly, easily and well. Will not dry out and fall to pieces. It's all steel galvanized, sanitary and durable. Write the

EASY WASHER CO.
Clifton Place, TORONTO
Makers of Pleasant Mondays.



If You Have Two or More Cows

It will pay you to use the Standard Cream Separator instead of skimming cream by the old method. By using the

Standard

you will get \$15 more profit from each cow per year—and this is a low figure. Most dairymen do much better than this with the Standard. You can thus readily see that it takes but a short time for the Standard cream separator to pay for itself. And by taking advantage of our EASY PAYMENT PLAN you can pay for your Standard out of the extra profits it earns for you. You've heard a lot about the Standard. It's the separator that has made new world's records for close skimming at experimental farms, cheese and butter factories, and on the farm. Write for folder, entitled, "Skimming Results." It gives the proofs. Also ask for our catalogue.

The Renfrew Machinery Company, Limited
HEAD OFFICES AND WORKS, RENFREW, ONT. Agencies Everywhere in Canada.

Cream Wanted

We pay express charges on cream from any express office within 200 miles of Ottawa. We also supply cans. Sweet or sour cream accepted. Write for particulars to
Valley Creamery of Ottawa, Limited
Ottawa, Ontario
Please mention "The Farmer's Advocate."

Some Spuds—"Buckskins" will deliver the goods where standards fail; try this.
EARLY OHIO, white strain; vigorous grower; highest quality; best early potato. Price, \$1.75 per bag F.O.B. St. Thomas. P. N. HAIGHT, Box 124, St. Thomas, Ont.

WANTED AT ONCE FIRST-CLASS GARDENER

Address applications to
R. MOORE, Glen Allan Farm, Allandale, Ont.

November from a Beaver in Owen Sound. I thank her very much. I wish she would tell her name.

BOYS.

Dear Puck,—You asked us to write a composition about boys, so here goes:

Well, in the first place there are different tribes of boys, and boys whose ways differ entirely from one another. There are white black, brown, and yellow boys, rough, cruel, bad-tempered, good-natured, kind and gentle boys. Well, I am going to talk about white boys this time. Most boys are very fond of work, and those that are farmers' sons can help them quite a lot. But some boys are lazy, and will not do anything, and then they expect to be great men when they grow up. Work keeps them out of a lot of mischief (for, you know, boys are very mischievous). Now, boys, don't get cross at me for saying this, as I don't mean you all. When a party of mischievous boys get together, they will insist on getting into a lot of scrapes. They will tease the dog and worry the cat, pull the girls' hair, scare them, and do all sorts of other pranks, and sometimes make fun of the good boys. Boys are fond of all kinds of pleasure, such as boating, fishing, swimming, baseball, hockey, skating, tobogganing, and skiing. Most boys are very fond of horses, and could spend all their time with them. They will often help their mother or sisters about the house, such as splitting wood, carrying in water, etc., and if they happen to spill any when Sis is in rather a bad humor, she will call them careless, and say, "Dear, dear! Boys will be boys." Why can't you be more careful? Then they will go out to the barn and see what wants doing there. Boys are very useful in the world; and when they grow up each has his own trade. Some are sailors, soldiers, policemen, detectives, bank clerks, office clerks, carpenters, smithies, farmers, missionaries, preachers, and ever so many other callings. Say, girls, aren't you glad you don't live in China, where they think the world of their boys, and I have often heard that they throw the little girls out on the hills to die? I would not like that. Well, Puck, you told us not to write too long a letter, so I must quit. Well, bye-bye till next time.

MAY LEMENDIN.

Care of Robert Bell, R. R. No. 2, Peterboro, Ont.

BOYS.

Dear Puck and Beavers,—I saw that there was to be a new competition for the Senior Beavers.

"Boys will be boys" is an old saying. They are very fond of making noise, also of excitement, and this is quite right for them, so long as they do not carry it to extremes.

Honest, good-natured boys are certain to be the same kind of men.

While they are small, nothing pleases them more than to be allowed to help in anything of which they are "incapable."

When country boys get to be ten or twelve years of age, they are, or should be, able to build a load of grain, also of arranging the sheaves in the mow.

When boys live in the country they have much to interest them, besides what they would have in the city. When the city boy rises, he eats his breakfast, and then he has nothing to do until it is time to go to school, but after school he has nothing at all to do except his lessons.

When the country boy rises, he goes to the barn and helps do the chores. After these are completed, he goes to the house and has his breakfast, which he hastily devours. He then goes about gathering up his books, preparatory to setting off for school.

After he returns from school (in summer) he goes to see what the men are doing. If it be harvest, he is shocking, building loads, or mowing in the sheaves. It does not take him long to have a drop of sweat on the end of his nose, and another on the bottom of his chin. About an hour's work is over when "Co-boss! Co-boss!" comes floating to his ears. He looks toward the pasture, and if the cows are not coming, it seems to be expected of him to get them. Most boys milk at least one cow. After

supper he often plays until dark, when he goes to his lessons.

In the winter, however, things are different. People do not rise so early, six o'clock being the average time. Breakfast is over at seven o'clock, and he is ready for a few chores. He helps to feed the cattle, clean stables, and many other little tasks. At night he helps with the chores before supper. After supper it is lessons. He then feels ready for a good sleep.

Out-door games are more to their tastes than are in-door games. "Leads," and "Pump-pump-pull-away" are two favorites with them. "Leap-frog" affords them much amusement, as does "Fox and Goose," and "Snowballing." For some boys, the best part of snow-forts is knocking it over.

I have never heard of a boy who started to read "Boy Tramps." It is a story of two boys who tramped across the Dominion. "David Copperfield" and "My Strange Rescue" hold them to reading.

One day Bob Merrick came into the sitting-room where his aunt was sewing.

"Have you seen my cap around since lunch?" he asked, fushing, for he knew it should be hanging in the hall.

"I do," she replied, with an amused smile.

"Where?" he asked, quickly, for he saw a few boys of his set coming down the street.

"On your head," she replied, soberly. "A good spot," commented Bob. "Just where I wanted it to be."

"Master Robert, it should be on that peg in the hall."

"I'll be back after a while to hear the rest of the sermon," he said, slipping through the door.

The next thing aunty saw was Bob's legs flying down the garden path.

Wishing the Circle every success, I remain yours truly,

MARY M. JEFFREY (age 12).
Port Elgin, Ont.

THE LAST OF THE GARDEN COM-PETITION LETTERS.

Dear Puck and Beavers,—I started to get my garden ready about the middle of May. The first thing was to choose the ground. I chose a piece 24 x 6 feet, then I dug it and raked it very fine, and in a day or two after, when the ground was real dry, I marked it off for the different seeds. Along the back of it I planted sweet peas for a background; these seeds are round. I had lettuce along each end; these seeds are long, flat, white. For a border, I had portulaca; this is a low plant, and almost creeps along the ground, and makes a very good border. This seed is very small and dark. In the center there was a little round plot in which I had zinnias. They grew pretty tall, and had a lot of flowers on them. The rest were vegetables—carrots, beets, radishes and parsley. The carrots, beets, and radishes all grew fine, and there were quite a few.

The rest of the flowers were candytuft, asters, and sweet alyssum. The candytuft was of different colors, and the asters were also, different colors.

I saw quite a number of birds in the garden, and I used to put some crumbs in it to gather them. I only saw one or two hummingbirds. In the very hottest weather I watered it nearly every night.

The asters and the zinnias were the last to stay in bloom. The rest of them died as soon as the cold weather came. The time that the picture was taken, all the things were at their best, but the picture was not very good, as there were some scratches on it.

Well, I will close now, hoping this will escape the w.-p. b., and wishing the Beaver Circle every success.

ELIZABETH HUGHES.
R. R. No. 2, Hanover, Ont.

Dear Puck and Beavers,—My garden was 14 x 22 feet. I had it divided into four equal parts. In one part, corn, lettuce, and radishes, with a border of zinnias; in another part, citrons, and morning-glories along the fence. They flowered well when they were once started, and were so many colors. Every time I looked at the garden I could see one mass of beautiful flowers. There were about two hundred flowers on every morning in a patch twelve feet long.

The third part had lettuce, onions, and radishes, with a border of nasturtiums

Cream of the West Flour

The hard wheat flour that is guaranteed for bread

It makes great, big bulging loaves of the lightest, whitest and most wholesome bread.

Give Me a Chance to Prove My FLOUR

We want to make "Cream of the West" Flour better known in every locality in Ontario. And with this end in view we offer the following



Special Prices Direct to the Farmer

FLOURS		FEEDS	
	Per 98-lb. bag.		Per 100-lb. bag.
Cream of the West Flour (for bread)	\$2.90	"Bullrush" Bran	\$1.30
Queen City Flour (blended for all purposes)	2.50	"Bullrush" Middlings	1.35
Monarch Flour (makes delicious pastry)	2.50	Extra White Middlings	1.45
		"Tower" Feed Flour	1.60
		"Gem" Feed Flour	1.75
		Whole Manitoba Oats	1.50
		"Bullrush" Crushed Oats	1.55
		Manitoba Feed Barley	1.35
		Barley Meal	1.40
		Oil Cake Meal (old process)	1.70
		Chopped Oats	1.55

Prices on Ton Lots: We cannot make any reduction on above prices, even if you purchase five or ten tons. The only reduction from the above prices would be on carload orders. Then there would be a reduction in the freight charges (a carload contains 400 bags).

Terms Cash With Order: Orders may be assorted as desired. On shipments up to five bags, buyer pays freight charges. On shipments over five bags we will prepay freight to any station in Ontario, east of Sudbury and south of North Bay. West of Sudbury add to above prices 10 cents per bag. To points on T. & N. O. line, add 15 cents per bag to cover extra freight charges. Make remittance by express or post office money order, payable at par at Toronto. Prices are subject to market changes.

Your Choice of Any One of These Books---Free to Everyone Who Buys Three Bags of Flour

The Dominion Cook Book has no less than 1,000 recipes, in addition to a large medical department. The books of Ralph Connor, Marian Keith and J. J. Bell are full of absorbing interest from cover to cover. You want every one of these good books in your library. Every time you order at least three bags of flour (any brand) you may choose any one of these books free. If you order six bags you may choose two books free, and so on. For each book

Dominion Cook Book.

Books by Ralph Connor:

- Black Rock
- Sky Pilot
- Man From Glengarry
- Glengarry School Days
- The Prospector
- The Foreigner

Books by Marian Keith:

- Duncan Polite
- Silver Maple
- Treasure Valley
- 'Lisbeth of the Dale

Whither Thou Goest
By J. J. Bell

you choose, be sure to enclose 10 cents to pay the postage. Bear in mind, that if you order up to five (5) bags we will pay the freight on the flour to any station in Ontario, east of Sudbury and south of North Bay (see terms above). To get a book, at least 3 bags must be flour—the other two bags may be flour, or any other product mentioned in the list printed above. Add 10 cents to your remittance to cover postage and wrapping of each book.

The Campbell Flour Mills Company, Limited
[West] Toronto, Ontario

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.

ANCONAS—Hen hatchery, free range, healthy, hardy, vigorous, develop early, lay at 4 1/2 months. Eggs, \$1.00 per 15; \$4.00 per 100. W. E. Williams, Clandeboye, Ont.

BARRED Rocks, great layers nicely barred—eggs, fifteen, dollar; hundred, four dollars. Henry Hartley, Norwich, Ont.

BUFF Orpingtons, Barred Rocks, White Wyandottes. Pure-bred, carefully mated, and for five years selected for winter-laying. Our pullets start laying at five and six months and are of the two-hundred-egg class. All stock farm-raised. Eggs one dollar per fifteen. Ingleisle Farm, Rural 1, Ancaster, Ontario.

BARRED Rock eggs, choice utility stock; winter layers; dollar per fifteen. Sam Cordingly, Llagar, Ont.

BARRED Rocks, Silver Campines, White and Silver Spangled Hamburgs, Mammoth Pekin and Indian Runner ducks. Stock and eggs for sale. L. J. Gibbons, Iroquois, Ont.

BIG MONEY in Indian Runner ducks from best American and English strains; steady winter layers of pure white eggs \$5.00 per setting from both pens. Mrs. E. C. Cattley, Weston, Ontario, Canada.

CHOICE Rhode Island Red Cockerels, either comb, from prize-winning stock, Three Dollars. George Shibley, Tavistock, Ont.

FOR SALE—Mammoth Bronze turkeys: prize-winners at the Western Fair, also Guelph. Angus Beattie, Wilton Grove, Ont. R. No. 1.

FOR SALE reasonably—Eggs from my bred-to-lay single-combed White Leghorns. John M. Ritchie, Wemyss, R. M. D. No. 1, Ont.

HATCHING EGGS from Rose Comb, Rhode Island Reds, White Wyandottes, Single Comb White Leghorns, heavy laying strains, One Dollar per fifteen. Wesley Shanklin, Ilderton, Ont.

MAMMOTH Bronze Turkeys, fine heavy birds bred from prize stock. R. G. Rose, Glanworth, Ont.

MY Barred Rocks win first at Toronto, London and Hamilton. Cockerels and hatching eggs for sale. Leslie Kerns, Freeman, Ont.

PURE-BRED Buff Orpington pullets, cockerels and eggs. James McGregor, Caledonia, Ont.

PUREBRED Barred Rock and R. I. Red eggs, \$1.50 per fifteen. F. H. Young, Box 153, Caledonia, Ont.

R. I. REDS, White Wyandottes, S. C. Brown and White Leghorns. Wm. Bunn, Denfield, Ont.

ROSE COMB Brown Leghorns, winter egg machines. Eggs \$2, \$3 setting. Stock for sale. C. Henning, Hanover, Ont.

FOR SALE—Rose Comb Brown Leghorn cockerels and eggs from pure bred stock, reasonable prices. "The kind that lay, and no frozen combs." Wm. English, Ingersoll, Ont.

S. C. White Leghorns Wyckoff strain; none better. Eggs for hatching, five dollars per hundred; one dollar for fifteen. Chas. Bartlett, Arkona, Ont.

SINGLE-COMB White Leghorn Eggs that hatch: dollar setting: five dollars hundred. E. W. Burt, Paris, Ont.

SINGLE-COMB Anconas, bred from Madison Square winners, eggs one dollar per setting, five dollars per ninety. Herbert Taylor, Wingham, Ont. R. R. No. 3.

SINGLE COMB Black Minorca eggs. Prize-winners, \$1.50 a setting. A. Murphy, Mount Forest, Ont.

SILVER Campines, prize winners. The Dutch Egg Machine, eggs, \$3 for fifteen. Stanley, R. Jona, Newmarket, Ont.

SPLENDID WHITE Wyandotte cockerels \$2.50. Pullets \$1.50. Fifteen eggs \$1.00. Mrs. Clapp, Tecumseh, Ontario.

UNFERTILE Eggs replaced free and safe delivery guaranteed. Eggs from high standard bred-to-lay Barred Rocks, White Wyandottes, Buff Leghorns, \$1.25 fifteen; large vigorous stock; extra heavy layers; pullets laying at 5 months old. Write for free catalogue which gives full particulars. Satisfaction or money refunded. Charles Watson, Londesboro, Ont.

WHITE Wyandottes—Champions eight years at New York State Fair. Big, vigorous cockerels, \$2, \$3 and \$5 each. Pullets, \$2 and \$3. Eggs, \$3 per setting. Send for free catalogue. John S. Martin, Drawer R, Port Dover, Ont.

WHITE Wyandotte eggs for hatching from good, vigorous stock. Special matings, \$3 per fifteen; utility matings, \$2 per fifteen. W. T. Ellis, Walkerton, Ont.

WHITE Wyandotte eggs from strong hardy stock, bred to win in the laying pen and show room and on the table, \$2 per sitting. This is the opportunity you have been looking for. W. B. Powell, Galt, Ontario.

WHITE Wyandotte eggs from grand pen, bred-to-lay prize-winning stock, \$1.25 per fifteen. Mrs. W. G. Buttery, Route 7, Strathroy, Ont.

WHITE Wyandotte Cockerels for sale, \$2 each; eggs in season. G. W. Davis, Colborne, Ont.

WHITE Wyandotte eggs from my Championship male and other matings; heavy laying strain. H. Rundle, Brighton, Ont.

Locharbar POULTRY YARDS is prepared to fill orders for eggs from selected birds of the following varieties: Barred P. Rock egg—\$1 per 15; M. Bronze turkey eggs, 40c each, \$3.50 per nine. D. A. GRAHAM, R. R. No. 3, Wyoming, Ont.

Duvall startled back with a muttered exclamation.

"You—you must be mistaken!" he cried.

"Look!"

The Frenchman pointed to the window, Duvall glanced within. The proprietor of the place was its only occupant.

The detective turned to his companion and nodded.

"Come inside," he said shortly, and striding up to the door, threw it open and entered the place.

M. Perrier, startled half out of his wits by the suddenness with which Duvall entered the room, dropped the comb with which he had been arranging his hair and turned with a startled face.

"The shop is closed for the night," he said. "My men have all gone home."

"Has Seltz gone?" asked Duvall sharply.

"Seltz? Surely. He left immediately after shaving this gentleman." Perrier indicated Dufrenne with a fat and trembling forefinger. "Is anything wrong, gentlemen? Was the shave not satisfactory?"

Duvall looked at the curio dealer with a smile of chagrin.

"It's perfectly clear, Dufrenne," he said, somewhat crestfallen. "Our man went out as we were walking up the street, while you were telling me what happened in the shop."

The little old man nodded. M. Perrier continued to gaze at his visitors.

"What is it you wish, gentlemen?" he presently inquired.

"Where does Seltz live?" Duvall demanded sharply.

"Alas; I do not know. He has worked for me but three months. I knew nothing of him—nothing at all. He—he asked for leave of absence yesterday; to be gone a week. But to-night he told me that he would not go."

Duvall's eyes lit up. He turned to Dufrenne.

"After what happened to-night—" he said significantly, "he feared to leave, thinking that his going away would be an admission of his guilt."

Again Dufrenne nodded. M. Perrier looked at them both with bulging eyes.

"Guilt!" he exclaimed. "Has this fellow Seltz been doing anything he should not?"

"Possibly," Duvall ejaculated dryly.

"Do you happen to know where he was going?"

"He—he said something about visiting his parents. Oh, gentlemen! I beg of you, do not cause any scandal; it would ruin my trade. I shall discharge the fellow at once."

"You will do nothing of the sort," exclaimed Duvall angrily. "If he reports for duty to-morrow, say nothing to him of our visit, or it will be worse for you."

He leaned toward the terrified barber.

"I am a detective," he said shortly.

"Be careful of what you do."

M. Perrier sank upon his knees, his hands lifted in supplication. "Mon Dieu! What shall I do? My business—it will be desolated. What shall I do."

"Get up and hold your tongue, first of all. After that, tell me, if you can, where it was that Seltz intended to go to visit his parents."

"He spoke of Brussels; he intended to take the night boat from Harwich to Antwerp. I heard him discussing his plans with one of the other men."

"Brussels!" Duvall hurriedly glanced at his watch. "There's just time, if we hurry. Come."

He turned to Dufrenne, excitement showing in every line of his face. As he hurried toward the door, he spoke over his shoulder to M. Perrier.

"Don't open your mouth to a soul; do you hear? If you do, you'll get yourself into a peck of trouble."

The last thing they heard as they left the shop was the barber's howl of ascent.

At the corner Duvall signalled a passing cab.

"Liverpool Street Station, in a hurry," he cried. "Half a crown extra if you make the boat-train for Harwich."

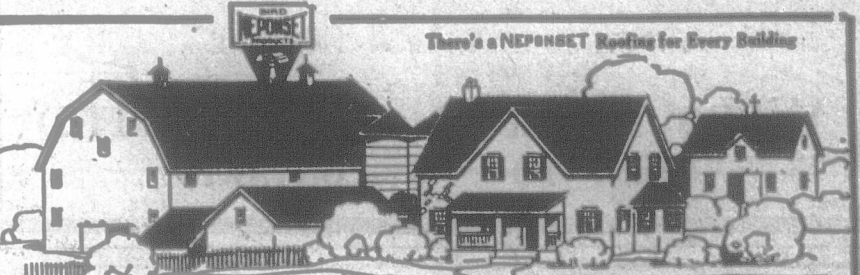
Dufrenne gazed at his companion in bewilderment.

"I do not understand, M. Duvall," he began, but the detective cut him short.

"The thing is as plain as a pipe-stem," he said. "Seltz expected to get the snuff-box from the ambassador's man"

I HAVE SAVED SOME MONEY
It is lying in the Bank—what shall I do with it?

First and foremost—Before you consider rates of interest, consider safety.
THE NAME
HURON & ERIE
LOAN AND SAVINGS COMPANY
STANDS FOR SAFETY AND PROGRESS.
You will never worry as long as your money is in this strong old company. Besides, you receive interest at the rate of
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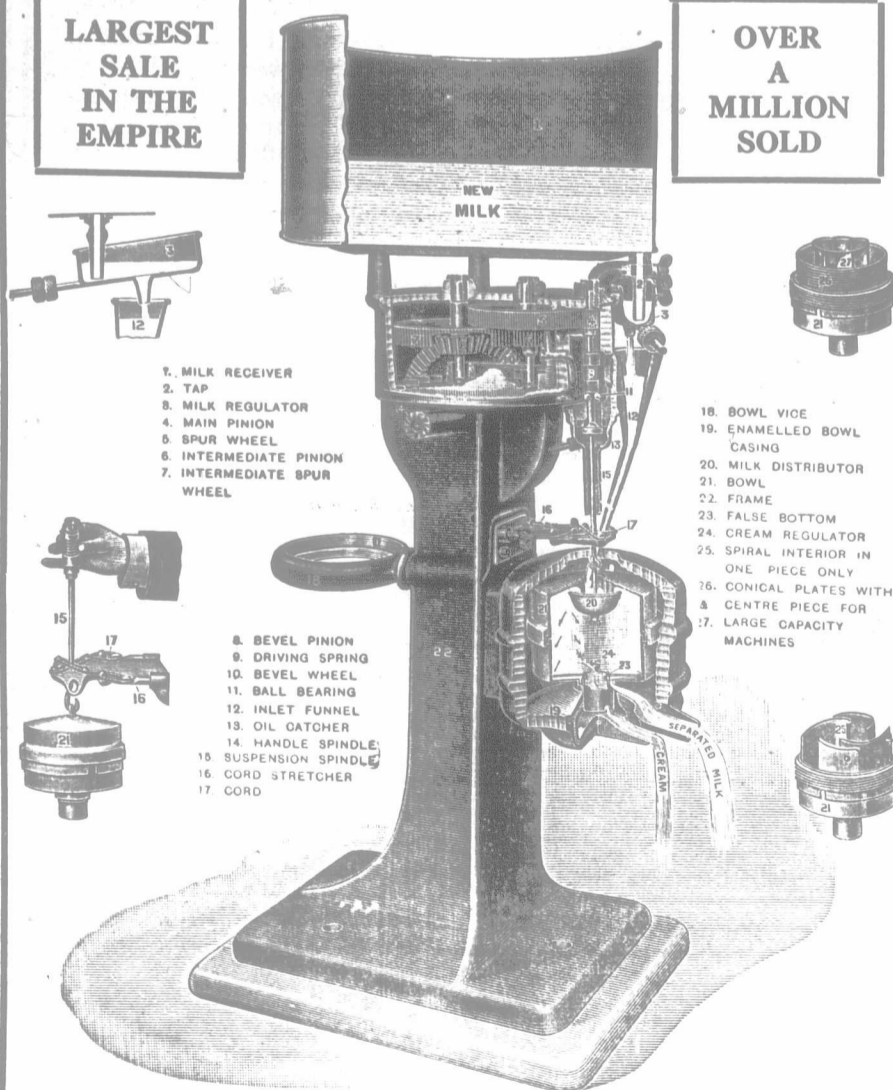
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this afternoon, and had made his arrangements to leave with it for Brussels at once. The events of the evening, culminating in Noel's murder, made him fear to do so. He realized that the note, delivered to him by one of the ambassador's servants, might attract suspicion toward him, and therefore wisely made up his mind to remain quietly where he was, sending the box by some friend. He dared not hand the box to him at any place outside the shop, for fear he might be watched. No doubt he arranged with his friend to come to the place just before closing, and to pretend to buy the face powder, as you saw him do. Seltz had only to turn the powder out of the package, put the snuff-box inside, and the thing was done.

"This he no doubt did at some opportune moment during the evening, when he was certain he was not observed. It is a mighty clever scheme, I'll admit. You saw nothing suspicious about the transaction, and I confess that I did not realize its significance at the time. Naturally, the man to whom he gave the box will make for Brussels at once, since it was to that point that Seltz intended going. No doubt he was operating in the interests of some one else—some third person to whom the box is of great value, and who has agreed to pay a large sum for it on delivery.

"You saw the fellow who bought the powder hand Seltz money; how much you could not tell. It may be that Seltz was obliged to divide the reward with his friend, and that the latter has already turned over to Seltz his share in advance. Of that we cannot be certain, not is it material. Seltz is undoubtedly guilty of the murder of the man Noel, but to stay here and arrest him now would only defeat the object we have in view. After the box has been recovered, we can return and deal with Seltz. You may be quite sure he will not dare to run away, for fear that by so doing he would admit his guilt."

Dufrenne looked at the detective in admiration. "You reason well, monsieur," he remarked. "But why should they be taking the box to Brussels?"

"That I cannot tell you, of course, except that, as I said before, the plot to steal it evidently originated there. We shall learn more to-morrow, after we have arrived in that city. The next thing to be done is to find our man."

They arrived at Liverpool Street station just in time to swing aboard the train for Harwich as it was pulling out. There were not many passengers and they found themselves in a compartment quite to themselves.

"There is no use in attempting to do anything until we reach Harwich," the detective remarked, pulling his hat over his eyes.

He leaned back and began to speculate disgustedly upon the events of the day. Married at noon—torn from his wife within an hour—in London at night—a murder—and now a wild chase to Brussels after a snuff-box. It seemed almost ludicrous. He smiled grimly.

He had not expected to spend in quite this way the first twelve hours of his honeymoon.

Chapter VII. THE BAKER'S BOY.

On the morning of her first day at Dr. Hartmann's sanatorium, Grace Duvall rose early, dressed herself for a walk. She was determined, if possible, to communicate the results of her adventure the night before to the French police in Brussels, and realizing that to do so by the only means in her power, namely, the young man who drove the delivery-wagon, might involve considerable risk of discovery, she dressed herself as simply as possible, in a dark gray suit and white shirt-waist.

She had her breakfast in her room, and then told the nurse that she intended to take a walk in the grounds. During breakfast she complained of the bread which was served her, and informed the maid that in her country the people ate hot bread at breakfast. The woman seemed surprised.

"Hot bread!" she exclaimed. "Mon Dieu! Who ever heard of such a thing?"

"If you bake your bread here in the house," Grace went on, "you could easily serve hot bread or rolls to me."

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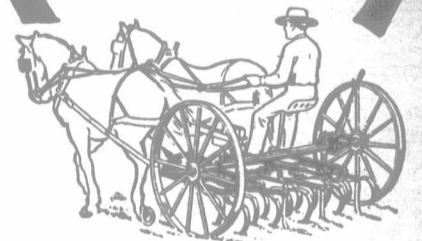
Men right around you found the benefit of first-class cultivation last year. In the construction of the Peter Hamilton Cultivator, every need has been considered and every requirement provided for. The different groups of three rows of teeth are subdivided again, and the front teeth are attached to one tooth-frame, back row to another. All teeth cultivate to an even depth and thoroughly work up every inch of ground. The

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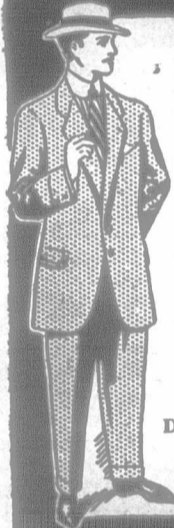
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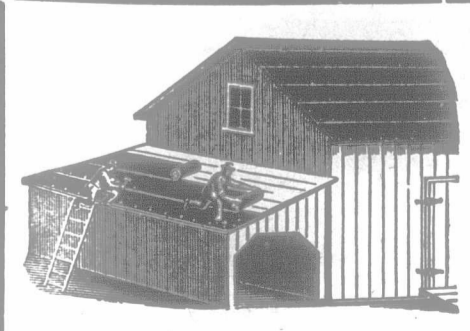


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"Impossible, mademoiselle. All our bread comes from a bakery in the city. A young man brings it each morning at ten o'clock."

Grace laughed inwardly. This was just the information for which she was seeking. It was then a little after nine. She felt tired and worn from her almost sleepless night, and her appearance showed it. When she told the nurse that she intended to take a stroll, and get some air, the latter nodded.

"Dr. Hartman has recommended it," she said. "He is a great believer in the value of fresh air." The woman made no reference to the events of the night before, nor did Grace. She knew that sleep-walkers were not supposed to remember anything that occurred during their attacks of somnambulism.

On the way out, she met Dr. Hartman, returning from his breakfast constitutional. He was just entering his office.

"Good morning, Miss Ellicott," he said pleasantly. "May I ask you to step inside a moment? There are a few questions I should like to ask you."

She obeyed, much against her will. It was nearly half past nine, she knew, and she must not miss the delivery-man, if she was to send her message to Brussels. She heard the doctor saying that he would detain her but a few moments.

The first question the doctor asked sent the color mounting to her cheeks, and she hesitated before answering it, realizing that it was a trap.

"Do you feel any the worse from the experiences of last night?" he inquired.

For a moment she was about to say "No," but caught herself in time.

"What experiences?" she asked innocently enough. "Did I have an attack?"

She fancied that the doctor appeared relieved. He smiled as he replied. "You wandered about a little. The nurse must have been negligent. I have reprimanded her. You might readily have a serious accident, if left to yourself."

Grace looked at him with a smile which scarcely concealed her agitation.

"I hope I caused no trouble," she said. "It is a frightful affliction. I trust you will be able to do something for me."

"Don't worry, my dear young lady. We shall cure you beyond a doubt. I think, however, that it will be necessary to employ hypnosis. All cases such as yours respond most readily to hypnotic suggestion. However, I shall observe your case for a while longer before making a decision. You are going out for a walk, I see."

"Yes. I love the air." She rose with a secret fear of the man in her heart. If he should hypnotize her, what was there to prevent his learning everything? She determined to avoid this method of treatment at all costs, yet could not see how to do so without arousing his suspicions.

"Good morning," she said hastily as she left the room.

The walk to the entrance-gate in the fresh autumn air served to revive her spirits wonderfully. Her original intention had been to stroll down the avenue which fronted the house in the hope of meeting the delivery-wagon on the way.

In a moment the futility of this plan became apparent. She did not know from which direction the wagon would appear, nor would she be able to recognize it, even should she be lucky enough to meet it. She paused at the gate, uncertain, then began to walk along a path which led among the trees and shrubbery, with one eye all the while upon the gateway at the entrance.

Once or twice vehicles passing the road outside startled her into sudden action, she went toward the gate only to find that they had passed on. The tenseness of the situation began to get on her nerves; in her fear she was certain that she was being watched from the house, or by the gardener in the distance, who was engaged in raking the leaves from the graveled walks.

She had almost given up in despair when she heard the rumble of an approaching cart, and saw a smart little wagon driven by a young man in a blue jacket with large brass buttons enter the gate.

She went quickly toward the roadway, pretending an interest in the horse. The young man saw her approaching, and



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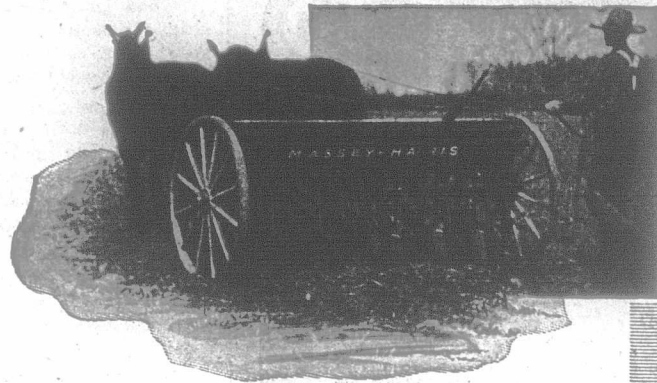
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looked at her shrewdly. She gave a slight nod, and continued to approach him. All of a sudden he threw down the reins, gave an exclamation, and jumping from the wagon, began to inspect the horse's feet with great deliberation and care.

Grace went up to the horse and began patting its nose.

"Poor fellow," she said consolingly, in English, looking all the while at the young man's face.

"Are you Miss Elliott?" he said suddenly, in rather halting English, without turning his head.

"Yes." Her reply was quick, eager. "Dr. Hartmann is expecting a messenger from London with the stolen snuff-box to-day or to-morrow. I heard them talking about it last night. The messenger is a stranger to him. He does not suspect that I am watching him."

The boy nodded gravely. "You are instructed to remain near the front of the house, or in the reception-room inside, as much as possible, during the day. The man from London is expected this morning. He may be here at any moment. Keep your eyes open."

He began to whistle merrily, pretended to remove a stone from one of the horse's shoes, sprang back into the wagon, and drove off to the house, without paying any further attention to her.

Grace walked slowly up the driveway, and finding a bench near a bed of geraniums, sat down and pretended to read a book which she had brought with her.

After a time the delivery-wagon returned, but the boy did not even glance at her as he passed out. She noticed, however, that he was driving rapidly, and appeared to be in a great hurry.

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saves bearings, and insures smooth running, without friction or shaking. Never gums, never corrodes—always uniform.
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She sat on the bench for over an hour, wondering what would be the next development in this mysterious affair. She could not shake off the idea that she would soon see Richard, in spite of the fact that she had no definite reasons upon which to base her hopes.

One thing, however, seemed certain. If the man with the stolen snuff-box had arrived in Brussels, it clearly meant that Richard had failed to capture him in London, and it seemed not unreasonable to suppose that he would be following him.

She thought about the matter so much that it interfered with her attempts to read the book. After a while she closed it, and sat watching the distant gardener as he ceaselessly raked the gravel paths.

Everything seemed so quiet, so full of peace—everything, in fact, but her own thoughts. Somehow it seemed impossible to believe that underneath all the beauty of this clear autumn day lay plotting, and tragedy, and even death.

It was close to noon when she ceased her musings, and rising went toward the house. Sitting so long in the open air had made her a bit chilly. She determined to seek the grateful warmth of the reception-room.

As she mounted the steps of the house she heard sounds of a cab being driven rapidly along the main street, and a sudden intuition warned her that something of an unusual nature was about to happen. She glanced back as the servant opened the door in response to her ring, and was not surprised to see that the vehicle had entered the grounds, and was rapidly approaching the house.

Her hasty glance showed her that it contained but a single occupant, a man, and in spite of the distance she fancied that she detected something familiar about the poise of his head and shoulders. The thought was but momentary—she stepped at once into the reception-room at the right, sat down by the fire, and opening her book, pretended to be deeply absorbed in its contents.

In reality she was observing narrowly the maid in the hallway, who stood at the open door waiting to admit the man who was driving up in the cab.

Chapter VIII, "POUDRE PERRIER."

When Richard Duvall and Dufrenne arrived at Harwich, on their way from London, the former requested his companion to turn up his coat collar, pull his soft hat over his eyes, and put on his spectacles. He feared that the man they were trying to locate might recognize the curio dealer as the person who had occupied the chair next to him in M. Perrier's barber shop earlier in the evening. He also requested the Frenchman to make his way to the boat alone, keeping a sharp lookout for the man in the brown overcoat.

Duvall himself joined the straggling crowd of sleepy passengers as they went aboard the steamer for Antwerp, his eyes searching every passenger about him for some sight of the one he sought. Once he thought he recognized the man, a long way off, going up the steamer's gangplank, but he could not be sure, in the flickering light, that he was right.

He went aboard the boat in some doubt as to whether, after all, his course of reasoning might not be incorrect. Here he was bound for the continent, on the heels of a man who he had no real proof was not at this moment sleeping peacefully in his bed in London.

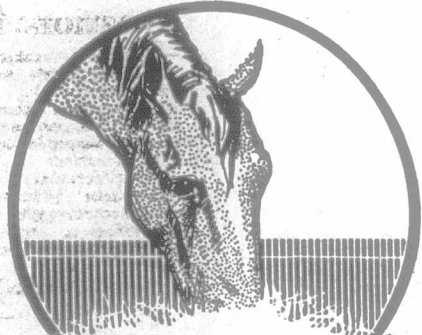
The situation was a trying one. He lit a cigar and began to pace the deck nervously, inspecting the few passengers who had elected to remain outside, before directing his steps to the saloon below.

After some five minutes spent in a useless search, he observed a familiar figure approaching him from the direction of the companionway, and at once saw that it was Dufrenne.

The latter passed him without any sign of recognition, but just as their elbows were almost touching said in a low voice:

"He is below, in the saloon, monsieur. He has not taken a stateroom."

Duvall continued his walk about the decks for a few moments longer, then threw away his cigar and descended to



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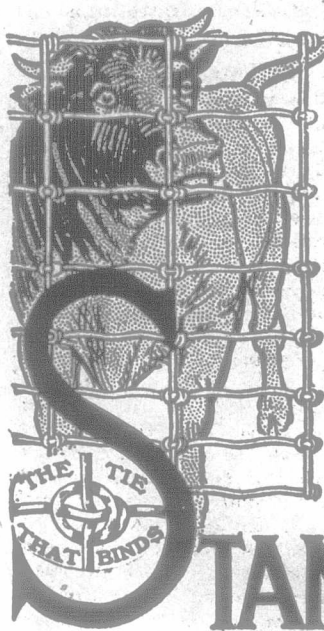
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the saloon. A number of passengers were dozing on the sofas, or in chairs, and at a table several were playing cards.

He paused for a moment to watch the game, his eyes searching the room for the man in the brown overcoat. After a time he located him, sprawled in an easy chair, his eyes closed, his satchel tossed carelessly upon the floor beside him.

The detective began to stroll about the place, as though in deep thought. His eyes were fixed, however, upon the face of the man in the chair. It was a determined face, as the thin lips and close-set eyes showed, but Duvall noted with satisfaction signs of weakness about the half-open mouth. The man was undoubtedly sleeping soundly.

Duvall was at a loss to know just what to do. He was convinced that the ivory snuff-box, upon the recovery of which M. Lefevre had assured him the honor of France itself depended, was within ten feet of him, yet he could do nothing, apparently, at the moment, to regain it.

To arrest the man, except on French soil, was out of the question. Even could he do so, the package which the latter had so carelessly slipped into his overcoat pocket in M. Perrier's shop might contain, after all, but a harmless box of rice powder, and he would be hard put to explain satisfactorily his action.

On the other hand, the presence of the snuff-box on the man's person, supposing this to be beyond question, was not in itself sufficient to warrant placing him under arrest. He might claim it as his own property. There was nothing to show that it had been stolen. Clearly the only thing to do was to attempt to get the box from him by stealth.

After a long time spent in debating the matter pro and con, Duvall threw himself into a chair close to the one which the man he was watching occupied, and pretended to sleep. Of Dufrenne he saw nothing.

After perhaps an hour, the card game ceased, the players retired to their state-rooms, or to near-by sofas, and a steward began to lower the lights. Presently not a sound was to be heard throughout the saloon except the chorus of snores from the sleeping passengers, and the creaking of the vessel as she plunged into the heavy Channel swell.

The detective slowly advanced his foot, and with infinite patience began to draw toward him the small leather satchel which lay beside the man's chair. He did this so slowly and imperceptibly that the operation occupied the best part of a quarter of an hour.

At last the bag was safely pushed beneath the folds of his overcoat, which he had removed on sitting down, and now lay thrown carelessly over his knees.

He bent over noiselessly, his hand beneath the folds of the coat, and began to fumble with the catch of the satchel. In a few moments he managed to open it, and with nervous fingers examined the contents of the bag.

Guided by the sense of touch only, he was able to identify successfully a razor-case, a shaving-brush, a cotton night-shirt, and a number of other articles of an ordinary and usual nature.

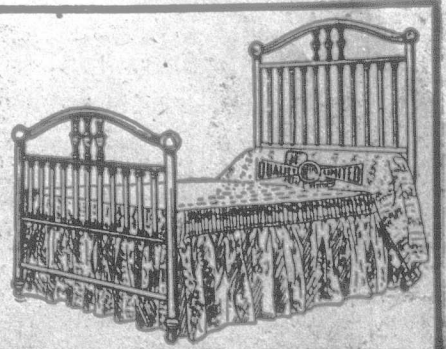
He had almost given up the search when his fingers closed about a small, round object, done up in paper. His heart gave a leap of joy. He could feel the coarse string with which the package was bound, and could tell from its lightness that it probably contained what he sought.

In a moment he had drawn it noiselessly from the satchel and transferred it to the pocket of his coat.

The process of closing the bag and returning it to its former position was accomplished without waking the sleeping occupant of the near-by chair.

Duvall was conscious of a feeling of exultation. He yawned, stretched himself, glanced with great deliberation at his watch, then rose and quietly left the room.

The decks seemed deserted. After some trouble he managed, however, to locate Dufrenne standing beside the rail in the shadow of one of the life-boats. He went up to him and saw that his teeth were chattering with the cold. Duvall could not repress a feel-



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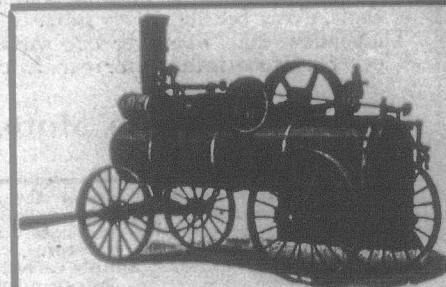
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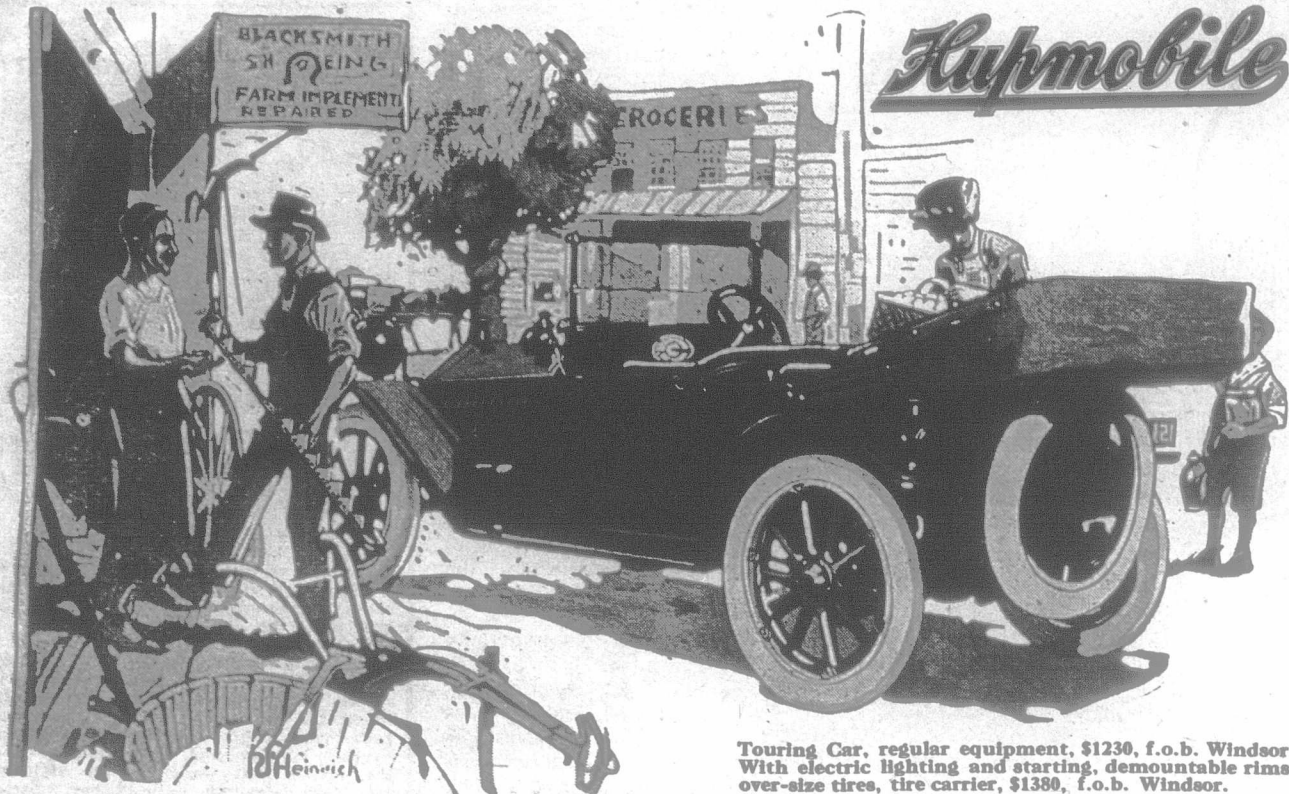
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It began the day that Hupmobile engineers first took up their drawing boards to design the car.

Other makers were inspired with the general idea of building cars whose low price would sell them in large quantities.

Hupmobile engineers had the after-cost fully as much in mind as the first-cost.

"In due time," they said, "the people will find out that second cost is even more important than first cost."

So they designed a light car, to begin with—but a light car with an amazingly strong full-floating rear axle.

They built a light car—but they put into it an extraordinary proportion of strong, specially selected steels.

They build a motor, not merely designed to make the car go, but designed to keep it going sweetly and smoothly after years of continuous use.

They worked out, gradually, the long-stroke type of motor—a motor which greatly increases the power, but helps the lightness of the car to keep down the cost of up-keep.

They hunted for every possible source of friction—every shaft, every bearing, every gear.

They knew that whenever one surface moves upon another surface in a motor car it causes friction—and

friction means wear, and breakage, and repair cost and loss of power.

So every such part—every part which transmits power from the motor to the road—was scrutinized again and again and again and designed and re-designed, to the end that Hupmobile up-keep cost should be a low cost. If you want proof that they succeeded where others failed—see how much higher is the price paid for second-hand Hupmobiles than for some other cars.

Second-hand Hupmobiles sell for a higher price because they are not worn or in need of rebuilding—because they are still silent and smooth and powerful after travelling tens of thousands of miles.

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Every farmer who owns a Hupmobile will tell you so. Tens of thousands of owners will back them in the statement. Even if we couldn't point out the reason—the fact is enough.

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Center control—either side front entrance. Vibrationless steering wheel. Short turning radius 40 ft. "Lively" motor—quick response to throttle. Little of customary

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Gasoline tank under cowl, nearly over carburetor, assuring constant flow of gas. Improved tire carrier. Rainshield magnet. All moving parts enclosed. "Streamline" body—

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ing of admiration for the little old Frenchman, who, rather than risk for a moment his identification by the man they were following, had elected to spend the night wandering about the decks. His patriotism was proof against even the cold.

Duvall touched him gently on the arm. "I have secured it," he remarked quietly.

Dufrenne turned. "The snuff-box?" he whispered excitedly.

The detective nodded, and cautiously drew the circular package from his pocket.

"It was in his satchel," he remarked, as he began to remove the string.

Dufrenne's lips moved. He seemed to be offering up a silent prayer of thanks. He was scarcely able to contain his impatience as the detective slowly unwrapped the parcel, disclosing a small blue pastboard box, on the cover of which, in black, appeared the words "Poudre Perrier."

In a moment Duvall had removed the box and plunged his finger into the box. As he did so he uttered an exclamation of astonishment and disgust.

The box contained nothing but rice-powder.

(To be continued.)



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Miscellaneous.

Pasture for Pigs.

1. Is rape a good pasture for pigs?
2. By sowing the rape in drills eighteen inches apart, how many pigs per acre would it pasture?
3. Or is there a better pasture for pigs which could be sowed this spring, to be pastured during the summer?

A SUBSCRIBER.

Ans.—1. Yes.

2. Would advise placing the drills farther apart—say, 28 to 30 inches, and cultivating for a while at first. Ten or twelve.

3. We know of no better. Of course, if one has it, clover and alfalfa is to be preferred.

Lime for the Soil.

1. What is the best and cheapest form of lime to apply to sour soils, and how much per acre?
2. Where can it be obtained?

"FARMER."

Ans. 1. There are several ways of applying lime to the soil. As you know perhaps, already, that ashes or basic slag contain a considerable amount of lime, but no doubt the cheapest form in which it may be applied is slaked or unslaked lime itself. Hydrated lime and ground limestone are being put upon the market, and they have some advantages over the ordinary form of lime. However, such good results have accrued from the use of slaked or unslaked lime, that we are prone to stand by them yet a little longer. We have found a very practicable way of applying lime to be that of purchasing the unslaked lime itself and putting it in small piles in the field, preferably before a shower, and throw a little dirt up around each of the piles to keep it from blowing away. The dew or moisture in the atmosphere will slake this in a couple of days, or a reasonable shower will do it quicker; then it can be spread over the field and cultivated in with the harrows. If you attempt to sow the slaked lime, you will find that your neighbor will get as much of it as you do, and much of it will be carried away in the eyes of those who are trying to spread it. Some advocate the use of fifteen hundred or one ton per acre, but we favor the method of applying about five or six hundred pounds, and doing it more often, say, every four or five years, and perhaps oftener. Too much lime at one time will cut up the organic matter of the soil too much and cause a depletion of soil fertility, but if you are in a position to add organic matter in the form of manure or green crops, more than five hundred pounds per acre is advisable.

2. Most hardware houses handle it.

Gossip.

THE SPRUCEDALE SALE.

The Sprucedale Stock Farm sale, conducted on March 12th, resulted in a grand total amounting to \$15,622.75. One pair of Clydesdale mares brought \$510; a pair of grade Percherons sold for \$385; Lady Grey went to the bid of Joseph Perrin, of Maidstone, for \$300; Lady Grey's sucking colt sold for \$130, and her yearling colt for \$180. Other prices received for horses were: One five-year-old horse, \$160; Queen Rose of Argyle, \$235; Moss Rose of Beech Hill, \$280; Daisy, \$205; Bell, \$184; Jess, \$166. Another bay mare sold for \$150. The Hackney gelding, as advertised, sold for \$166, and the Melrose colt for \$145. Sheep numbering in the vicinity of half a hundred, averaged \$14.60 apiece, and one Yorkshire sow and nine pigs sold for \$70.

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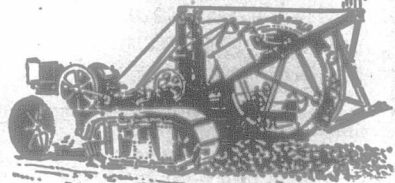
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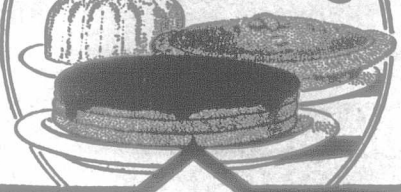
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Questions and Answers. Veterinary.

Abnormal Dentition.

Last fall my two-year-old bull was thin. I examined his mouth and discovered that all his incisor teeth had decayed and fallen out. Since then, two new teeth have appeared. Will he get the rest of his teeth, and how soon?

W. T. McL.

Ans.—This condition is abnormal. The temporary incisors should not have fallen out until forced out by the permanent ones. However, it is quite probable that a full mouth of permanent incisors will appear at or about the normal ages. The central pair, which you say is now present, should appear at about two years of age. The next pair, called internal laterals, at from two years and three months to three years. The external laterals, at from two and a half to three years, and the corner ones at from three and a half to four years. In some cases the teeth appear several months earlier than above, as dentition in the ox is not regular.

Abortion.

Mare was bred on June 3rd, 1913. She was well fed, well cared for, and worked moderately occasionally during the fall and winter. About February 1st her mammae began to enlarge. On March 3rd wax formed on her teats, and she showed symptoms of parturition, but appeared all right next morning, and was driven a few miles during the day and appeared all right at night, but she foaled during the night. I think the foal was alive when born, but was dead when I saw it. What caused abortion? Will it occur again next year if she be bred, and how can I dry the mare?

W. A. C.

Ans.—It is not possible to say definitely what caused the abortion; some accident, fright, or odor unknown to you. The symptoms given indicate that the foal died about the 1st of March, but you may be right in your supposition that it was alive when born. Neither is it possible to foretell whether she will again abort if bred. Mares readily acquire the habit of aborting. At the same time it is probable that if bred again and given regular exercise or light work during pregnancy, and very carefully handled, especially from the seventh to the tenth month, inclusive, that she will carry the foetus to full term. To dry her, feed only on dry food, give 1 dram iodide of potassium three times daily, and milk a little whenever the mammae become quite full, but milk merely enough to prevent distress.

Miscellaneous.

Tubercular Fowls.

I have some fine pullets, and they have been laying all winter, and quite a lot of them are sick. Some of them have died. They get lame, and their backs seem to be affected. When they try to walk they tumble over on their side. Please state the trouble.

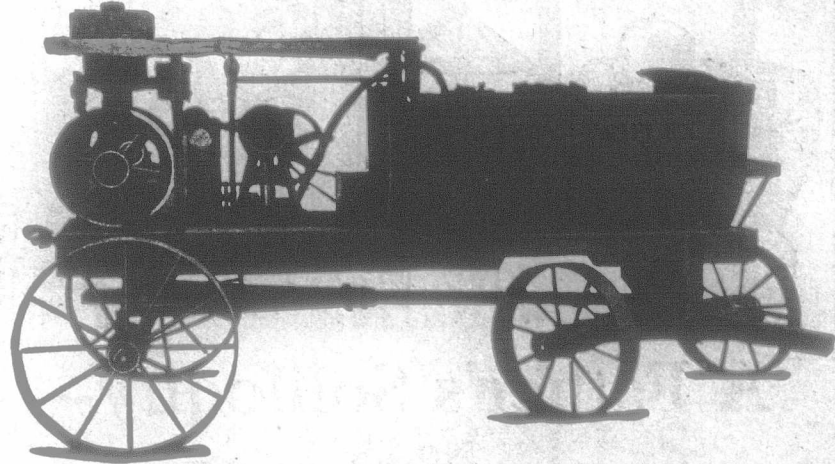
J. S.

Ans.—From your brief description, we judge that your hens are affected with tuberculosis. You have only given one symptom, however, and there are many others which you will be able to notice. Possibly they become thin, and sometimes pale around the head. However, whole flocks have died without losing any flesh at all. They usually get lame in their right leg. The safer way is to dissect a diseased bird and notice the liver and glands. They will possibly be covered with white or yellowish tubercles, somewhat elevated. These are symptoms of tuberculosis. As a cure, little can be done. Isolate any birds that show signs of the disease. Do not spare time or material in cleaning up the building where they are or the grounds which they may inhabit. Thoroughly cleanse the house and whitewash it with a mixture of whitewash containing a five-per-cent. solution of carbolic acid. One lady in a recent number writes how she burned sulphur in her henhouse with exceedingly satisfactory results. We cannot see wherein this would be effective, but its a condition, not a theory, and worth trying, along with other remedies.

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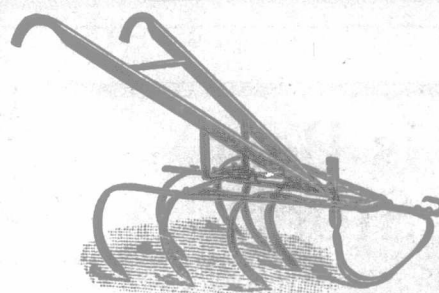
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You and your neighbors really pay the losses. The Company just collects from you and disburses the money they gather in from you. They are your Trustees. You and your neighbor are insuring you and you are helping insure them.

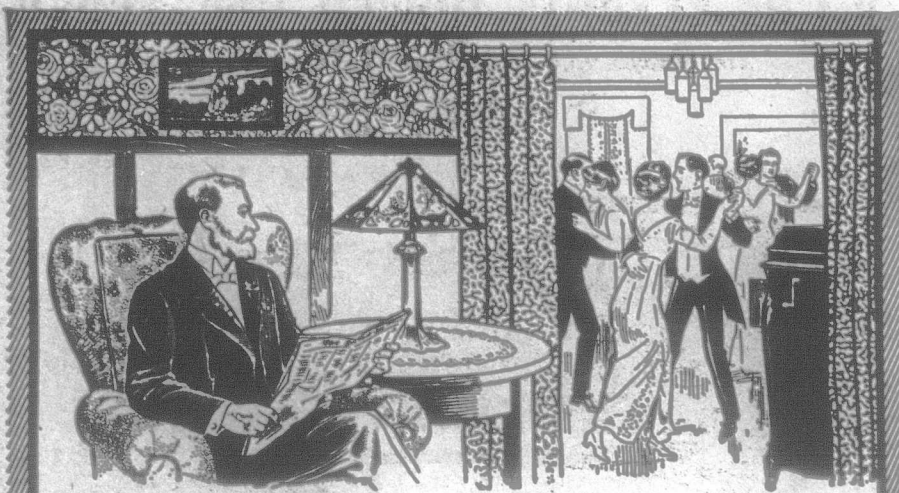
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It will pay you if you rod. It will pay you if your neighbor rods. Talk it over with him and tell him what we say.

We would like to send you a sample of the Rods we make, and will if you will write us.

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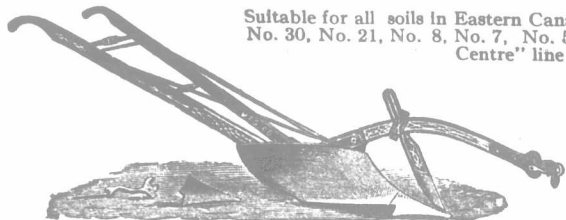
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showing the amount of
Fat and Flesh-producing
substance in different stock
foods.

Feeding Stuff	Protein	Flesh
Oil Cake Meal	- 32.9%	Producers
Bean Meal	- 23.1 "	- 23.1 "
Pea Meal	- 21.2 "	- 21.2 "
Middlings	- 15.6 "	- 15.6 "
Bran	- 15.4 "	- 15.4 "
Shorts	- 14.9 "	- 14.9 "
Barley	- 12.4 "	- 12.4 "
Wheat	- 11.9 "	- 11.9 "
Oats	- 11.8 "	- 11.8 "
Corn	- 10.3 "	- 10.3 "
Buckwheat	- 10.0 "	- 10.0 "

100 Standard Walking Plows

Suitable for all soils in Eastern Canada and British Columbia. No. 33, No. 30, No. 21, No. 8, No. 7, No. 5, No. 4, No. 2. The famous "Essex Centre" line to be sold at factory price



\$10 each

Send immediately if you are to be a lucky one. Your money back if not entirely satisfactory. State kind of soil your farm is, so that we may fill the order to suit the land.

Wheels extra, 75c. each.

Skimmers extra, 75c. each.

Erie Iron Works, Limited, St. Thomas, Ont.

The Farmer's Advocate and Home Magazine
Published Once a Week. \$1.50 per Year in Advance.

Questions and Answers. Miscellaneous.

Young Pigs Dying.

I have a litter of little pigs that are dying. They were fed on milk, sifted oat chop, some sulphur, and lots of ashes to pick at. They have quite a large pen. Since weaned they seem to be bloated all the time. Two have died, and the third is dying. I opened one, and its bowels seem to be full of wind. They are costive in their passage. Their droppings are quite hard and lumpy. What is wrong with my pigs, and what would be the best treatment?

G. D. S.

Ans.—The trouble probably arises from a little over-care and lack of exercise, which has given rise to constipation and digestive troubles. An English correspondent writes that he has one cure-all for all diseases in pigs, and it is new milk and turpentine. However, we generally recommend raw linseed oil or Epsom salts for young pigs of this kind. A teaspoonful of Epsom salts in their food would be enough. We think that if you will decrease the amount of food slightly, feed a little bran and new milk with Epsom salts, the trouble will be removed.

Scratches—Pig Troughs—Silos.

1. Horse eight years old has scratches. Also is blind. Would you advise cutting hair off his legs, which is thick up to his knees?

2. Could pig troughs ten feet long be made of cement, so as to be moved from pen to pen? If so, how strong, and would they stand?

3. A rents a farm from B for ten years. A wants a silo, but B refuses to build only at A's expense. Would it pay A for 100-acre farm to build at his own expense?

FARMER.

Ans.—1. We would not advise cutting the hair off his legs. It should act as a protection. Give a purgative of 8 drams aloes and 2 drams ginger. If possible, allow the horse to rest two or three days. Apply hot, linseed-meal poultices to his legs for two days and two nights, changing the poultices about every eight hours, then dress the parts three times daily with oxide-of-zinc ointment to which has been added 20 drops carbolic acid to each ounce. Do not wash. If his legs get wet or muddy, rub well until dry, or allow the mud to dry, and then brush it off, if you have not time to rub.

2. Cement makes very good pig troughs, but ten feet is rather long if you intend to carry them from one pen to another. They will stand almost indefinitely. A mixture of 1 to 5 or 6 will make a very good trough.

3. Many feeders of dairy cattle and steers say they can put up a silo and pay for it in one year from the increase in the way their stock will do when fed on silage. We have no hesitation in saying that if you are to retain the farm for ten years, that it will pay you handsomely to construct a silo at your own expense.

Remarkable Challenge.

ENGLISH CLOTHING FIRM
OFFERS MAN'S SUIT FOR \$4.50.

A well-known English clothing company. H. Thomas & Co., 142 Grays Inn Road, London, W. C., Eng., seems bound to become as highly popular in the Dominion as they are in Great Britain. Everybody knows H. Thomas & Co. in England for the remarkable prices they quote in Gents' wear. On page 611, readers should note the firm's advertisement, "Gents' Suit (Jacket, Vest and Trousers). \$4.50 delivered free to you; no more to pay." Look up the advertisement on page 611, and write for free patterns and fashions to their Toronto branch.

APPLY POTASH IN EARLY SPRING

To secure full benefit of FERTILIZERS, to the first crop the POTASH and Phosphatic fertilizer materials ought to be applied as soon as possible after the land is workable.

Where Nitrate of Soda is used as a source of Nitrogen, this may be given as a top dressing at seeding time or as soon as growth commences.

POTASH, in the highly-concentrated forms of

MURIATE OF POTASH
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SULPHATE OF POTASH

may be secured from all leading fertilizer dealers and seedsmen.

Write for copies of our free educative bulletins on the important subject of fertilizing, and which contain convincing results of experiments with fertilizers. These include:

"Artificial Fertilizers: Their Nature and Use."
"Fertilizing Grain and Grasses."
"The Potato Crop in Canada."
"Fertilizing Orchard and Garden."
"Fertilizing Hoed Crops."
"The Farmer's Companion," etc.

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Round trip tickets to points in Manitoba, Alberta and Saskatchewan via Chicago, St. Paul or Duluth, on sale each Tuesday until October 27, inclusive, at low rates. Through Pullman Tourist Sleepers to Winnipeg on above dates, leaving Toronto 11 p.m. No change of cars.

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From stations in Ontario, Kingston, Renfrew and West to points in Alberta and Saskatchewan, each Tuesday during March and April.

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From stations in Ontario to certain points in Alberta, British Columbia, California, Oregon, Washington, etc. ON SALE MARCH 15 TO APRIL 15, inclusive.

Full particulars at all Grand Trunk ticket offices, or write C. E. HORNING, D. P. A., Toronto, Ont.

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A clip to hold the cow's tail while milking. Handy and easy to use. Saves the milkers many a nasty blow in the face from the cow's tail while milking. Sent post paid to any address, with full instructions as to how to use them, upon receipt of 50c. (fifty cents). Address:

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Labyrinth Keyless Padlock. Works like a safe. Operated in the dark as easily as in daytime. For use in house, barn, corn crib, automobile, city or country. Sells everywhere—hundred places. Jones of Pa. sold 125 in ten days. Splendid profits. Patented. No competition. Write quick for territory, terms and canvassing sample.

Thomas Lock Co., 1144 Rome St., Dayton, O.

Please mention "The Farmer's Advocate."

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Keyless Padlock.
Operated in the dark
anytime. For use
in crib, automobile,
Sells everywhere.

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mer's Advocate."



Paint that protects farm equipment

Some farmers neglect their vehicles and implements—fail to keep them well painted—and they are "worn out" before their time.

Every year such a farmer has to buy a "new binder," a "new wagon," or new something else. It will pay you to keep your wagons and machinery painted with **Lowe Brothers' Wagon Paint**. It is especially adapted to resist the severe action of the elements and insures the maximum life and service from your equipment.

Lowe Brothers' Carriage Gloss gives a hard surface with perfect gloss, requiring no varnish to finish. Paint your buildings with



and you will have the best possible protection at most reasonable cost, for it works easier, goes further and wears longer than other paints. It is "the paint that gives best results."

Valuable Paint Books FREE

Let us send you our valuable illustrated books, "Homes Attractive From Gate to Garret" and "Guide to Farm Painting," showing how to secure best results with vehicles, barns, house and interior decoration. Sent free on request. Write today.



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RAW FURS

Trappers are finding out that the Manufacturer is the only place to send their furs. No large newspaper price lists with one dozen sorts for each kind; just a fair deal every time is bringing us greatly increased shipments. Large prices on paper is no good to you, boys. Write for shipping tags and price list free.

C. H. ROGERS
Dept. B. Walkerton, Ont.

SEED CORN

that will GROW. I have 300 bus. Wis. No. 1 White Corn and 100 bus. of White Cap Yellow Dent that was picked for seed. Picked from standing stalk after being fully matured and placed on drying racks. Never piled up, and thoroughly dried before cold weather. This corn is an early variety and especially good for silo and fodder. Will ship in crate or shelled. If shelled will be tipped and graded. Will ship on approval. Address

THE POTTER FARM,
Roy Potter, Manager Essex Ont.

Questions and Answers.
Miscellaneous.

Mineral Elements Lacking.

My horses, from one year old up to five years, are eating decayed wood when I let them out of the stable for water. In fact, I have noticed some of them eat each other's droppings. I have been feeding them on good clover hay, and from a gallon to two gallons of oats per day, according to age and work. I also mix bran in the oats. Can you tell me the cause for them acting thus, and please give me a remedy?

W. J. H.

Ans.—This has probably become a habit with your horses, but it is arising out of some depravity in their physical condition. It is generally due, in the case of animals, to a lack of mineral elements in the food, and you might be able to satisfy this craving by keeping salt always before the horses, either barrel salt or a lump of rock salt. Also give once a week a small, closed handful of sifted wood ashes in their feed. In addition to this, give one ounce phosphate of lime mixed in the bran or chop night and morning for a little while.

Pasture Mixture

1. What would be the best mixed grass seed to sow for pasture to keep for some years, on high land of mixed soil; not sandy land?

2. Could you tell me of a grass seed to seed in a ditch through low-muck land?

SUBSCRIBER.

Ans.—1. The best pasture mixture we know of for all conditions, and for permanency, is made up of alfalfa, 8 pounds; white clover, 3 pounds; red clover, 2 pounds; orchard grass, 5 pounds; tall oat grass, 3 pounds; meadow fescue, 3 pounds; Kentucky blue grass, 3 pounds; timothy, 2 pounds. This is the amount of seed per acre, and they are so combined that the different plants will furnish pasturage during the different seasons of the year. You may have some little difficulty in procuring all of these varieties, but if you get in touch with some seed firm, they will be able to provide you with them without any difficulty.

2. Red Top is a grass that will stand low conditions very well. If it is not too low, a little white clover might also give a good seeding and stand well.

Creamery Constructions.

There is a stock company of farmers in this locality who have owned and run a creamery in the neighborhood for at least ten years. Now there is a merchant within two miles of this creamery putting in a plant. I have heard it said that a new creamery could not run within three miles of another and get a license.

1. Can they get a license?
2. If so, how far away do they have to be from the said creamery?
3. Do they have to get a license from the Government?

FARMER.

Ans.—1. Yes; they can get a permit.

2. No difference.

3. The order of procedure is to apply to the Department of Agriculture and proceed with the building and operation of the creamery. The Department of Agriculture sends an Inspector who sees that sanitary conditions and everything connected with the manufacture of their product is right, and the Department will then issue him a permit to proceed with the making of butter. It matters not how far or how near they be to each other, so long as sanitary conditions and ordinary circumstances are right.

CALDWELL'S

Molasses Meal

Guaranteed 84% Pure Cane Molasses. Tell it by the smell.

CALDWELL'S
Cream Substitute Calf Meal

Analysis equal to cows' milk.

CALDWELL'S
Dairy Meal

A high protein balanced ration.

CALDWELL'S
Scratch Feed

Made from selected whole grains.

CALDWELL'S
Laying Meal

A dry or wet mash for egg production.

CALDWELL'S
Chick Feed

A growing feed for young chicks.

Ask your dealer for booklets on these feeds, or write direct to

The Caldwell Feed Co. Ltd.
Dundas, Ontario

"STOP! HERE'S A DYER FENCE!"



It's strong. It's rust-proof. It's durable. Dyer's price cutting is more than ever sensational. Get my prices sure before you buy. I've saved you dollars before! I'll save you more this year. Sign the coupon and send me my full price.

Name.....
Address.....
Dyer The Fence Man, 47c East Wellington St., Toronto
(Out for himself and you—no connection with any company)

SMALL FRUIT PLANTS

Gooseberries, Josselyn! Josselyn!! Red Jacket, Downing, Pearl, Houghton, Currants, Perfection! Perfection!! Ruby, Cherry, White Grape, Lee's Prolific, Champion, Black Naples, Black Victoria, Boocoo, Raspberries, Herbert! Herbert! Herbert!!! Cuthbert, Marlboro, Brinckle's Orange, Golden Queen, Strawberry-Raspberry, Garden Roots, Asparagus, Rhubarb. Write for Catalogue.

Wm. Fleming, Nurseryman, 496 - 4th Ave. W., Owen Sound, Ont.

The "Bissell" is a 3-drum roller

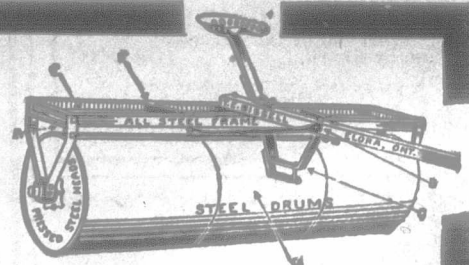
3 DRUMS make the best Land Roller. It is easy to understand how the "Bissell" Roller with 3 drums and supported by 6 heads is a STRONGER IMPLEMENT than any 2 drum Roller on the market. With 3 drums the centre bearing is not needed. When the "Bissell" Roller is at work, the axle turns with the drums.

It costs more to manufacture the 3 drum Roller than the 2 drum, but you pay no more for the "Bissell" 3 drum and get BETTER VALUE FOR YOUR MONEY. You get heavier weight in the "Bissell" drums too.

The good points cannot all be told here. Ask your dealer about the "Bissell" Roller and do not be put off

with a Roller unless the name "Bissell" is plainly stencilled thereon.

Grass Seed-er Attachment furnished if required. Write Dept. W for free catalogue. 63



T. E. BISSELL CO., LIMITED, ELORA, ONT.

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Destruction and Preservation-- SPRAMOTOR Accomplishes Both

There are countless enemies to your prosperity this season and every other season. **Spramotor** destroys bugs, parasites, insects, worms, spores, lice, blight, rot, canker, scale, fungi, slugs, scab, caterpillars, beetles, etc.

All these pests can undo your hardest work and bring your labor to naught. There is one efficient way to fight them, saving to yourself the dollars they would devour, and that is to get a **Spramotor** and let it do the work of destruction thoroughly in its own economical way.

For purposes of preservation, the **Spramotor** will whitewash or paint barns, stables, hen houses, granaries, silos, sheds and farm buildings generally.

You can spray on fireproof or ordinary paint at half the cost and in one-tenth the time. It means all the difference between having dirty, unsanitary outbuildings and clean, healthy, vermin-proof places to house your live stock, chickens and other possessions.



Spramotor for Weed Extermination

Wild mustard can be killed in the growing grain at a cost of only 60 cents an acre—with a **Spramotor**. You can clear your land of all noxious weeds just as cheaply and turn unproductive tracts into big money-makers. Here are some figures for you:—A plot of land (**sprayed**) produced 84 lbs. of crop and 1½ lbs. of mustard. A plot exactly the same size (**unsprayed**) produced 16 lbs. of crop and 112 lbs. of mustard. Was the **Spramotor** worth its cost in this case?

Contented Cows Give More Milk

It is a recognized fact that during fly time, milch cows are liable to be so pestered and tormented by stinging flies and biting insects that the milk yield falls off noticeably. Dairy men have hitherto accepted this situation as something unavoidable, but latterly some of them who own **Spramotors** have taken to using it to give the animals a thorough spraying with fly repellent, not only affording the tortured beasts ease and comfort but causing them to yield fully one-third more milk than before. Surely, if you are without a **Spramotor**, you realize how much you can benefit from owning one. If you believe that fuller information on your own particular case would be worth while, take advantage of the following:—

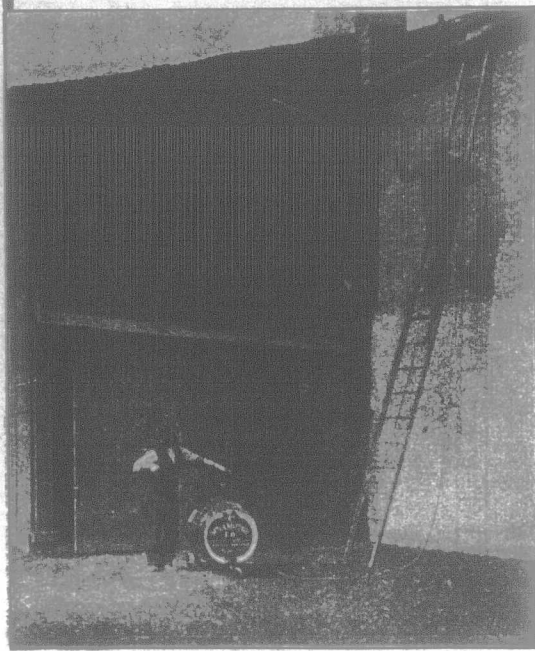
FREE

Write us telling what you need a **Spramotor** for and we will send you complete information on the best style of machine to fit your requirements. We will also forward you a copy of our valuable illustrated book on Crop Diseases, FREE. This puts you under no obligation whatever, so don't delay—write while the matter is in your mind.

We Make Spramotors in Over 50 Different Styles From the No. 0 Hand Machine at \$6 to the \$350 Gasoline operated outfit. Our wide range of designs and sizes embraces machines for every conceivable purpose, suitable to the spraying needs of the small farm as well as the largest in Canada.

B. H. Heard Spramotor

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Free Land for the Settler in New Ontario

Millions of acres of virgin soil, obtainable free and 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.

For full information as to terms, regulations and settlers' rates, write to

H. A. MACDONELL
Director of Colonization
Parliament Bldgs., TORONTO

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Minister of Agriculture
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Special attention given to
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Pamphlet sent free on application.

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A SNAP

Manure Loaders for Sale at Half Price

I beg to announce that I have purchased from The Renfrew Machinery Co. Limited, their entire stock of manure loaders and I am going to sell them at half price. These machines have never been used and are in first class condition. This machine has given entire satisfaction wherever used. First class testimonials from users all over Ontario.

For prices and further particulars, apply to

FRED GEORGE, P.O. Box 141, Renfrew



Champion Percheron Stallions

For the next few weeks, we will offer for sale, at GREATLY REDUCED PRICES, our entire lot of show Stallions. Every stallion that we offer has been a PRIZE WINNER at Guelph or Ottawa Winter Fairs, and are Stallions with reputations.

They are three and four years old, Blacks and Greys in color, and weigh from 2,010 to 2,150.

We give a Breeding GUARANTEE and INSURANCE POLICY that protects you from LOSS of ANY KIND. Terms arranged to suit you, and horses PRICED to SELL.

If interested in the RIGHT KIND of PERCHERONS, write us, or better still, arrange to see these horses at an early date, as it will be to your advantage, if you are looking to save Money, as we can give you stallions of Quality and horses that will prove to be FOAL-GETTERS, and Money Makers.

R. Hamilton & Son, The Pioneer Stud, Simcoe, Ont.

Questions and Answers. Miscellaneous.

Warble—Fly Grub in Cattle.

Cattle have a great many grubs on their backs. Will grubs hinder them from doing well? Please tell me what to use, or how to get rid of them.

J. S. S.

Ans.—The grubs or the larvae of the warble fly do not hinder cattle thriving very well, provided they are not too numerous. However, they are injurious to the hide, as tanners do not prefer hides of cattle punctured by the warble fly. There are several treatments prescribed for these grubs in the backs of cattle. In order to kill them, you may take a small syringe and inject a small quantity of creolin or carbolic acid into the small hole, or smear over the hole with a mixture of tar and grease. In either case, you kill the insect, and the contents of the worm have to be absorbed by the body of the animal, which, if they are numerous, would be injurious. It is best to moisten the small lump by an application of oil, and rubbing and squeeze out the fly. To prevent the warble fly laying its eggs in the animal's back during the summer and thus giving rise to these worms, a treatment is recommended composed of flowers of sulphur, 4 ounces; spirits of tar, 1 gill; whale oil, 1 quart. Mix well together, and in hot weather apply along the back once a week with a brush.

Fertilizers and Ginseng.

I have noticed where ashes are put in our best, rich field, on the farm, there is a bumper crop, while the rest is a common crop, and in other places poor.

1. What kind of fertilizer should be used to give satisfaction?
2. Where can it be obtained, and at what price?
3. Would the result pay for the fertilizer?
4. Is growing ginseng profitable if properly handled?
- 5 and 6. Would it do well in cleared bush, with knolls as high as five feet? That is, with artificial shade, or would land have to be levelled? Which is the best way to start; plant seeds or roots?

F. H. B.

Ans.—1. From the results of your experiment with ashes, we would infer that your soil is benefited by an application of potash, and possibly lime. In purchasing a fertilizer, it would be well to see that it contains a fairly high percentage of potash, and you could apply lime in the form of slaked or unslaked lime, which can be purchased anywhere. You don't mention what kind of crop you wish to grow. Consequently, we cannot recommend any particular fertilizer for your land. When you have determined what crop to grow on a certain field, discuss it with your local fertilizer agent, or with some firm that sells fertilizers, mixed especially for different kinds of crops. Or, if you wish to compound it yourself, we could advise you upon knowing the character of the crop which you are about to grow.

2. Fertilizers can be obtained from any of the firms advertising in the columns of this paper, and they would be glad to quote you prices on their mixtures.

3. Impossible to answer this question. If your land did not need fertilizer they would not pay, but from the results of your experiments we infer that they have beneficial results, and judging from the information conveyed in your question, we would say that fertilizers would pay.

4. Many people have gotten rich out of the production of ginseng. Many have lost all they had. If you are fortunate the revenue will be large; if you are unfortunate you will undergo a severe loss.

5 and 6. Commercial exploitations are sometimes successful in this character of land, but you would not be wise to cut down too much of the bush, as it is under those natural conditions that ginseng prospers most. It is generally advisable to start this crop from the roots when setting out the bed, but you can have a small nursery-bed wherein you start the roots. Look up page 122, of our number of January 15, 1914.

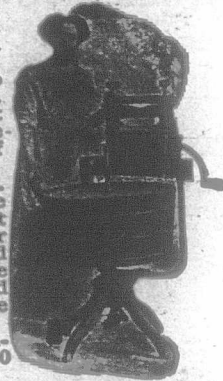
THIS WASHER MUST PAY FOR ITSELF.

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right," but he said "I'll give you back your money if the horse isn't all right."

Well, I didn't like that. I was afraid the horse was not "all right" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now, this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.



And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it. But I'd never know, because they wouldn't write and tell me. You see I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in Six Minutes. I know no other machine ever invented can do that, without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it don't wear the clothes, fray the edges, nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that in washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 30 cents a week 'till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

I. Y. MORRIS, Manager 1900 Washer Co., 357 Yonge St., Toronto.

Plow Sale

We have quit making plows. From last year's stock we have a number of Waterloo Twin Gang Steel Plows; the No. 13 General Purpose Walking Plow; the No. 21 General Purpose Walking Plow. They will be sold at a sacrifice. Get your order in now.

The Exeter Mfg. Company Ltd., Exeter, Ont.

BARLEY & OATS

We have another fine supply of 21 barley, samples excellent; also a supply of improved Siberian oats. Our original supply was grown from registered seed. Present supply was specially grown for seed purposes and is clean, barley, ninety cents; oats, fifty-five. Bags extra.

JOHN ELDER & SONS, Hensall, Ont.

FOR SALE—SEED CORN

Many varieties; also Feed Corn. Apply to Edward Teller, St. Joachim, Ontario

CLOVER SEED—Red Clover, Alsike and Timothy, high government tested. Write for samples and prices.

SHIPMAN & DAWSON, Ontario
Cannington, Ontario

SEED CORN FOR SALE

High germination test. White Cap Yellow Dent. Grown on our own farm. Write
TISDELL BROS., Tilbury, Essex Co., Ont.

None-Such WHITE CAP YELLOW DENT. Matures early. Carefully selected and dried. Reduction on farmer's club orders. R. A. JACKSON, COTTAM, ONTARIO.

Strawberry Plants—Most profitable varieties. Grown under ideal conditions. \$1.25 for \$1.00 post paid
SILVERWOOD FRUIT FARM
W. J. Galbraith, Phelpston, Ont.

Strawberries and RASPBERRIES reach their highest development here on the shore of Lake Erie. Our Free Catalog describes 50 leading kinds, with cultural directions, etc. Be sure and write for it.
THE LAKE VIEW FRUIT FARM
H. L. McConnell & Son, Grovesend, Ont.

Redeemed.

A correspondent sends a clipping of the following poem, by George Horton:

Only a dying horse that lay
Hard by the walk one August day,
Panting his feeble life away.

Sunstruck, and he was lying there
At noon, with not a stir of air
From up or down or anywhere.

Slowly he breathed in gasps and groans,
Couching his bruised and battered bones
Upon the cruel cobblestones.

For years along the dusty road
He'd pulled his master's heavy load,
Urged on by brutal curse and goad.

Pitied and friended now by none,
Because his usefulness was done,
He lay there dying in the sun.

His twitching flesh was torture-wrung,
Foam to his quivering nostrils hung,
From parted lips lolled out his tongue.

Feebly at last he raised his head,
Opened his eyes for help that plead,
Struggled to rise, and fell back dead.

And I, with shame for all my race,
Beheld a throng surround the place,
And pity on no human face.

I turned away, debased, defiled,
When, lo, a chubby little child,
On whom its mother fondly smiled.

Broke from her tender grasp away,
Ran where the poor dead creature lay,
And scattered there a cheap bouquet!

Gossip.

CLYDESDALE IMPORTATIONS.

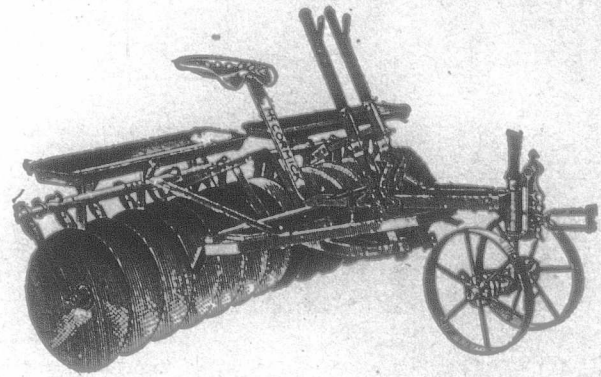
The first extensive shipment of Clydesdales from Scotland for the year 1914 was made the first week in March, from Glasgow to Canada, by the Donaldson liner, Letitia, the total number shipped being 49 head, and were consigned to the following importers: Anderson & Forsyth, Flagstaff, Alta.; J. G. & A. Kennedy, Climax, Sask.; Wm. Marshall, Namaka, Alta.; R. P. Hetherington, Headlands, Sask.; I. T. Wallace, Connorville, Alta., and Alex. Papple, Louise Bridge, Winnipeg.

LONDON HACKNEY SHOW.

At the 30th annual show of the Hackney Horse Society, held the first week in March, the number of entries catalogued was 539. For the second year in succession Hopwood Viceroy won the stallion championship for Martinez de Hoz, and Beckingham Lady Grace won the mare championship again for Henry Gilding. Gay Boy won for Martinez de Hoz the harness-horse championship. In the class for stallions five years old and over, and standing over 15.2 hands, the ten-year-old dark-chestnut, Hopwood Viceroy, won first, second place being given to Mr. Hollingworth's five-year-old light-chestnut, Moordale Toreador.

Barber Bros., Clydesdale breeders and importers, Gatineau Point, Que., write: "Among our more recent sales of Clydesdale stallions are the following: To T. A. Hand, of Hazeldean, Strath Tay (imp.), a two-year-old, by the noted show and breeding horse, Mendel, dam by the H. & A. S. prize horse, Koh-I-Noor, and grandam by the celebrated MacGregor. This is good breeding, and the colt gives every promise of proving his ancestry, as he is big, with the best legs, feet and ankles, and moves well. The district to which he goes is very fortunate in having so good a horse brought within reach. H. H. Horner, of Creelman, Sask., has bought two three-year-olds. One of them, Loudoun Hill Lad, is by the excellent breeding horse, Revelanta, with dam by the successful sire, Royal Favorite. It would be difficult to beat this blood, and this colt is a credit to his breeding, being a big, upstanding horse, with nice bones, and a wealth of breed character about him, stamping him at once as being a breeder's horse. The other horse going to Creelman is Proud Chief, by the unbeaten champion, Everlasting, dam by Durbar, and grandam by Up-to-Time. This is a thick, pleasing kind of horse, of a nice size, and should be in demand wherever he goes."

McCormick Tillage Implements



The IHCLINE GRAIN AND HAY MACHINES

Binders, Reapers
Mowers
Rakes, Stackers
Hay Loaders
Hay Presses
CORN MACHINES
Planters,
Binders, Cultivators
Essilage Cutters
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TILLAGE
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and Disk Harrows
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Knife Grinders
Binder Twines

THIS year ten disk harrows will be sold where one was sold five years ago. Why? Because so many farmers have learned that the proper use of a disk harrow is the best guarantee of a successful crop.

Proper use of a disk harrow means the purchase of a McCormick disk harrow because they are the ones built to do the best work. The frames are strong, to stand the strain of following the binder or of disking hard ground. The set levers keep the gangs to their work at even depth. The bearings are the most durable that can be put on a disk harrow.

The full line includes disk, peg tooth, and smoothing harrows, drills and cultivators. See this line before you buy. We send catalogues on request.

"The Disk Harrow," a book which illustrates and explains the proper preparation of a seed bed, and gives examples of the value of disking—32 pages of valuable information—is yours for four cents to cover postage and packing.

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MONEY IN POTATOES

Every labor-saving machine that you use in growing your crop means so much more of that money for you. Remember that the machinery you buy is a permanent investment, and should be the kind that will last you for years to come.

O.K. CANADIAN POTATO PLANTERS

SEED POTATO CUTTERS

are the best that we know how to make—the kind that are built to give years of satisfactory service.

The O.K. Canadian Seed Cutter is designed to leave both your hands free, being operated by the foot. With it you can cut from 5 to 7 bushels an hour, as against 1 1/2 bushels by hand.

The O.K. Canadian Planter is of the latest design. It is thrown out of operation by moving one lever, its cup-feed device handles the potatoes without damage, it is adjustable to any depth and to plant hills 12 to 18 inches apart, it has an attachment for distributing fertilizer which may be used or not, as desired, and it covers the seed thoroughly. It is strongly constructed of the best steel and malleable iron, and guaranteed in every respect.

Our booklet on potato growing will give you much valuable information. Write for it, FREE. 25



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Twentieth Year of selling direct to the User. Our Catalogue will help you to choose just the Vehicle or Harness you require, and save you money. It describes and pictures many styles, gives prices, freight prepaid, and fully explains our method of Selling Direct, and saving you the middlemen's profit. Remember, we pay the freight in Ontario and Eastern Canada. The Catalogue is free for the asking. Send for it to-day.

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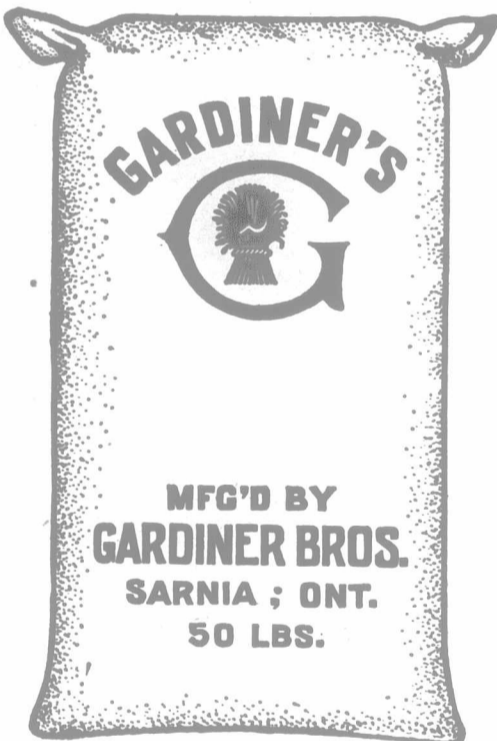
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Write NOW for our prices on 500-lb. lots—assorted orders, of any of the following:



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These feeds are made from choice sweet grains, scientifically blended to give the maximum result for the least cost. Hundreds of poultrymen are finding that it pays to buy their poultry feeds direct from GARDINER BROS., the manufacturers. A trial order will make you a regular customer. Write to-day for particulars.

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There is money for you in the Calf Meal proposition. We are manufacturers of the famous Gardiner's Calf Meal, the ideal substitute for milk or cream for raising young calves. Have you tried it? We are gaining new customers every day.

Write for our special prices on a trial order. Freight prepaid to your nearest station.

GARDINER BROS., Sarnia, Ont.



Questions and Answers. Miscellaneous.

Fertilizer for Corn.

I wish to ask your advice about what kind of fertilizer you recommend for corn, and prices? H. G. S.

Ans.—Fertilizer companies offer for sale a mixed fertilizer prepared especially for corn. It is fairly rich in nitrogen and phosphoric acid. These are the two requirements for corn production. If you wish to mix the fertilizer yourself, we recommend 120 pounds of nitrate of soda, 340 pounds of acid phosphate, and 140 pounds of muriate of potash. Mix these thoroughly on a clean floor, and sow them broadcast prior to planting. This combination is recommended for one acre, but you can use less if you wish. However, we advise you to adhere to these proportions in making the mixture. We cannot give you prices on these, but you will be able to procure them from any fertilizer agent or any fertilizer firm with whom you are in the habit of doing business, or with whom you wish to do business. You will find the names of reliable firms in our advertising columns.

Value of Silage.

What is the market value of silage at the silo? I have more silage than I will need, and have an opportunity to dispose of it, but have a poor idea of what it is really worth. Silo, 16 x 35 feet, was filled to the top with good, well-matured corn, well cut, and so it is first-class silage. R. H. H.

Ans.—Our reply to this question must be on the grounds of the value of the silage to you as feed. At a meeting of the Eastern Dairymen's Association in January, a member of the Association was giving his record of his herd and the returns therefrom. In giving his estimates of the value he placed on different food stuffs, he allowed \$3 per ton for his silage in the silo. The convention concurred with him in his estimate of the silage, so we can do no better than give you this estimate as a value of your silage to you in the silo. To the purchaser who has to carry it away it is another question, and you would probably have to compromise with him as the silage would possibly not be worth \$3 to him. \$2.50 has been paid for silage, but it has an ever-increasing value as people come to appreciate it.

Black Quarter—Sparrows.

1. Is there a disease in cattle known as black quarter? If so, what is the cause? Is there any cure, and is it contagious? Several cattle in this place have died recently. They were taken by swelling in the quarter, some hind and some front; usually die inside of twenty-four hours. The part affected looks as though it had been beaten to a jelly.

2. During the cold weather English sparrows stay in our henhouse by the hundreds. What would be the best thing to do, let them alone, or destroy them? Are they very destructive to crops and the young of other birds? C. E. S.

Ans.—1. These symptoms indicate black leg or black quarter, for which there is practically no cure. It is caused by young cattle pasturing on or eating hay that grew on low-lying pastures. In some cases the administration of about three drams iodide of potassium at the very early symptoms, and repeated every four hours for four or five doses, may effect a cure. Prevention consists in keeping young cattle off affected pastures or from affected fodder. Immunity from the disease may be rendered with reasonable certainty by inoculating with anti-black-leg serum, or tablets which, with instructions and the necessary instruments, can be obtained from the Department of Agriculture, Ottawa. It is a germ disease.

2. Destroy as many as you can. They are destructive, and dirty around the buildings.

The Shire Horse Society of Great Britain will offer two of their valuable \$250 Gold Cups at Calgary Exhibition this year for best registered Shire stallion and best registered Shire mare. Similar cups were offered at the Canadian National Exhibition, Toronto, in 1913.

Deafness



Perfect hearing is now being restored in every condition of deafness or defective hearing from causes such as Catarrhal Deafness, Relaxed or Sunken Drums, Thickened Drums, Perforated, Hissing Sounds, Roaring and Wholly or Partially Destroyed Drums, Discharge from Ears, etc.

Wilson Common-Sense Ear Drums
"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable. Write today for our 168 page FREE book on DEAFNESS, giving you full particulars and testimonials.
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Helps his wife to plan her table in busy times. Saves work and worry, saves buying so much meat, 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.

IRON AGE WHEEL HOES AND DRILLS

will sow, cultivate, ridge, furrow, etc., better than you can with old-fashioned tools and ten times quicker. A woman, boy or girl can do it. Can plant closer and work these hand tools while the horses rest. 38 combinations from which to choose at \$2.50 to \$12. One combined tool will do all of the work. Ask your dealer to show them and write us for booklet, "Gardening With Modern Tools" and "Iron Age Farm and Garden News" both free.
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It is not right for you to neglect this solemn duty to your family or those dependent on you. You can make a perfect legal, incontestable will in your own home. Get a "CODE" WILL FORM with complete instructions to-day at your book sellers or stationers for 25c. or direct from THE COPP CLARK CO. Limited
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will reduce intamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Pail 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.

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5 Yearling Clydesdale Stallions

10 Young Holstein Bulls, 1 Stallion (Imp.) in dam, others grandsons of Baron's Pride, Bull got by King Fayne Segis Clothilde, a grandson of King Segis and Grace Fayne 2nd's Homestead, 35 lbs. butter in 7 days (world's record), and 2 other sire's dams in R.O.P. milking up to 84 lbs. per day, and 16,000 lbs. in 11 months. Write, or better come and see them (a few Ponies).

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R. M. HOLTBY

FOR SALE.—Owing to the sudden and unexpected death of my brother, Arthur Ulliot, of St. Mary's, Ont., I have the following stock for sale at sacrificed prices:

Clydesdale Stallion

Diamond Cup (Imp.) 12100=15697 = rising four years old. Color, bay with white markings. Sire, Silver Cup; grandsire, Sir Hugo. Shorthorn Bull, rising one year old; color roan.

ELIZA ULLIOT, ST. MARY'S, ONT.

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

A Bargain on
CLYDESDALE STALLION
for quick sale. Terms and particulars address J. Dunn, 94 Dovercourt Road, Toronto, Ont.

DR. McGAHEY'S HEAVE CURE FOR BROKEN-WINDED HORSES. The only medicine in the world that will stop heaves in 3 days, but for a permanent cure it requires from one-half to one bottle used according to directions. \$1.00 per bottle. The Dr. McGAHEY Medicine Co., Kempville, Ontario.

Please mention "The Farmer's Advocate."

THE BEST LINIMENT OR PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancors, Boils, Corns and Bunions, Human Body. CAUSTIC BALSAM has no equal as a Liniment.

Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. BEYER.
Price \$1.50 per bottle. Sold by druggists, or sent by express prepaid. Write for booklet B.
The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

Take Good Care Of The Colts

It's cheaper to raise colts than to buy horses. But it's costly if you lose the colts. Keep a bottle of Kendall's Spavin Cure handy. For thirty-five years has proved it the safe, reliable remedy for spavin, splint, curb, ringbone, bony growths and lameness from many causes.

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is sold by druggists everywhere at \$1 a bottle, 6 bottles for \$5. Get a free copy of our book "A Treatise on the Horse" at your druggist's or write us.
Dr. B. J. KENDALL CO., Enosburg Falls, Vt.

DR. PAGE'S ENGLISH SPAVIN CURE

For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hocks, Strains or Worm on cattle, and to remove all unnatural enlargements. This preparation, unlike others, acts by absorbing rather than blistering. It is the only preparation in the world guaranteed to kill a Ringbone or any Spavin or money refunded, and will not kill the hair. Manufactured by Dr. Frederick A. Page & Son, 7 and 9, Yorkshire Road, London, E.C. Mailed to any address upon receipt of price, \$1.00.—Canadian agents:
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Great Conditioner & Worm Destroyer
Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc. In such proportion as will keep horses in excellent condition and free from worms. Bitter Lick keeps the appetite keen; all horses like it; tones the digestion and prevents colic. It has no cheap filler and takes the place of worm and condition powders, etc., keeps horses healthy for only 1c a week. Ask your dealer or write for booklet.
STEELE, BRIGGS SEED CO., Ltd., WINNIPEG, MAN. Wm. Cooper & Nephews, Toronto, Ont.

DR. BELL'S Veterinary medical Wonder, 10,000 \$1.00 bottles FREE to horsemen who will give The Wonder a fair trial. Guaranteed to cure Inflammation, Colic, Coughs, Colds, Distemper Fevers, etc. Agents wanted. DR. BELL, V.S., Kingston, Ont.

Questions and Answers. Veterinary.

Condition Powder.

Please give formula for a good condition powder for horses. Horses are sometimes troubled with small boils.

F. D. A.

Ans.—Healthy horses should not be given drugs. When out of condition and appetite poor, mix equal parts of sulphate of iron, gentian, ginger, nuxvomica, and nitrate of potassium. Give a tablespoonful three times daily. When these boils are caused by the collar, the cause should be removed. When not caused by friction, purge him with 8 drams aloes and 2 drams ginger, and give him 1½ ounces Fowler's solution of arsenic twice daily for a week. V.

Semi-Diarrhoea.

Horses eat well and feel well, but have slight diarrhoea, which has continued for some weeks. They are fed three quarts of oats and some bran and hay three times daily. They are not working, but get daily exercise. They also have a slight cough.

J. H. L.

Ans.—You are feeding too much hay. Hay twice daily is sufficient for idle horses. If either the hay or oats be of poor quality, or there be weeds in the hay, it would tend to cause the trouble. There is no doubt a local cause, else, as stated, they are eating too much hay. See that all they are given to eat is of good quality; feed hay only morning and evening, and add to their drinking water one-quarter of its bulk of lime water. For the cough, apply mustard mixed with oil of turpentine to their throats, and give each two drams chlorate of potassium and thirty grains quinine three times daily. V.

Miscellaneous.

Discharge of Mortgage.

A pays B a mortgage off in full; B refuses to give A the discharge of mortgage without A pays B \$1.50.

1. Can A compel B to give discharge without the \$1.50?
2. Is B entitled to any legal fee?
This is nothing about registration, just simply writing discharge. Y. E. Ontario.

Ans.—1. No.

2. Yes; he is not legally required to give a certificate of discharge without being paid the cost of it, and the fee mentioned is less than what is ordinarily charged nowadays.

Fertilizer for Potatoes.

1. What is the best fertilizer for potatoes, to be used with barn-yard manure?
2. When is the best time to apply fertilizer?
3. Where can I get the fertilizer you recommend? E. A. W.

Ans.—1. An ideal fertilizer for potatoes is composed of a fairly-large percentage of nitrogen and potash. Fertilizer firms sell mixtures prepared especially for all different crops, but if you wish to compound it yourself, the following will be about the right proportions. Nitrate of soda, 130 pounds; acid phosphate, 370 pounds; sulphate of potash, 160 pounds. These are the proportions of the mixture per acre, but if you are applying a fairly-good dressing of manure, you might be able to cut down a little in the quantity, but we should advise you to adhere to the proportions.

2. The proper time to apply the fertilizer will be when you are preparing the ground for the potatoes, when it could be sowed broadcast, or if you are applying only a small quantity, you might scatter it in the furrow or in the drill. Do not place it in heaps by the potatoes, but string it along throughout the length of the furrow, and the potatoes will get the full benefit of it during the one season.

3. You will be able to purchase fertilizer from your local agent, if you have such in your community, or you will be able to get it from any of the fertilizer firms advertising in the columns of this paper. If you do not have an agent in your district, communicate with any of these firms and get the analysis of their fertilizers and prices.

TAKE OFF THE HORSE'S COAT ALSO

Do you go at the spring work with your overcoat on? Of course you don't—

Coats are a burden—you even roll up your shirt sleeves. Then how can you expect the horses to show proper energy under the hot sun with the same heavy coats on that they have worn all winter and which hold the wet sweat and dirt? Clip them before the work begins with a

Stewart Ball-Bearing Clipping Machine

They will get all the nourishment from their feed—be healthier and look better. They will dry off quickly, be more easily cleaned and feel better generally—that means work better. The Stewart Machine is not an expense—but a highly profitable investment. It turns easily, does more and closer work than any other machine—can't get out of order. Gears all file hard and cut from solid steel bar—protected and run in oil. Includes 8 feet new style easy running flexible shaft and celebrated Stewart's Single-Tension Clipping Head. The only machine that can be used without change for horses, mules and cows. You can make money clipping your neighbors' horses while yours will do better work. Each machine guaranteed. If it doesn't give perfect satisfaction, return it and get your money back. Complete from your dealer at **\$9.75**. If he can't supply you send \$2 and we will ship one C.O.D. for balance.

Get More Wool
from your sheep, longer, better wool that will bring you from 15c to 25c more from each sheep. Your flock will feel better and look better also. The

Stewart No. 9 Ball Bearing Shearing Machine

will more than pay for itself the first season. Any boy can run it all day without tiring. All joints ball bearing with ball bearing shearing head. The equipment includes four sets of knives fully guaranteed. Price **\$15**. If your dealer hasn't it, send \$2.00 and pay balance C. O. D.

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Write for complete new catalog showing world's largest and most modern line of horse clipping and sheep shearing machines.

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The premier show herd of Canada. All ages, blacks and greys, weights from 1800 to 2150 lbs. Write for the greatest illustrated horse catalogue in Canada

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A choice lot of Stallions and Mares are in our stables at the present time. They are the big kind with the best of quality and in the pink of condition. Write us for particulars, and we will be pleased to meet you at any of the Stations mentioned.

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Myrtle. C.P.R.; Brooklyn. G.T.R.; Oshawa. C.N.R. Long-distance 'Phone.

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We have a better bunch of stallions and mares in our barns at present than ever before, and are in a position to sell cheaper than any other man in the business. We raise our own feed, do our own buying and selling. No commission agents to share profits with. We have nice, big, stylish blacks and greys, with right kind of bone and feet and good, straight, true action. Every stallion guaranteed a foal getter. Every mare a breeder. List of prizes won: Sherbrooke and Ottawa on 16 head, 15 firsts, 6 seconds, 4 thirds, 3 fourths and 6 championships. This speaks stronger than words as to the quality of my stock. J. E. ARNOLD, Grenville, Que.
Grenville is midway between Montreal and Ottawa C.P.R. and C.N.R. Three trains run daily from each of these cities.

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

Imp. CLYDESDALES and PERCHERONS Imp.
The season is advancing, select your horse now. I can show you Clydesdale Stallions with size, quality, and breeding, second to none in Canada, for about half the usual price, and the same in Percherons.
T. J. Berry, Hensall, Ont., G.T.R., 'Phone.

Mount Victoria Clydes & Hackneys
When in want of a high-class Clydesdale stallion or filly, or something that has won and can win again in Hackney stallion or filly, visit our barns at Hudson Heights, Que.
T. B. MACAULAY, Proprietor, E. WATSON, Manager, Hudson Heights, Que.

TOPPERS IN CLYDESDALES AND PERCHERONS
I have just landed a big importation of Clydesdales and Percherons, if you want a big ton stallion with the best of quality, come and see me, I can show you the best lot of stallions you ever saw.
T. D. ELLIOTT - BOLTON, ONTARIO

Clydesdales & Shires
If you want Stallions, Fillies or Foals of the above breeds, personally selected from A. and W. Montgomery's Clydesdale Stud and the Bramhope Shire Stud, Cheshire, and home-bred of the most fashionable strain. See and select from the large stock now offered. Prices and terms will please. D. McEachran, Ormsby Grange, Ormstown, Que.

Imported CLYDESDALE Stallions
Yes, they are here, our 1914 importation, and if you want a big young stallion with the best legs, ankles, feet, action, breeding and character you ever saw at a price a poor man can pay, come and see our lot.
BARBER BROS. Gatineau P., Quebec.

CLYDESDALES, IMPORTED STALLIONS AND FILLIES
In the modern Clydesdale there must be big size, draft character, quality at the ground, and straight clean action. Come and see what I have with the above requisites in both Stallions and Fillies, also one French Coach Stallion.
JAMES TORRANCE, MARKHAM, ONT., G. T. R.; LOCUST HILL, C. P. R.

BREEDING AND QUALITY There never was a better bred lot imported, and their standard of character and quality is the highest and my price the lowest.
Clydesdales
STALLIONS AND FILLIES G. A. Brodie, Newmarket, Ont. L.-D. Bell 'Phone

STALLIONS & FILLIES CLYDESDALES PRIZE-WINNERS & CHAMPIONS
For this season's trade we have Clyde Stallions and Fillies that were up to championship honors in Scotland, and the same honors in Canada. Breeding characters, quality and action unsurpassed. Visit our barns if you want the best.
ROBERT NESS & SON - HOWICK QUE.

CLYDESDALES Imported and Canadian-bred. With over 25 head to select from, I can supply, in either imported or Canadian-bred, brood mares, fillies, stallions and colts. Let me know your wants. L.-D. 'phone.
R. B. Pinkerton, Essex, Ontario.

R.M.S.P.
FORTNIGHTLY SAILINGS
 — BY —
TWIN-SCREW MAIL STEAMERS
 FROM
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SPECIAL FACILITIES FOR TOURISTS



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For unloading Hay and all kinds of Grain. For wood track, steel track, rod and cable track. Made entirely of malleable iron; no springs. Fitted with our patent deadlock. 25,000 of our Haying Machines in use, is the best guarantee that we build them right. Write for catalogue of Carriers, Slings, Stackers etc.—and name of dealer near you who handles Buchanan's. M. T. Buchanan & Co., Ingersoll, Ont.

We also manufacture Steel Cow Stalls and Positive Lock Cow Stanchions.

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 Court Lodge, Egerton, Kent, England
 Exporters of Pedigree Live Stock of all descriptions.

We are the only firm in Great Britain who make this their sole business, and therefore offer advantages not obtained elsewhere. When our Mr. A. J. Hickman started this business seven years ago, he did not know a single foreign breeder. This year we have exported more stock to order than any other firm in Great Britain. This is a fact which talks. The frequency with which we buy stock from English breeders means that we can do business with them on more favourable terms than can be done by anyone else. No one should import draft horses, beef or dairy strains of cattle or mutton breeds of sheep, without first getting full particulars from us. Highest references on application.

NOTICE TO HORSE IMPORTERS
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Commission Agent and Interpreter
 Nogent Le Rotrou, France
 Will meet Importers at any port in France, or Belgium and assist them to buy Percherons, Belgians, French Coach horses. All information about shipping, banking, and pedigrees. Many years' experience; best references; correspondence solicited. P.S.—Nogent is in the heart of the Perche horse district.

Aberdeen-Angus of Show Form and Quality. For this season my offering in young bulls and heifers, are topers every one. Show-ring form and quality and bred from show-winners. **T. B. BROAD-FOOT, Fergus, Ont.** G.T.R. and C. P. R.

HEREFORD BULLS
 FROM IMPORTED STOCK
 Six heifers, one bull.

A. S. HUNTER & SON, Durham, Ont.

Please mention "The Farmer's Advocate."

Questions and Answers.
 Miscellaneous.

Tenant in Arrears.

1. A rents a house to B, and B fails to keep rents paid up, being old—past the working age. B has a daughter keeping house for him. She has cows and sells milk to neighbors; takes in sewing, and gets more benefit from use of property than anyone else. Is she responsible for rent? Can A seize cows for non-payment of rent? Furniture is only what is barely necessary—nothing to seize.

2. Can B remove manure from the place and use it on a lot belonging to his daughter? **M. W. P.**

Ontario.

Ans.—1. No—to both questions.

2. No.

Alfalfa and Frozen Silage.

1. Does soil or seed of alfalfa have to be treated or inoculated? I sowed some last spring and it did not do well.

2. Ensilage froze around edge of silo. We cut it loose and threw it in the gangway of cow stable, which has cement floor, and it got warm but did not heat. Do you know how we could get this to heat? **W. B.**

Ans.—1. Alfalfa, nor the soil upon which it is sown, have to be treated with nitro culture, but in the work of the Bacteriological Department at Guelph, in connection with the Experimental Union, it was found that sixty-eight per cent. of the reports received were in favor of treating alfalfa with nitro culture. If you have a soil upon which it has previously grown successfully, you might take some of the soil from the field where it was grown and sow it broadcast upon the newly-seeded field. The better way, however, is to write to the Bacteriological Department at Guelph, and send a quarter, and get a bottle which will treat one bushel of seed, enough for three acres.

2. We cannot understand why you want this silage to heat. When silage freezes to the walls of the silo, it is simply scraped down as it thaws, and allowed to warm up a little, when it is all right to feed to the cattle. We never heard of anyone having trouble with it other than this, and we cannot understand why you wish it to heat, any more than it has heated in the silo during the process of fermentation or silage-making. No doubt, before this, the silage has thawed and you have fed it, and it would do all right for the cattle, but it is not advisable to feed frozen silage to horses.

History and Etiquette.

1. I noticed in the paper where the Department of Education decided to do away with the Entrance. Do you suppose it is for all the schools, or for the Toronto schools only?

2. In connection with the Battle of the Boyne, we read of King William of Orange. Does this mean that he was an Orangeman?

3. When introducing a gentleman and lady, whose name should be mentioned first? Kindly give in full the correct way of introducing. **X. Y. Z.**

Ans.—1. So far, the abolition of the Entrance is not universal. There is no general regulation doing away with the Entrance examination. We have no knowledge of it being made use of in rural districts, but if it is successful in larger schools, the principle might be extended further.

2. The first Orange lodge was organized in 1795, and the Battle of the Boyne was fought in 1690, over a century before. The lodge takes its name from the fact that King William III was Prince of Orange. Orangemen are simply enrolled in secret societies, and take the name from the House of Orange, of which William III was Prince.

3. When introducing a lady or gentleman, always present the gentleman to the lady, and it will not matter which name you use first. If you try to memorize some code or exact order through which to go when making the introduction, you might forget at the critical moment and become confused, so it is better to remember this only: Present the gentleman to the lady, and be original in your manner of presentation.

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Strength is what you want in a fence. You want a fence that will live; a fence that will last; a fence that possesses great strength in every wire.

To get strength you must get weight. The heaviest fence contains the most strength. Weigh "Ideal". Compare its weight with any other fence you can buy.

No small weak wires in "Ideal". From top to bottom it's all the same—all No. 9, all hard steel wire and every wire full of strength and properly galvanized to protect and preserve that strength.

Strong unruly animals can look through but not break through "Ideal". It's stronger than the strongest.

Why not buy the fence that possesses the greatest strength—that weighs the heaviest, that contains the most real genuine value. "Ideal" is the cheapest for you in the end.

Our "Ideal" representative, in your section, will gladly tell you more about this strong "Ideal" fence. If you do not know him drop us a card. Also ask for catalogue 121

The McGregor Banwell Fence Co. Ltd.

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A GREAT OPPORTUNITY TO GET NEW BLOOD

I have 20 Imported Hereford bulls arriving about 21st of March. These bulls are 12 to 13 months old, low set heavy bone, good head and horns and well marked. I will deliver any of these bulls to any place in Ontario or Quebec for \$150.00. I have also 10 Imported bulls 10 to 12 months, I will deliver for \$135.00. These bulls are all tubercular tested and will guarantee them in every respect. **L. O. CLIFFORD, Oshawa, Ont.**

SHORTHORN BULLS FOR SALE

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

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Glenallan Shorthorns We have some of the best young bulls we ever bred, Scotch or Booth breeding, low thick mellow fellows of high quality also some heifers. **Glenallan Farm, Allandale, Ontario** **R. MOORE, Manager.**

Shorthorn Bulls FOR SALE—From one up to one hundred head of Shorthorn bulls for sale, ranging from 6 months up to 3 years old. Car loads a specialty. Ship to any place in Canada or U. S. **T. L. MERCER, MARKDALE, ONTARIO.**

SHORTHORNS Scotch, Bates and Booth. Yes, we have them, pure Scotch, pure Booth and Scotch topped Bates, Young bulls of either strain. Heifers from calves up; one particularly good two-year old Booth bull, ideal dairy type. **GEO. E. MORDEN & SON, Oakville, Ontario**

MEADOW LAWN SHORTHORNS OF RICHEST AND ABLE SCOTCH BREEDING, and of high-class type and condition. I can supply young bulls and heifers—Clarets, Roan Ladys, Mildreds, Stamfords, etc. **L.-D. Phone F. W. EWING, R. R. NO. 1, ELORA, ONTARIO.**

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 right nice yearling heifers, write us; we can supply show material of either bulls or females. **GEO. GIER & SON, WALDEMAR, R. R. No. 1, ONT. L.-D. PHONE.**

SALEM SHORTHORNS—Herd headed by Gainford Ideal, and Gainford Perfection, sons of the great Gainford Marquis We are generally in shape to supply your wants in either sex. **J. A. WATT, Elora, G. T. R., C. P. R.** Telephone and Telegraph.

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We are now booking orders for LEICESTER LAMBS of either sex. **A. Watson & Sons, St. Thomas, Ont.** Breeders of Clydesdales and Huckneys, Holstein Cattle and Yorkshire Swine.

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Are prevalent in cold weather irregular work and overfed indigestible food. A system tonic and blood purifier, such as Fleming's Tonic Heave Remedy will prevent these troubles and when developed, with Fleming's Veterinary Healing Oil quickly cure them. Per. box \$1.00

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They save your crop, increase the yield and improve the quality. Our Spray Calendar shows when to spray and what materials to use. Our "Spray" booklet shows 70 combinations of



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HAY & STRAW

All kinds bought outright or handled on commission. Write at once stating grade, quality, quantity and when you could make shipment.

Crampsey & Kelly, Dovercourt Road Toronto

SHORTHORNS, COTSWOLDS, BERKSHIRES

For sale—A few Shorthorn females, a limited number of young Cotswold ewes and a number of Berkshires about three months.

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Bulls all sold, choice females for sale. 1 yearling Clyde stallion, 1 weanling Clyde stallion, big, best quality and breeding.

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Still have a few choice bull calves, and several real nice heifers of different ages.

WM. SMITH, Columbus, Ont.

5 SHORTHORN BULLS

from 9 to 14 months, large growthy fellows; 1 high-class herd header, 9 months, sired by a Duthie bull; a few good young heifers all priced worth the money. STEWART M. GRAHAM Lindsay Ontario

Spring Valley Shorthorns

A few of the best young bull prospects we ever had. They will please you. Will sell females too. Visit the herd; we think we can suit you. Particulars on application KYLE BROS., R. R. No. 1, Drumbo, Ont. Telephone, Ayr

Woodholme Shorthorns

I have a few more Scotch Bulls, of the low set thick kind, breeding unsurpassed, left for sale; among others a 10 month's, out of imp. sire and dam, a herd header of the right kind. Write me your wants G. M. Forsyth, North Claremont, Ont.

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50 head of good individuals to select from, 26 breeding females, headed by a fine Roan 1st prize, and sweepstakes bull. Just three bulls fit for service, all of high quality, and priced to sell. Dual purpose a specialty.

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Present offering 5 choice bulls, suitable for high-class herd headers, 8 to 11 months, and females all ages. Present stock bull "Royal Bruce" (imp.) = 55038 = George D. Fletcher, R. R. No. 2, Erin, Ont. Erin Station, C.P.R. Long Distance Phone

Questions and Answers. Miscellaneous.

Hen House Queries.

1. Of what material would you build a henhouse? Is big brick good?
2. What kind of a floor should it have? Is a dropping-board advisable?
3. Would you kindly publish a plan for a henhouse capable of holding 100 hens?
4. I am mailing you a sample of meat-meal which I purchased in this town. Would you kindly analyze the same, and tell me what you think of it as a meat food?
5. Is avian tuberculosis ever transferred to human beings, or cattle, horses, etc.?
6. What are the best rations for (a) chicks from one to three weeks old? (b) One month till the cockerel can be distinguished? (c) For fattening cockerels? (d) To mature pullets? (e) For laying hens?
7. Where can I obtain "A Standard of Perfection" (poultry), and at what cost?
8. Will you kindly tell me all you can as to when, where, and by whom, Rhode Island Red chickens were first bred and originated?
9. Can pigeons be successfully reared on the average farm; that is, to keep them in confinement for the sale of squabs? Do squabs require fattening? What is the best breed of pigeons to raise squabs from? C. F.

Ans.—1. There is nothing better to use in building a henhouse than lumber of some kind. Brick would necessitate stripping and boarding inside, or it would be damp. This would make it too costly.

2. A cement floor would likely prove most profitable in the end, although it might be a little costly at first. Many use ground floors, but they are dirty, and there is danger of vermin.

3. We know of no better plan for a henhouse for 100 hens than the one recommended by the Poultry Department at Guelph, and which has been illustrated in "The Farmer's Advocate" several times. This house is 20 feet square, faces the south with a 2½-foot open space to the south, four feet six inches at the back and seven feet in the center, with a large window to the west. This is as good a plan as we know. If you would write the Ontario Department of Agriculture for Bulletin 217, on farm poultry, you would get all this information.

4. The sample you sent us is evidently a meat meal, but we would not attempt to analyze it. All these materials are sold under a guaranteed analysis, and if you wish an analysis made, send a sample to the Department of the Interior, Parliament Buildings, Ottawa.

5. Avian tuberculosis, so far as we know, is not transmitted to human beings, or to cattle or other stock.

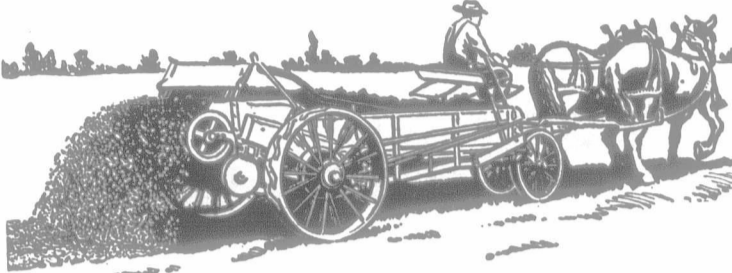
6. (a) Eggs, chick food, bread crumbs, the eggs that would not hatch. (b) Mixed grains, greed food, milk, and grit. (c) Two parts finely-ground oats, two parts finely-ground buckwheat, and one of finely-ground corn, with sufficient sour milk to make a batter. (d) Feed mature pullets whole grains, oat mash, plenty of green food and grit, and same will do for laying hens.

7. The American Standard of Perfection can be procured through this office for \$2, postpaid.

8. Rhode Island Reds originated about the middle of last century in the poultry-farming district of Rhode Island. We do not know the originator's name, but we do know that for many years a red fowl has been bred on poultry farms in the district mentioned.

9. Pigeons can be successfully reared on the average farm, but of course some time and attention is necessary if they are going to be kept in confinement. Squabs are absolutely dependent upon their parents for all food and drink until they leave the nest. They are marketed before they leave the nest and so no special feeding is required outside of the feed which the parent birds carry to the young. The best breed for raising squabs is Homers.

International Harvester Manure Spreaders



THE I H C LINE GRAIN AND HAY MACHINES Binders, Reapers Headers, Mowers Rakes, Stacks Hay Loaders Hay Presses CORN MACHINES Planters, Pickers Binders, Cultivators Ensilage Cutters Shellers, Shredders TILLAGE Combination, Peg and Spring-Tooth, and Disk Harrows Cultivators GENERAL LINE Oil and Gas Engines Oil Tractors Manure Spreaders Cream Separators Farm Wagons Motor Trucks Threshers Grain Drills Feed Grinders Knife Grinders Binder Twine

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Every detail is strong and durable, built for long life and ease of draft. Among the features that will interest you are these: Simple protected beater driving mechanism, all of steel; load carried on rear axle, insuring traction; reversible gear and worm; low, easily loaded box, with ample clearance underneath; end gate, preventing clogging of beater while driving to the field; etc.

All styles are in the I H C spreader line, high and low, endless and reverse apron, and various sizes for small and large farms. Our catalogues will tell you more. Write for them and let us tell you also where you may see I H C manure spreaders.

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Shorthorn Cattle, Dairy Cows, Shropshire Sheep (40 Cattle) WELSH PONIES (50 Sheep)

The property of J. LLOYD-JONES, Burford, Ont., to be sold AT AUCTION on

Friday, April 3rd, 1914

This offering comprises registered Shorthorn cattle, Holstein, Jersey and Shorthorn grade dairy cows, 50 excellent breeding ewes and some choice Welsh ponies. The cattle are all in nice breeding condition. The Shorthorns include a number of young heifers of milking strains. The dairy cows are all heavy producers and fresh. The 50 head of Shropshire ewes and ewe lambs are as nice a flock as may be found in the Province. The farm of 160 acres is also offered for sale.

G. T. R., Burford, one mile. Telephone 24

Springhurst Shorthorns

Shorthorn Cattle have come to their own, the demand and prices are rapidly increasing; now is the time to strengthen your herd. I have over a dozen heifers, from 10 months to 2 years of age, for sale; every one of them a show heifer, and some of them very choice. Bred-in my great prize-winning strains. Only one bull left, a red, 18 months old.

HARRY SMITH :: HAY P.O. :: EXETER STATION

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We have seven yearling bulls and seven bull calves from 7 to 12 months. All reds and roans, and of choice breeding. We have some extra good imported mares, for sale also some foals. If interested write for catalogue of their breeding.

W. G. PETTIT & SONS Burlington Junction, G. T. R. FREEMAN, ONTARIO Bell Phone.

100 SHORTHORNS IN OUR HERD 100

Our 1913 crop of 22 bulls are all sold, we have 20 extra bull calves coming on for the fall trade. For Sale—25 heifers and young cows; these old enough are bred to Right Sort (imp.), or Raphael (imp.), both prize winners at Toronto last fall.

MITCHELL BROS. Farm ¼ mile from Burlington Junction. BURLINGTON, ONT.

Shorthorns

I have ten young Shorthorn bulls, some fit for service now. Part of them are bred, and made so that they are fit to head the best herds in any country, some of them are of the thick, straight, good feeding kind, that will produce money-making cattle; some of them are bred from the best-milking Shorthorns, and the prices of all are moderate. I have Shropshire and Cotswold rams and ewes of all valuable ages. Write for what you want. I can suit you in quality and in price. Ask for Bull Catalogue. ROBERT MILLER :: STOUFFVILLE, ONT.

Shorthorn Bulls, Cows & Heifers

For Sale.—A number of them from imported Sire and Dam and from good milking families. Prices reasonable. Write or call on H. J. DAVIS :: WOODSTOCK, ONT.

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See your dealer—if he does not handle RED RING **Certain-teed** Roofing, and Standard Wall Board, write us for samples and prices.

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is damp proof, will not warp, is sanitary and is cheaper than lath and plaster.

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

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Spruce Lodge Shorthorns & Leicesters Present offering: A number of good heifers and young cows, with calf at foot, from good milking families. A few ram lambs and a choice lot of shearing ewes, now bred to imp. ram W. A. Douglas. R. R. No. 2, Caledonia, Ont.

Dunganon Ayrshires For high-class Ayrshires, write us or come and see them. We can sell matured cows, heifers, heifer calves; all bull calves are sold. Prices right. L. - D. Phone. W. H. FURBER, COBOURG, ONT.

High-class Ayrshires—If you are wanting a richly bred young bull out of a 50-lbs.-a-day and over cow, imported or Canadian-bred dam or sire, write me. Females all ages. Prices are easy.

D. A. MACFARLANE, Kelso, Quebec

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James Beag & Son, R.R. 1, St. Thomas, Ont.

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HOLSTEINS

yearling bulls for sale, out of big milking strains, low figure for quick sale. Thos. B. Carlaw & Son, Warkworth, Ont. Campbellford Station.

Holstein Heifer Calves from heavy-milking, high-testing unregistered dams, sired by the great Holstein bull, Cornelia D. Kol. Price crated f.o.b. Rodney \$15. Two choice bull calves from extra heavy milking, high-grade cows, \$12 each. The right kind to improve your herd. Glenoro Stock Farm, Rodney, Ont.

Questions and Answers. Miscellaneous.

Barn Burnt.

A's barn is fired by B's traction engine while travelling along the highway. The engine being an old and condemned one, and not equipped with spark arrester, can A collect damages to the value of the barn from B? A. Ontario.

Ans.—We think so.

Registered Clydesdale.

I have a mare with four straight crosses of Clyde. I have the date of the births for the four crosses back; also the names of the horses for the four back. Will she register, and if she will, how will I get it done? H. R. G. S.

Ans.—We think so. Write "The Accountant," National Live-stock Records, Department of Agriculture, Ottawa, for full particulars. Of course, all sires must be recorded.

Diseased Cow.

A sold a fat cow to B and received the money for her. B killed the cow and found a growth on the inside. Now B wants A to be the loser. Can B come back on A for the whole of the money, or even a part of it? The beast was not guaranteed, although both thought her sound. A SUBSCRIBER. Ontario.

Ans.—Judging, as we must, from the foregoing statement of facts, alone, we should say, no.

Pigs on Cement.

Do you think that having a cement floor for pigs would be likely to cripple them in cold weather? It is my idea that it will sometimes, and I do not think pigs will grow as fast when kept on cement floor. A. O.

Ans.—Cement floors are believed by many to be conducive to rheumatism or crippling of pigs, although we have seen pigs do extra well on such floors if kept well bedded. However, it is generally conceded better practice where cement is used for flooring to build raised sleeping platforms of plank for the pigs, these being placed on top of the cement.

Measures.

1. Which liquids (coal oil, vinegar, maple syrup, and oysters) must be sold, in Canada, by imperial measure, and which may be sold by wine measure?
2. What is the difference in quantity between a quart of each measure? SUBSCRIBER.

Ans.—All these commodities are sold in Canada by imperial measure. The standard for these two different measures is cubic inches. An imperial gallon contains 277.274 cubic inches. A wine gallon contains 231 cubic inches. A quart by imperial measure would contain 11.55 cubic inches more than one quart by wine measure.

Worms in Horses.

I have a two-year-old colt and yearling filly that throw small white worms. Please give a remedy. SUBSCRIBER.

Ans.—These are probably pinworms, and may be expelled by an injection per rectum. Take one-half pound of quassia chips and add two gallons water in a pot. Put on the stove and bring to a boil. Then allow it to almost boil for four or five hours, adding a little water if necessary. Strain off now and add sufficient warm water to make a gallon. Inject the rectum with warm water just to remove all faeces. When this is removed, inject the decoction and hold the tail down for at least half an hour to prevent expulsion of the liquid. The worms, if any be present, will be expelled with the fluid. Possibly these are intestinal worms, which should be treated thus: Take three ounces each of sulphate of iron, sulphate of copper, calomel, and tartar emetic. Mix, and make into 24 powders. Give a powder every night and morning, and, after the last one has been given, give a purgative of eight drams aloes and two drams ginger. Feed bran only for twelve hours before and twenty-four hours after giving the purgative. These doses are for a mature animal, but you will have to judge the amounts according to the size of the horse.

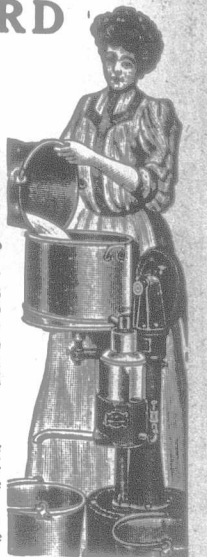
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Thousands In Use giving splendid satisfaction justifies your investigating our wonderful offer to furnish a brand new, well made, easy running, easily cleaned, perfect skimming separator for only \$15.95. Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Different from this picture, which illustrates our low priced large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements.

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Feed Your Stock on

PURE CANE MOLASSES

EXPERIENCED stock feeders know the value of Cane Molasses in toning up the stock and finishing fattening animals. It is extremely palatable and much relished by cattle, pigs and horses. By its sweet taste, great palatability and high nutrient content, it is very valuable to mix with other feeds, especially at this season, when the last stages of finishing fattening animals have been reached and when other feed may be growing scarce. Put up in barrels containing about six hundred pounds, also half barrels.

Dominion Sugar Company, Limited
Wallaceburg, Ontario

Important Auction Sale

EXTRA HIGH-CLASS

Holstein-Friesian Cattle THURSDAY, APRIL 9th, 1914

60 head including my two herd sires King Isabella Walker No. 8257, a bull whose three nearest officially tested dams, a sister of his dam and two sisters of his sire, average 30.34 and his dam has a semi-official yearly record of over 22,000 pounds of milk and 990 pounds butter.

The junior sire King McKinley Lyons No. 17729 has 7 nearest dams in the first four generations averaging 29.60 butter, his maternal gr. dam is the dam of King Segis, the greatest nine-year-old sire. There are twenty daughters of the senior sire in this sale, 17 mature females with records from 16 to 24 lbs., three-year-olds from 17 to 22.32 lbs., two-year-olds from 13 to 20 lbs. females are sired by such sires as King Segis, King Fayne Segis, Sir Aaggie Beets Segis, Prince Hengerveld of the Pontiacs.

Every animal will be sold without reserve as the owner has no way of keeping the herd over another Season owing to lack of pasture.

SALE WILL COMMENCE AT 1 p.m.

Col. B. V. Kelly, Auctioneer
Syracuse, N.Y.

P. J. Salley, Proprietor
Lachine Rapids, Que.

Ayrshires & Yorkshires—Bulls for service of different ages; females all ages. Calves of both sexes. All bred for production and type. A few pigs of either sex ready to ship.

ALEX HUME & COMPANY, CAMPBELLFORD, R. R. No. 3

P. D. McARTHUR'S AYRSHIRES

In official record, high testing Ayrshires, that have won scores of prizes. I can surely supply your wants, over 50 to select from. Young bulls of superb breeding on record producing lines. Also the 3-year-old stock bull, Imp. Whitehall Freetrader. P. D. McARTHUR :: :: NORTH GEORGETOWN, ONT.

BEAVER CREEK HOLSTEINS AND PERCHERONS

Present offering: 2 Percheron stallions and a nice filly (black), foaled July, 1913. In Holsteins, 2 cows and a few yearling heifers ready to breed.

A. Mittlefehldt, Elcho, Ont. SMITHFIELD STATION, T. H. & B. R. R.

HOLSTEINS---D. B. TRACY, Cobourg, Ont.

We have a choice lot of bull calves with strong backing and from dams with records of 18 to 24 lbs. Just the kind you are looking for. Write for extended pedigree or still better, come to see us. Prices very reasonable.]

Cures Caked Udders Over Night

Saskatchewan Stockman's Experience With Douglas' Egyptian Liniment.

The stockman, and more particularly the dairy farmer, has to keep a sharp lookout for caked udders, for he knows how seriously trouble of this kind is likely to affect the milk production of his herd.

Mr. W. Robinson, of Ituna, Sask., does not worry about it any more, however, for he has found a quick and certain cure. He says: "I have used your Egyptian Liniment with splendid results. I have had cows calve at night with their udders so badly caked that it was impossible to milk them, but after one application of your Liniment they were all right the next morning."

Caked Udders demand quick action. The safest, wisest plan is to keep a bottle of Douglas' Egyptian Liniment always on hand.

25c. at all Dealers.

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The result of over 100 years' experience with calf-raisers. The only Calf Meal made in an exclusive Calf Meal Factory. As rich as new milk at less than half the cost. Makes rapid growth. Stops scouring. Three calves can be raised on it at the cost of one. Get Bulletin, "How to Raise Calves Cheaply and Successfully Without Milk" by sending a postcard to



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Applications 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, ONT.

REGISTERED HOLSTEINS

Orders booked for bull calves from well bred dams with good A. R. O. backing. No females for sale at present.

Wm. A. Rife, Hespele, Ontario

Maple Grove Holsteins

Present offering: a few bulls fit for service, sired by the great King Lyons Hengerveld, who is beyond doubt the richest butter and milk bred bull of the breed in Canada. These bulls are out of high testing R.O.M. cows and heifers, and individually are unsurpassed. Also a few heifers just freshened. If you want the best write me for prices and particulars.

H. BOLLERT, R.R. No. 1, Tavistock, Ont.

Woodbine Holsteins

Young bulls and bull calves, sired by Duke Beauty Pieterje; sire's dam's record 32.52 lbs. butter, and two grand-dams are each 30-lb. cows, with 30-lb. daughter, with 30-lb. granddaughter. Three generations of 30-lb. cows. If you want a bull that will prove his value as a sire, write

A. KENNEDY & SONS, R.R. No. 2, Paris, Ont. Stations: Ayr, C. P. R.; Paris, G. T. R.

The Maples Holstein Herd

Headed by Prince Aaggie Mechthilde. Present offering: Bull calves born after Sept. 1st, 1913. All sired by Prince Aaggie Mechthilde and from Record of Merit dams. Prices reasonable.

WALBURN RIVERS, R. R. No. 5, Ingersoll, Ontario

SPRINGBANK HOLSTEINS

Two young bulls, one 12 months, and one over two months, for sale, from good milking strains at low figure, for quick sale. Also a few choice grade heifers. WILLIAM BARNET & SONS, Fergus, P.O., Ont. R.R. No. 3.

DON JERSEY HERD

Offers young bulls and heifers for sale; heifers bred to Eminent Royal Fern. D. DUNCAN, DON, ONTARIO Phone L.-D. Agincourt. Duncan Stn. C. N. R.

Questions and Answers. Miscellaneous.

Cottonseed Meal.

Could you tell me where I would be able to get cotton-seed meal? E. M.

Ans.—Several firms handling this feed advertise in these columns. Look up the advertisement.

Water Supply.

I would like to ask a question or two, and if you have space in your columns, kindly answer.

1. I am intending to put water in the house, and would like to know what capacity of tank you would recommend in the attic to supply kitchen and bathroom for family of six?

2. I have a cistern near the house which needs a new pump. Could one be worked as I have indicated in the sketch for elevating the water to the attic, and also as a cistern pump, or would it be better to have two separate pumps? W. A. W.

Ans.—1. Your tank should be large enough that it would not require pumping up more than once or twice a week. Allowing 30 gallons per individual per day, this would mean about 1,280 gallons per week, which would be almost exactly 200 cubic feet. This would require a tank 4 x 5 x 10 feet, or some other three dimensions which multiplied together will give approximately 200, if pumping is to be done once a week.

2. A pump installed as shown in your sketch would be all right, provided you had two valves, one in the pipe leading to the tank, and the other in that leading to the sink. One would have to be closed when the other was being used. It would have to be a force pump. W. H. D.

Bee Hive Queries.

1. Please give full directions for wiring foundation comb in Langstroth frames. How much foundation would you use in frames for brood, and in 4 x 4-inch boxes for comb honey?

2. How can you tell a queen cell from that of a drone?

3. Which, in your opinion, is the better, an eight- or ten-inch frame hive? R. B.

Ans.—1. Langstroth frames for wiring are usually pierced with three holes in each end, evenly distributed in each end-bar of the frame. The frame is first placed in a wired form which holds it rigid, then the wires are threaded back and forth, and through these holes, drawn as tight as possible without breaking or cutting into the wood of the end bars and fastened at the ends by giving a couple of turns around the small cut tack which is afterwards driven down smooth into the end bar of the frame. The frame then has three horizontal wires at equal distances from bottom to top of the frame. A board is then cut just the right size to fit inside the frame. This board is placed on the work bench, the sheet of foundation on that, and the wired frame on the foundation. The upper edge of the foundation must first be fastened in the groove in the top bar by means of a wedge, which is supplied with the frame. The ordinary spur-wheel wire-imbetter, supplied by supply dealers, is the best to use. Care should be taken to have the room in which the work is being done at a good warm temperature, so the foundation will be soft enough to work easily. Then the wire should be pressed just to the middle of the foundation, but not far enough through to cut the foundation off. In every case a sheet of foundation large enough to completely fill the frame should be used; in other words, what we call full sheets of foundation. These should be used, not only in brood frames, but also in the 4 1/2-inch sections for comb honey. This seems like somewhat of an expense, but it gives sufficiently better returns to more than pay for the additional expense for the foundation.

2. A queen cell is always projecting out from the comb, having an appearance slightly similar to a peanut. It is very easily distinguished from drone cells, which are always a part of the comb the same as the worker cells.

3. It is generally considered better to use the 10-frame Langstroth hive, and this is what I always recommend to beginners. M. P.



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has proved its worth upon thousands of Canadian farms. Its materials and construction are the very best throughout, and every one contemplating the erection of a silo this year will find it to his advantage to get our specifications and prices.

An Ideal Green Feed Silo on your farm means better feed, cheaper feed, more milk, larger profits from your cows.

Don't go through another winter without one

Now when you have time why don't you settle the silo question? You know you ought to have a silo, so why not make your plans now? Most likely you will find the information you want in our silo book which we will be glad to mail free upon request.

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LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA MONTREAL PETERBORO WINNIPEG VANCOUVER

Riverside Holsteins

Herd headed by King Johanna Pontiac Korndyke whose near dams and sisters, 12 in all, average 35.77 lbs. butter in 7 days. His sister, Pontiac Lady Korndyke, has a record of 38.02 lbs. butter in 7 days, 156.92 lbs. in 30 days—world's records when made. We are offering several females bred to this bull; also a few bull calves.

J. W. RICHARDSON

R. R. No. 2, Caledonia, Ont.

Fairview Farms Herd

Offers for sale: A son of Rag Apple Korndyke 8th out of a daughter of Pontiac Korndyke with a record of 27.72 lbs. in 7 days, averaging 4 1/4 % fat. Grand dam has a record of 29 lbs. Calf is nearly ready for service. Write me for description and breeding.

E. H. DOLLAR,

HEUVELTON, N. Y. (near Prescott, Ont)

LAKEVIEW HOLSTEINS

Senior herd bull—Count Hengerveld Fayne De Kol, a son of Pieterje Hengerveld's Count De Kol and Grace Fayne 2nd. Junior herd bull—Dutchland Colantha Sir Mona, a son of Colantha Johanna Lad and Mona Pauline De Kol. Third bull—King Canary Segis, whose sire is a son of King Segis Pontiac, and whose dam is 27-lb. three-year-old daughter of a 30-lb. cow. Write for further information to—

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HOLSTEINS FOR SALE—Male or female. Herd sire, Prince Hengerveld of the Pontiacs, son of King of the Pontiacs. A few choice females bred to above sire. F. HAMILTON :: "Hamilton Farms" :: St. Catharines, Ont.

HOLSTEIN-FRIESIANS

BULL CALF for sale. His dam's record 24.12 butter. Write for pedigree chart. Our price is very reasonable. D. B. TRACY, COBOURG, ONTARIO.

HOLSTEINS FOR SALE—Bargain if taken at once; one aged cow, large, in fine condition and milking well, due in June to service of King Korndyke Inka de Kol, who is a son of Pontiac Korndyke; three heifers, sisters, coming 2, 3 and 4 years old; 2 fresh in September, one due in March; also a well grown, nicely marked Reg. bull rising two years, \$75.00, or \$600.00 takes the lot. Collver B. Robbins, Riverbend, Ont.

Brampton Jerseys We are doing the largest business we ever did, chiefly with our old customers. Young bulls and heifers from sires with tested daughters. Several imported cows and bulls for sale. Canada's Greatest Jersey Herd B. H. Bull & Son, Brampton, Ont.

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Aberdeen-Angus Cattle
Southdown Sheep
Collie Dogs

Four litters sired by Imp. Holyrod Marquis are expected shortly, three of them from imported bitches. Order now if you wish to secure a choice pup.

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Oxford Down Sheep Shorthorn Cattle, Yorkshire Hogs—Present offering: Lambs of either sex. For prices, etc., write to John Cousins & Sons, "Buena Vista Farm", Harriston, Ontario

Maple Grove YORKSHIRES--200 head
Are as good as the best, because they combine the bloods of the following noted sires: M. G. Champion 20102, Champion boar at Toronto, 1906; S. H. Jack, Imp. 28515, Champion boar at Toronto, 1908, 1909, 1910; and S. H. Romeo 27th, 24653, certainly the best sire we ever owned, and a grand large individual.

Our Brood sows, in view of the above, could not but be of a very high class, combining great size, true type, and easy-feeding qualities.

Our present offering—25 sows, bred and ready to breed—a grand lot. Sows and boars, from six weeks old, up to six months. Write us or come and see for yourself. All stock shipped on approval. Satisfaction guaranteed.

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TAMWORTHS—Some choice young sows, bred, for April and May farrow; also a few boars. Write for particulars.

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

Nine well-grown young sows eight months old, some bred, for sale at reasonable prices.

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Bred from prize-winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs akin to offer at reasonable prices. Guaranteed Satisfaction.

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Am offering a quantity of very choice White Cap Seed Corn. The very best in Poland-China and Chester White swine, and select young Shorthorns. Prices easy.
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Questions and Answers. Miscellaneous.

Growing Alsike.

In seeding down a field from which you intend to take a crop of alsike seed, would you sow timothy or red clover along with the alsike? If so, would you have the seed of these in the alsike seed, and can you separate them from the alsike seed?

E. M.

Ans.—By all means sow nothing but alsike where you expect to reap alsike for seed. One of the greatest troubles in alsike growing is to keep timothy out, even though it is not sown. Never mix anything with the alsike where grown for seed.

Apple Dealers.

Five years ago I went into business with a firm in England to buy apples. They furnished the money, and I did the buying and shipping to them on consignment. There was a loss of \$3,000—which they say I have to make up to them. Now, all I am worth is a large farm stock and machinery. Can I make an assignment to them and let them take the chattels and sell them, and settle, so much on the dollar, for whatever they bring, and get a settlement for what they claim I owe them?

Ontario. READER.
Ans.—No;—that is to say, they would not be obliged to accept the chattels in settlement of their claim. But perhaps their claim is not valid. We think it would be well for you to consult a lawyer personally on this point, and, in the event of his advising you that the claim is one that could be legally enforced, instruct him to negotiate a suitable settlement.

Addition to Barn.

I am adding a piece for a hay-barn on a cedar-log building. It is to be 50 feet by 18 feet 6 inches, walls 11 feet high, square pitch roof. I can get tamarack for foundation (set on mud sills and cedar blocks), and spruce for posts and rafter plates. What sizes, and how many posts would I need? I can cut and square them in my own bush, using 2 x 4 scantling for rafters, and what braces would be needed? Would rafter plates do in two pieces braced? How would be the best way to do it?

O. A.

Ans.—By your inquiry, I would understand that you intend to add an extension to a log building, this extension to be 50 feet long, 18 feet 6 inches wide, and 11 feet high. Such a building could be laid off nicely into two mows, each 18 feet wide, and one drive floor 14 feet wide between these mows. This would require a corner post and two side posts at each side wall, and for a small building like this, I think 6 x 6 inch would be quite sufficient. Across the end, and at each side of the barn floor, you could arrange to have a cross beam, also 6 x 6 inches. Frame, 3 x 4 inch brace between the post and this cross beam at each end, giving it a run of about 3 feet.

The wall plate should also be 6 x 6 inches, and you can splice this over any of the posts by making a lap splice two feet long, and arranging to have a lower tenon on this post, so that it may extend up through the laps of both pieces of the plate.

For a building of this kind, I would certainly recommend a self-supporting hip roof, no matter what kind of a roof you already have on your log building to which this extension is to be added. Make the lower part of this roof with a three-quarter pitch or eighteen-inch rise, and the upper part with a one-third pitch or an eight-inch rise. In order to get that portion of the width of the building which the lower roof will cover, it is necessary to divide the whole span up into fifths, and then allow the lower roof to cover one of these fifths, and the upper or center roof to cover the remaining three-fifths. The hip joint is made by nailing a piece of 1 x 6 inch board on each side of the rafters at this point. Make this board about three feet long. The ridge of the rafters are secured together by nailing a collar tie two feet long on each side. This may be a piece of board 1 x 8 inches.

The girths in the side walls and ends may be 4 x 4 inches, and of course are framed into posts.

A. A. G.



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Galt Steel Shingles make the best and most durable roofing you can buy. They have special patented features possessed by no other steel shingles on the market.

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Both sexes and all ages, from imported stock. Prices reasonable.
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Four miles north of London.

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We are sold out of Tamworths, also females in Holsteins, but still have some choice bulls for sale, from two to six months, officially backed and right good ones. R. O. Morrow & Son, Hilton, Ont. Brighton Station. Phone.

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

Hampshire Swine
I have a choice lot of Hampshire belted hogs for sale. Will be pleased to hear from you, and give you description and prices.
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Duroc Jersey Swine—Twenty-five sows bred for fall farrow a few boars ready for service; also one Jersey bull, 11 months, and two bulls, 6 months old, out of high-producing dams.
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502.6 Bushels Potatoes

From One Acre of Ground

TWENTY DIFFERENT FARMERS in 20 different parts of New England competed the past year in growing potatoes. The crops were widely separated as to climatic and weather conditions. Each one planted, cultivated and took care of his crop in his own way; *but all used*

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The winning crop was 502.6 bushels. The average of the twenty crops was 322.8 bushels. The average yield in New England is 131.6 bushels, and for the United States 89 bushels. Our crop-growing contests of the past four years have been so fairly and accurately conducted that they have been accepted everywhere as authentic. Henry Wallace, Editor of Wallace's Farmer, writes: "There is no guesswork about them."

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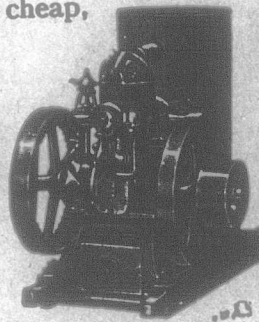
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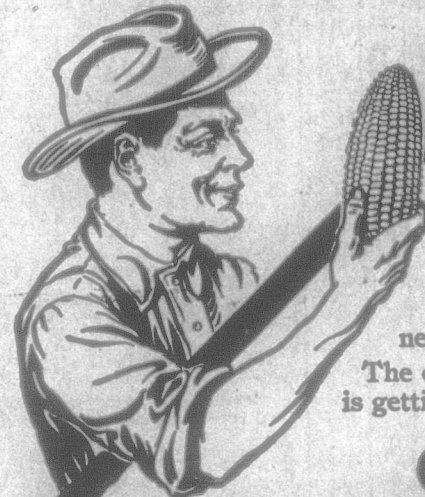
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NITRATE OF SODA, POTASH SALTS, ACID PHOSPHATES,
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NITRATE AGENCIES CO., BAY AND RICHMOND STS., TORONTO, CANADA

Mention The Advocate

"PAGE FENCES WEAR BEST"



THINK WHAT THIS MEANS TO YOU!



"PAGE WIRE FENCES WEAR BEST"

YOU'VE seen and heard this expression---everywhere---for 22 years. Have you ever stopped think what it means to you? It is more than a clever catch-phrase. Much more than an advertising stunt. It is a plain statement of the unvarnished truth. A hard cold fact. A challenge that has gone unanswered these many years. An expression of honest opinion by many thousand farmers, after an experience of 22 years with PAGE WIRE FENCE.

Wear Best Because Made Best

"PAGE FENCES WEAR BEST"—because they're made of better materials, by better methods, and under better conditions than any other wire fence made. While others mix politics with business, send out frantic appeals for aid, use No. 10 gauge wire instead of No. 9, so as to meet our prices, we go right ahead giving you the finest fence at the lowest prices.

We use the best wire ever put into fence. Genuine Carbon steel wire, made to meet our rigid specifications.

We use a special galvanizing process. It costs twice as much as the ordinary galvanizing, but it makes PAGE WIRE as nearly rust-proof as wire can be made. That's why PAGE FENCES last a lifetime.

We devised the famous PAGE KNOT—the strongest, most durable knot in existence. Positively slip-proof, it can never injure galvanizing or wire.

Even Made Our Own Machinery

To make fence of the PAGE high standard, we even had to build special machinery. No ordinary loom could weave every upright so evenly spaced. No usual machinery could apply tension so uniformly to every foot of wire in thousands of rods of fence. This special machinery, built by us, can be found nowhere but in the PAGE shops, turning out PAGE FENCES that stretch evenly, stay taut, and last a lifetime, as you can expect no other fence to do.

STYLE			HEAVY FENCE				PRICES		
No. of bars	Height, inches	Uprights, inches apart	No. 9 Page Wire Throughout in 20, 30 and 40 Rod Rolls, Freight Paid				Old Ont., per rod	New Ont., and Quebec	Maritime Prov.
			Spacing of Horizontals in Inches.						
4	30	22	10,	10,	10,	10	\$0.16	\$0.18	\$0.19
5	37	22	8,	9,	10,	10	.18	.20	.21
6	40	22	6½,	7,	8½,	9,	.21	.23	.24
7	40	22	5,	5½,	7,	7, 7½, 8	.23	.25	.26
7	48	22	5,	6½,	7½,	9, 10, 10	.23	.25	.26
8	42	22	6,	6,	6,	6, 6, 6	.26	.28	.29
8	42	16½	6,	6,	6,	6, 6, 6	.28	.30	.31
8	47	22	4,	5,	5½,	7, 8½, 9, 9	.26	.28	.29
8	47	16½	4,	5,	5½,	7, 8½, 9, 9	.29	.31	.32
9	48	22	6,	6,	6,	6, 6, 6	.29	.31	.32
9	48	16½	6,	6,	6,	6, 6, 6	.31	.33	.34
9	51	22	4,	4,	5,	5½, 7, 8½, 9, 9	.29	.31	.32
9	51	16½	4,	4,	5,	5½, 7, 8½, 9, 9	.31	.33	.34
10	48	22	3,	3,	3,	4, 5½, 7, 8, 9	.31	.33	.34
10	48	16½	3,	3,	3,	4, 5½, 7, 8, 9	.33	.35	.36
10	51	22	3,	3,	3,	4, 5½, 7, 8, 9	.33	.35	.36
10	51	16½	3,	3,	3,	4, 5½, 7, 8, 9	.31	.33	.34
11	55	16½	3,	3,	3,	3, 4, 5½, 7, 8½, 9, 9	.36	.38	.39

STYLE			Medium Weight Fence				PRICES		
No. of bars	Height, inches	Uprights, inches apart	No. 9 Top and Bottom, and No. 12 High Carbon Horizontals between; No. 12 Uprights; No. 11 Locks.				Old Ont., per rod	New Ont., and Quebec	Maritime Prov.
			(Maritime Province prices of Medium Weight, also Special Poultry Fences, including painting.)						
5	36	16½	8,	8,	10,	10	.18	.19	.22
6	36	16½	6,	7,	7,	8, 8	.20	.21	.24
6	42	16½	7,	7,	8,	10, 10	.20	.21	.24
7	42	16½	6,	6,	7,	7, 8, 8	.22	.24	.27
7	26	8	3,	3,	4,	5, 6	.23	.25	.28
8	48	16½	4,	5,	6,	7, 8, 9, 9	.26	.28	.31
9	36	12	3,	3,	3,	4, 5, 6, 6	.27	.29	.32
9	50	16½	3,	4,	5,	6, 7, 8, 9, 9	.28	.30	.33
10	54	16½	3,	3,	4,	5, 6, 7, 8, 9, 9	.30	.32	.35

STYLE			SPECIAL POULTRY FENCING				PRICES		
No. of bars	Height, inches	Uprights, inches apart	No. 9 Top and Bottom. Intermediates, No. 13. Uprights 8 inches apart.				Old Ont., per rod	New Ont., and Quebec	Maritime Prov.
18	48	8	Close bars				.42	.44	.46
20	60	8	Close bars				.47	.49	.52

STYLE			PAGE "RAILROAD" GATES				PRICES		
No. of bars	Height, inches	Uprights, inches apart	10-ft. opening				Old Ont., per rod	New Ont., and Quebec	Maritime Prov.
48	48	8	10-ft. opening				3.80	4.00	4.00
48	48	8	12-ft. opening				4.00	4.20	4.20
48	48	8	13-ft. opening				4.25	4.45	4.45
48	48	8	14-ft. opening				4.50	4.75	4.75
			WALK GATE, 48 in. high, 3½ ft. opening				2.35	2.35	2.35

STYLE			STAPLES—25-lb. box				PRICES		
No. of bars	Height, inches	Uprights, inches apart	BRACE WIRE—25-lb. rolls				Old Ont., per rod	New Ont., and Quebec	Maritime Prov.
			STRETCHING TOOLS—Complete outfit				8.00	8.50	9.00

Highest Quality—Lowest Prices

THE BEST—in materials, methods, machinery and men—has always been our policy since we founded the wire fence industry in Canada. And by following this policy unswervingly for years, we have made the name PAGE famous in Canada for the finest fence ever built.

That PAGE FENCE sells at the lowest price ever named for GOOD fence is merely an incident—due entirely to our own special labor-saving machinery—our expert workmen and superintendents—our policy of manufacturing in quantities and selling DIRECT to you (freight prepaid). PAGE FENCE is not built to sell at a price. It is built to be—and is—the strongest, best-wearing fence that could be made at any price. If we could build it stronger or better, we'd do it regardless of cost. But better fence is an impossibility; and in PAGE FENCE, you get the best fence at the lowest prices ever named on worth-while fence. (In fact, in many cases, at the lowest prices asked for even ordinary under-gauge fence.)

Order By Mail For Quick Delivery

Your order, mailed direct to the nearest PAGE branch, with cash, check or money order, will bring PAGE quality fence to your nearest railway station in the shortest time—FREIGHT PREPAID on 20 rods, 200 pounds, or over. We ship it direct from one of our big well-stocked warehouses near you.

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The new big PAGE Catalogue is now being issued. One of the most complete and comprehensive ever issued. Write to-day and reserve a copy before the next edition is spoken for. Your name and address on a card of the nearest branch will insure you a copy.

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PRICES FOR NORTH-WEST ON APPLICATION