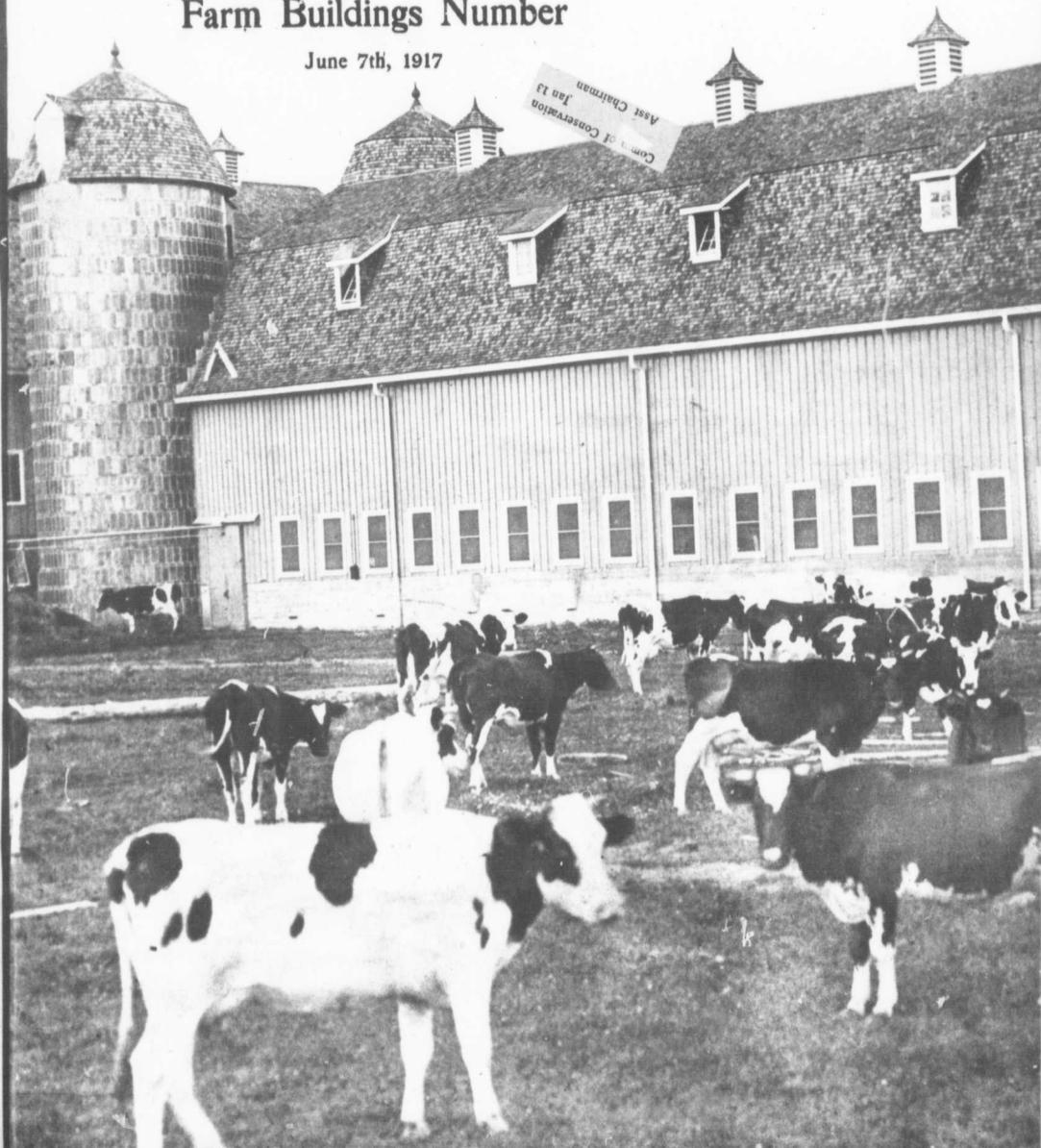


FARM and DAIRY & Rural Home

Farm Buildings Number

June 7th, 1917

Comm. of Conservation
Jan 13
Asst. Chairman



ISSUED EACH WEEK

Address all Correspondence to
The RURAL PUBLISHING CO., Limited, Peterboro, Ont.

ONE DOLLAR A YEAR

Alberta's "Cow-Bill"

THE Hon. Duncan Marshall, Minister of Agriculture for Alberta, has "fathered" a bill through the Provincial Legislature of that province which will probably go down in history as the "cow bill." According to its provisions five neighboring farmers may form themselves into an association and get the benefit of a loan of \$500 each for the purchase of cows and heifers, provided that, with the consent of the commissioner, who will be appointed to administer this act, a portion of the loan not to exceed 10 per cent, be used by one or more of the members of the association for the joint purchase of a pure bred bull. The loan may cover a period of five years with interest at six per cent.

The act is designed to assist the poor man, who in the past has grown grain exclusively for the very good reason that his capital was insuffi-

cient to enable him to engage in any other line of agriculture. The new act, which asks for no other security on the loan than the cattle purchased with the loan, will enable the poor farmer or the new settler to start immediately into live stock and it is properly called "an act to encourage the increased raising of stock in the province of Alberta." The farmer is allowed to sell the male offspring of his purchases over two years of age, applying a portion of the proceeds of such sales to the liquidation of the original debt with interest, or he may sell any or all of the live stock purchased, or the offspring, providing he substitutes therefor other live stock approved of by the commissioner, a sufficient part of the loan being paid off from the proceeds of such sale as the commissioner may direct. Comments on this act the Farm and Ranch Review says editorially:

"The Cow Bill is first and last the

poor farmer's bill; it will open up the pathway of success to many a toiling man and woman on these prairies of Alberta; and that it is the forerunner of other measures for their future benefit and encouragement, we have no doubt. It is the best piece of legislation enacted in the farmers' interests in the Province of Alberta for many a day, and the Minister of Agriculture is justly entitled to the high commendation to which the passing of this Bill in the interest of the live stock industry certainly entitles him."

Three Years Experience

G. F. Carlisle, York Co., Ont.

WE have used the milking machine for over three years and would not do without it. We have three units and one man can milk our 15 cows in less time than three could by hand. Our machine (Sharples) cost us about \$450, minus

the power. We cannot trace any ill effects that the machine has had on the cows and believe they would rather be milked this way than by hand. Some of our cows, the ones with the larger teats, need stripping. The repair bill is not very large, approximately about \$10 a year, the main thing being the rubber inflations in the teat cups.

What number of cows should a man have to instal a machine? This depends on how many reliable milkers are available. We think under present conditions, that a herd of from 12 to 15 cows would require a milking machine.

Mrs. Newmarrie (sorrowfully, after departure of her husband's rich uncle)—It's too bad the dinner was a failure, dear.

Mr. Newmarrie—But it wasn't a failure, darling. It took at least a year from uncle's life.

Frost Ornamental Fences

Present a Good Front

Angle Iron and Woven Wire

NEAT LOOKING

PRICES REASONABLE

Woven Wire Lawn Fences

(Made in Three Styles—Standard Heights)

Perfectly Woven Fabric—Only Automatic Loom in Canada

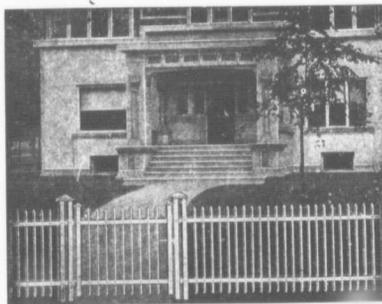
The illustration below is Style "S." There is also Style "L," with the shorter bowed stays omitted, and Style "LP," with stays close all the way to the top.

FROST WOVEN WIRE LAWN FENCES can be built on iron posts with pipe top rail or on wooden posts with scumbling at top. We use heavily-galvanized material, as the painted fence soon shows cracks and peelings; rust soon follows. The wire in these fences, like all our material, is drawn and galvanized in our own mills, so we know its quality.

Standard heights: 3, 3½ and 4 feet. Bowed tops are even. The uprights of No. 9 are deeply crimped and securely held in place by a reverse twist of the two No. 13 twisted lateral wires. To prevent the bottom of fence from becoming loose or "pulled out" the uprights are alternately crimped one way, then the other.

Gates are made to match any style or height of iron or woven wire lawn fence.

Flower border, heights 16 inches and 22 inches, same construction as Style "L."



Made From Angles— Strength and Lightness Combined

Being constructed from angles, the fence is light, but stronger than round or square bars of ½-inch or ¾-inch thickness. Quite massive in appearance, but much lower in cost than the ordinary types of iron fences, on account of its lesser weight. FROST ANGLE PICKET FENCE is durable and neat.

MATERIAL IN DETAIL: Horizontal rails, 2-inch angles, ½-inch thick. Pickets, ¾-inch angles, ½-inch thick, fastened to horizontals through a "V" slot and securely rivetted. Fence is practically rigid. Six-inch square posts at ends and gates. These 6-inch posts are made from four of the 2-inch horizontals fastened 2 inches apart by 2-inch steel plates, top and bottom, strongly rivetted. Line posts are made of two horizontals fastened closely, making a 2-inch square post. The made-up panels, 8 feet long, are tightly bolted to line and end posts.

Send in a rough sketch of any property you contemplate fencing, and we shall be glad to give you an estimate of the cost of whatever style you prefer. We have reliable agents in almost every district.

Get a catalogue with detailed information.

**Frost Steel and Wire Co.,
Limited**
Hamilton, Canada

dairy farms are altogether too scarce; a milk room should be found on every dairy farm. In Illustration No. 1, we have a stable that either has no milk room, or it is located at some distance from the stable, which would mean many unnecessary steps in handling the milk. Why so many farmers will not take the necessary means to produce a clean wholesome article, with minimum labor is hard to explain. An adequate milk room can be built cheap and should be located near or adjoining the stable.

Labor has increased so much in price in recent years that it is becoming a very troubling prob-

lem to the average farmer to devise means to farm at a profit. On many farms where one or more extra men were kept formerly, the same work has to be performed to-day with less labor if the operations are to show a profit, and yet production has to be maintained, yes, even increased. Let us be sure of taking every possible step to increase the efficiency of our labor.

Farmers are again reminded that the Animal Husbandry Division of the Experimental Farm is always ready to assist them in their remodeling of building and distributes, free upon request, barn plans.

The Framing of the Dairy Barn

The Plank Frame is Now Replacing the Heavier Timber Frame — By T. Hetherington, N.B.S.A.

THERE are two entirely different systems of framing employed in the construction of barns.—the timber frame and the plank frame. Timber framing has been used for the most part in the construction of barns in this country, because of the fact that timber was cheap and could be obtained in any desired size and length. Large solid timbers were used for sills, beams, plates, posts, ties and braces. The chief disadvantages of a timber frame are:

1. The scarcity of suitable material.
 2. The cost.
 3. Difficulty in handling heavy timber.
 4. The timbers have their strength reduced, due to the use of mortise and tenon joints.
- The type of framing that is foremost in builders' minds to-day is the plank framing. This type has been developed to reduce the cost of construction and accomplishes this by using timber which is only two inches in thickness. The plank frame is being adopted in all up-to-date districts, and is becoming very popular. It is, however, a comparatively modern development, and the method of framing is not altogether standardized. Lack of standardization has prevented a wide use of it, but experiments have been made and are being carried on, testing various designs and all pointing in one direction. Hence we are safe in advocating those designs which have stood the test. The plank frame has the following advantages over the old timber frame:



Figure 2.

1. It provides more storage room in the loft.
2. The plank frame is more convenient. It allows for the installation of modern hay and grain elevating machinery.
3. There are no obstructions in the loft such as girts, posts, etc.
4. Less lumber and cheaper lumber is used in its construction.
5. Framing is easier.
6. It is often impossible to obtain the heavy timber necessary for the timber framing.
7. There is no weakening of parts due to the use of mortise and tenon joints.

What is the Plank Frame?

The plank frame usually consists of a series of units or bents, not more than 12 feet apart, each unit comprising a vertical post at each

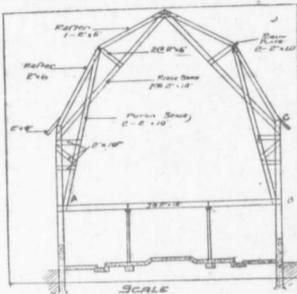


Figure 3.

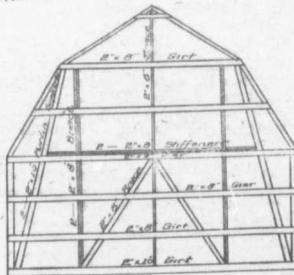
side and the braces, struts, etc., necessary to construct a sort of cantilever truss. These separate bents are unified and bound together by plates nailed to the top of the posts, by purlin braces at the break in the roof and by subsidiary members such as girts and braces. Figure 1 represents a very typical intermediate bent used in the plank frame form of construction. The arrangement of the members on this bent is worth noting. It is a design capable of withstanding, almost

any pressure and yet it is fairly economical of timber. A bent very similar to this was used in constructing the famous Wisconsin model barn. The description of the bent is as follows:



Figure 3.

extends up the sides. If it is even with the floor, the pieces will need to be eight feet or over. The whole post is then thoroughly fastened together with spikes. Thus the post is made a solid 8 x 8 for the first eight feet of its length. The girders are placed on the top of the 8 ft. pieces. These support the joists. The girders themselves are supported at intervals, not exceeding 12 feet, by



End Bent

Figure 5.

interior posts built up of three 2 x 8 planks, equal in height to 8 feet, plus the width of the girder and are spaced two inches apart, so that the members of the girder may fit in between the members of the post as shown in Figure 2.

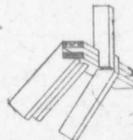


Figure 4.

The plate is constructed of two pieces of 2 x 8 plank, laid flat on top of the exterior posts. Another and a better way is to lay one piece flat and have the other set in vertically as shown in Figure 3. This gives the whole plate greater stiffness.

The framing of the roof proper consists of two principal braces, the purlin brace extends from the purlin plate to the girder and consists of two planks 2 x 10, and spaced two inches apart. The lower ends of the purlin brace fit into the posts and rest upon the girder. The ridge base fits into the post near the plate as shown at C in Figure 1, and extends to the ridge. This brace usually consists of but one member. The ridge and purlin braces are supplemented by a number of smaller and shorter braces and struts as illustrated in Figure 1. Usually there is a short

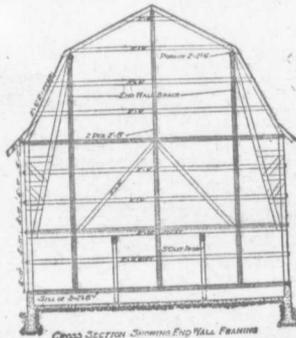


Figure 6.

collar beam to tie the two parts together at the ridge. This provides a place to attach the hay fork, and incidentally adds to the strength and rigidity of the frame. Two short braces extend from the purlin brace to the ridge brace. These equalize the strain and have much the same effect as the short horizontal braces connecting the post and purlin plate.

These short brace a, their location and dimensions are shown in Figure 1. Figure 1 shows the detail of the frame at the purlin plate. The purlin braces, two in number for each bent, are notched to fit the purlin plate. The rafters are cut to fit the plate on top. The end bent differs very much from the interior plate. In the first place it is subject to a great deal of lateral pressure such as high winds, etc., and must be constructed to withstand this extra

(Continued on page 26.)

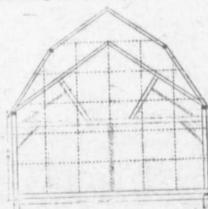


Figure 7.

The Evolution of the Dairy Barn

The Progress Made and the Improvements We Still Need

DAIRY cows, as we know them, live in palaces as compared with their bovine ancestors of earlier days. My memory does not carry me back to the days when "cow hovels" were in use, but I have seen a few of the shelters that were once used by the pioneers in lieu of stables. The hovel was a makeshift and is still used extensively by lumber men who wish to erect temporary winter quarters for their horses. It was built of unbarked logs, notched at the corners and the spaces chinked with moss or wild hay. Evergreen woods or birch bark on pole rafters supplied the roofing material. Window glass was considered unnecessary; plank floors were a rare luxury, and I am told that it was always difficult to tell the color of cows in winter time, because of the stiff armor of filth in which they were encased; a winter protection (?) that has not yet gone entirely out of fashion.

age of timber frames and boarded sides. Farming began to develop; bigger barns were built, but there was no thought of sparing lumber. It was to be had for the cutting. The barn framer became the most valued mechanic of the rural neighborhood. The placing of the huge timbers required the combined efforts of the entire male population of the neighborhood and a barn raising was a social event of importance. These barns were inexpensive; the farmer supplied both the lumber and the labor.

The Era of Progress Begins.

Few changes were made upon the old frame type of barn until the early nineties. Since then changes have been marked and numerous, more particularly in the construction of the stables than of the barn proper. Manure pits underneath the stable came into general use, but were soon discarded except in the more easterly



In the Early Days—Cow and Horse Barn to left and Hay Barn on right.

tion and popularity. A few barns have been built entirely of metal.

Stable Improvements.

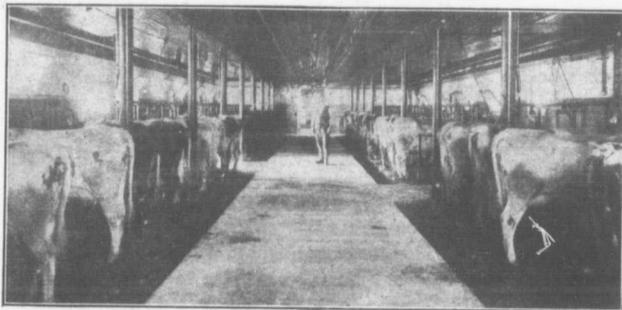
The evolution in stabling methods has been just as rapid in the last few years as the evolution in framing. In fact, it has almost been a revolution, and this brought about largely by the increased interest in dairying. Plank floors are no longer considered suitable. Concrete floors are sanitary and actually cheaper. The steel fittings on the market are sanitary, slightly and afford the cows a maximum of comfort and freedom, compatible with cleanliness.

Even yet, however, with the best of advice on the subject being widely disseminated, the average dairy stable is far from commendable, and this is due to two causes: lack of appreciation of the value of comfortable surroundings as influencing milk production and lack of capital. Even some of our so-called cow palaces, erected on the farms of millionaires and government institutions, are deficient in one or more of the primary essentials of a good dairy stable. The essentials most often lacking on the average farm are those which cost little or nothing to install, so little that no dairyman need plead lack of capital as an explanation of their absence.

The greatest need is systematic ventilation. A few weeks ago I accompanied a veterinary surgeon on his rounds on a cold evening in the late spring. The stables we entered were all tightly closed. They were warm, but the air was foul enough to "knock one down." "This," said the veterinarian, "is the way I find nine stables out of ten. In a way I shouldn't kick. Bad ventilation means more animals of low vitality and more business for me. A well ventilated stable, so cold that water will occasionally freeze in it, is far better even for dairy cows than the warmest stable without ventilation. And the cows will be healthier, I can testify to that."

More Light; Not Too Much Glass

Along with better ventilation we need more light in our stables. At least one-third of the linear wall space in the dairy (concluded on page 5.)

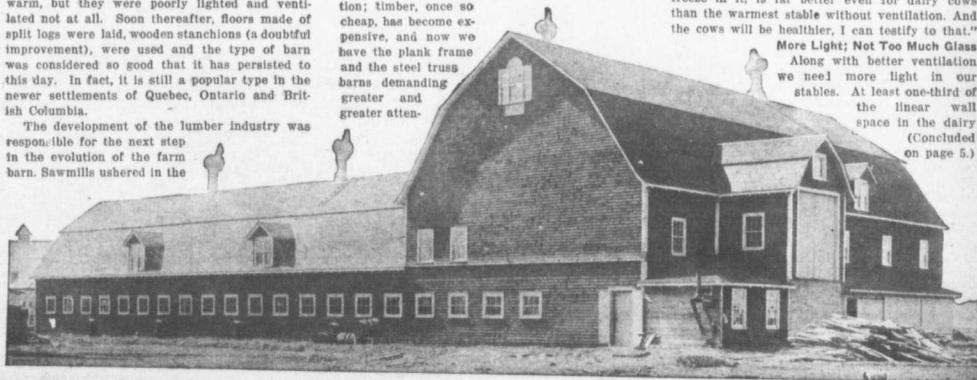


A Modern Cow Palace on the Farm of E. T. Roden, Vaudreuil, Quebec.

As the settlers became more proficient in handling the axe, more elaborate structures developed. The log barn came into being. With these we are all acquainted. The sides were of logs faced both on the inside and the outside. Dove-tailed joints at the corners insured solidity. Mortar took the place of moss for filling the chinks. A loft floor of poles supported the hay and grain. Birch bark and shingles were the standard roofing materials. These stables were warm, but they were poorly lighted and ventilated not at all. Soon thereafter, floors made of split logs were laid, wooden stanchions (a doubtful improvement) were used and the type of barn was considered so good that it has persisted to this day. In fact, it is still a popular type in the newer settlements of Quebec, Ontario and British Columbia.

The development of the lumber industry was responsible for the next step in the evolution of the farm barn. Sawmills ushered in the

provinces, where the winters are open and rainfall is heavy. Cement came into general use, and with it the basement barn. Steel shingles, corrugated iron and felt roofing, began to be used as commonly as wooden shingles. The gambrel roof began to be popular as it provided for greater storage room. The silo was added and they are now being multiplied in Ontario alone at the rate of 2,000 a year. And now the farm barn is undergoing a further great revolution; timber, once so cheap, has become expensive, and now we have the plank frame and the steel truss barns demanding greater and greater atten-



Exterior view of the barn of E. T. Roden, Vaudreuil, Que., shortly before completion. Barns more cheaply constructed might duplicate the lighting and ventilation of this costly dairy barn.

Our Metal Covered Barn

Ease of Erection a Great Advantage

W. A. Walker, Halton Co., Ont.

IN 1913 we built a metal clad barn, the only one of its kind in our immediate locality. Since then we have been asked hundreds of times: "How do you like it?" My answer has always been: "If I were going to build another barn I would not put up any other kind." Our main barn is 46 x 80 feet, with a 16-foot post and a hip roof. There is an "L" 24 x 30 feet, the basement of which serves as a pig pen.

Our barn is a wooden frame, and in its construction, we used almost altogether the timbers from the old barn. On the sides there are cross girts, every four feet, which keep the pressure of the contents from pressing out on the metal covering. The necessity of these cross girts made the frame of our barn a little more expensive than it would have been had we sided with lumber.

One of the great advantages of the metal clad barn is the ease and despatch with which it may be erected. Once the frame is up, the job is practically done.

Four men put on one side and the roof of our barn in a day. An equal number could have covered the whole barn in two and one-half days. This saved a lot of labor. Another advantage is that the barn does not need painting. It is slightly and there is no sign of rust as yet. It seems to be wind proof. It certainly, from the outside at least, is fire-proof. There is only one point in construction that I would change. The sheeting under the roof is on every two feet. If doing it again I would put a board in between as the metal sheets would then be held tighter together. As it is, there are a couple of spots where the rain comes in.

The cost of such a barn as ours would be much greater to-day than when we erected it. I bought the siding in 1912 and saved \$175 over what it would have cost me when the barn was actually erected in 1913. The actual cost of the metal siding, \$550, was less than I could have purchased lumber for. The entire cost of the barn was \$2,000. The metal siding in particular would cost much more to-day.

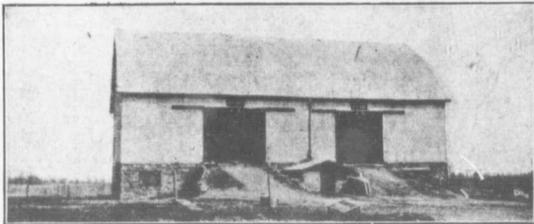
Shall We Paint?

It Depends on What We Farm For
By Tom Alfalfa.

WE are going to paint our barns and out-buildings this summer. We confess almost with shame that they have never been anything but the usual weather beaten structures that disfigure the Ontario landscape in every direction. I suppose many other barns have not been painted for the same reason that we have never painted our own—their owners have been busy paying for their farms and artistic desires have had to wait on financial necessities. We ourselves are not out of debt yet, but we are at least on a good safe footing and now we are going to devote some of our energy and a little of our money to beautifying the farmstead.

The economy of paint, under conditions such as ours, is a doubtful proposition. If I were putting new siding on a barn, then I would paint and paint immediately the barn was completed. We, however, purchased our farm with the buildings on it. The old siding had been there for 20 years when we got the farm, and that was 12

years ago. It is weather beaten and very open and porous, but it looks good for another dozen or fifteen years. I question very much if, as a straight matter of dollars and cents, it will pay to paint that old siding. But man does not live for dollars alone. I always hold that the farmer who lives only that he may accumulate dollars in the savings bank, is one of the most pitiable of all creatures. He is only a machine. He has lost all of his finer feelings, and among these finer feelings I would class a desire for the beautiful. I expect to renew my youth and take on a new lease of life when I paint my barn. It will be starting on a new stage in the develop-



A Metal Clad Barn on the Farm of W. A. Walker, Halton Co., Ont.

ment of my farm. So far I have worked to make my farm profitable. Now that it is profitable I will endeavor to make it beautiful as well. I want my place to be one of which the whole community will be proud. Painting is only one of the many touches that I have in mind, but it is an important one and a good place to start.

So far I have told only why I am going to paint. Most of my writings for Farm and Dairy are of a practical nature, however, and I would like this epistle on painting to have something practical in it. Old siding such as ours would soak up a tremendous amount of ready mixed paint. It would cost almost as much to paint the barn as the siding is worth, did we attempt to use ordinary oil and lead paint. At most of the linseed oil mills, linseed oil settlings can be purchased at a nominal price per gallon. These settlings are thick and their covering capacity on old siding is really greater than is that of the best linseed oil. With these settlings I propose to mix mineral ochre to get the color. Red ochre, which is the most common ochre used, can be gotten at almost any hardware store. I would not advise the poorest kind, but the grade next to it.

With the siding painted I shall then add white trimmings at the gables, around the doors and windows, and nobody will recognize the old barn. And I expect to get more satisfaction out of it than the job will cost. That is why I am going to paint.

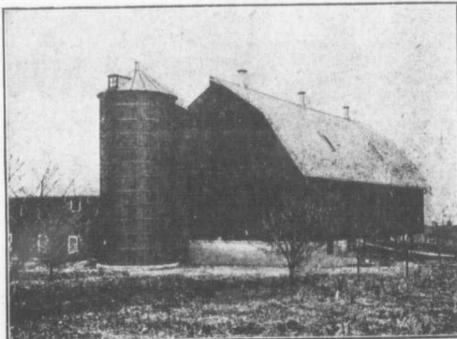
Lightning Rod Efficiency

IS the lightning rod effective as a protection against electric storms? The investigations conducted by Prof. W. H. Day, of the Ontario Agricultural College, though now several years old, still afford the most

conclusive proof on record that lightning rods, properly installed, will do the work for which they are intended. In 1912 Prof. Day found that in every 7,000 unrodded farm buildings insured in the mutual companies of Ontario, 37 were struck by lightning and several were burned, but out of every 7,000 rodded buildings insured, only two were struck and damaged only, whereas had the lightning rods been ineffective, 37 should have been struck and many burned. This gives to the lightning rod an efficiency of 94 1/2 per cent. The investigations were conducted in 1913, and in that year the lightning rods showed an efficiency of 92 per cent. Had there been an opportunity to examine carefully the rodding of all the buildings that were struck, it probably would have been found that a large percentage of the seeming failure of lightning rods, were due to mistakes in installation.

Lightning rod conductors are made of three metals, copper, iron and aluminum. All three are effective. A copper wire will carry a steady current of electricity more than six times as well as an iron wire of the same size. The iron wire, however, will carry off a sudden rush of electricity better than a copper wire of the same size. This attribute of the iron wire, however, comes into play only when a building is struck by lightning. The greater function of the lightning rod system is to draw the charge from the clouds and prevent a bolt striking the building. Rods of any metal, however, will give good protection as long as they are in good repair and properly installed.

The general principles of lightning rod installation are well understood. Some of the points to which particular attention should be paid, are as follows: The grounding wires should reach down to perpetual moisture, at least eight feet, and preferably at opposite corners of the building. All metal parts of the building, such as eave troughs, steel roof, etc., should be connected with the points and the ground wire. Run the cable from the ground, up the corner to the eave, along the ridge connecting with the points to the other end, down to the eaves and thence to the ground, making a complete circuit. Do not insulate the rods or conductors from the building as was once done. Have points 20 or 30 feet apart along the ridge, on chimneys or cupolas, on dormers and also on eaves.



"Attractive," in the case of Farm Buildings, might be spelled "Paint." Barn and silo on farm of Mr. Harry McGee, York Co., Ont.

"What Type of Silo Shall I Build?"

A Question We Are Often Asked, But Never Answered—By E. F. Ellis

RECENTLY in going through my morning mail, I picked up an enquiry that always causes more or less vexation, principally because we would like to give a definite and decided answer and just can't. Here is the enquiry in full:

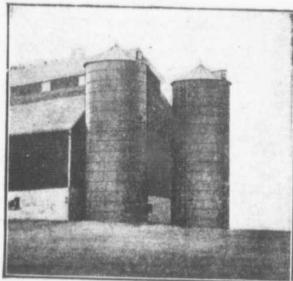
"I am writing Farm and Dairy to enquire as to what type of silo I should build. We have a herd of ten cows and some young stock, and I have decided that what I want is a silo, 10 x 30 feet, inside measurement, but I can get no further. I had just about decided on the solid cement silo, because it is fireproof, comparatively cheap and won't blow down. Then, along came a man who has put up several cement block silos in the district. The price he asked was not much more than a solid silo would have cost me. He argued that the air spaces in the blocks would prevent freezing and that it was a much better silo to look at. I have been called on by several agents for various forms of patent stave silos. Now, Mr. Editor, I had never even considered a stave silo, but the first drummer who came along, a neighboring farmer, by-the-way, presented such a strong case, that I almost gave him an order. He mentioned men whom I knew that had had silage freeze so badly in both cement and cement block silos, that they couldn't get it out with a pick. He also told me that he could put up his



A Home Made Stave Silo on Farm of W. Telford, Peterboro Co., Ont.

silo with the help of two men, roof and all, in a day and a half or two days, and all the trouble that I would be put to would be the construction of the cement base. I thought of the long hard days hauling gravel and cement and the mixing of it. I thought of the higher cost of the clay tile silo, which, really, I liked the best of all, and his argument sounded good. I promised to let him know my decision in a couple of days. I went into the house and called up a neighbor who had a stave silo of the same make that my neighbor had been trying to sell me, and, this past winter, his silage froze to a depth of nine inches from the stave wall. With that, the whole argument for the stave silo as a frost preventer, seemed to fall down. Now I am writing Farm and Dairy as a last resort to help me in making up my mind. Confidentially, what type do you prefer yourself, Mr. Editor?"

Now, when a busy farmer takes the time to write us a letter like that, we would like to be able to tell him to build one style or the other, which we know is what he wanted us to do.



Two 16 by 40 Patent Stave Silos in York Co., Ont.

Even confidentially, however, we couldn't do it. There is no question on which there is so little agreement between men with experience as on the relative merits of silos of various types. In every dairy district in Canada, where silos are used, we find everyone of the common types of silos, with the possible exception of the newer clay tile silo; and all types are still being erected. Evidently, practical farm experience has not yet crystallized opinion as to the merits of the different types.

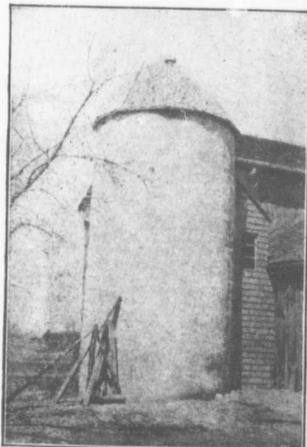
Our agricultural colleges are as far as sea on the question as are our practical farmers. On college farms we find silos of all types. The professors occasionally express a preference for one type or another, but the preferences of different professors are not in agreement. The explanation must be that all types when well constructed are giving good satisfaction, and therefore only general principles can be laid down which can be followed in selecting a silo.

The Stave Silo.

In the last year or two, the patent stave silo, of which there are many good makes on the market, have enjoyed an ever increasing popularity, and in many districts more of these silos have been put up than any other type. There is a reason. The home-made stave silo, which is its strongest competitor, has given the least satisfaction of any type of silo. Frequently they have blown down. Almost always there is more or less spoiled ensilage around the outside walls, right to the bottom of the staves. The older type of home-made silos were made of staves that were bevelled only, and therefore very open. Recently, however, lumber companies have been turning out tongued and grooved staves and many good home-made silos have been constructed. There will always be a large class of farmers who are "handy" men with a genius for construction, who will save money erecting their own silos. The most of us, however, will in the long run save money and derive greater satisfaction from the patent silo. The staves in these silos are treated chemically, so as to be almost everlasting. They are absolutely airtight well rodded and braced. In the most of them there will not be a pound of spoiled ensilage and the attention to

the hoops does not amount to an hour each year. They are destined to become increasingly popular.

The mason type of silo will always have many advocates. Their superior permanency is conceded. They are absolutely fireproof. I must confess to a liking for their appearance. Among them, the tile silo will come first. It makes a desirable addition to the best layout of farm buildings. It is probable, too, that silage freezes less in the tile silo than in either the cement block or monolithic cement structure. Ensilage will be taken from a tile silo as good as it goes in, as the walls are impenetrable by air or moisture. Their greatest objection is their price. Cement and cement block silos are substantial and pleasing. But don't they freeze very badly? Is the



This Cement Silo is Satisfactory to its Owner, W. L. Smith, Durham Co., Ont.

objection heard at once. Those who have cement silos are in the best position to answer. Just a few days ago I was talking with Mr. W. L. Smith, of Durham county, who has had a cement silo for several seasons. We propounded the question to him.

"Last winter," said Mr. Smith, "our silage froze practically not at all. That is, not enough to stay on the walls. Practically all of it came

out with the fork and if the feeding is properly done it is quite satisfactory. The winter before last, I was away a good part of the time, and the boy we employed did the feeding. He let the ensilage freeze over a foot thick around the walls by letting the centre get down. In feeding myself, I always keep the centre high and the edges low, and from my experience I have no reason to fear that frozen silage will become a nuisance in a cement silo."

Here and there we find cement silos that have cracked and there are a few instances of cement block silos that have split apart at the bottom, this because the reinforcing was not sufficient to withstand the lateral pressure. The building of a cement silo calls for skilled workmanship. There are now, however, in almost all



A Type Growing in Popularity—the Tile Silo.

(Continued on page 12.)

The Ventilation of the Dairy Barn

A Description of the Two Systems Most Commonly Installed in Canada

EFFECTIVE ventilation is one of the first requisites of a sanitary stable," says Professor Geo. E. Day, of the Ontario Agricultural College, and yet no other phase of barn construction has received less attention than has ventilation. We farmers seem slow to accept the teaching of sanitary experts on this subject. A number of our best dairymen and live stock breeders have made provision for an air current in their stables, but as a rule we have been backward in installing a system of

Many systems of ventilating the dairy barn have been devised and advocated, but no known system has proved either automatic or faultless. Two systems are common in America. They are:

1. The Rutherford System.

2. The King System.

Considerable experimental work has been done to test the merits and demerits of the two systems. The Ottawa authorities are inclined to favor the Rutherford system. In many

dairy districts of Canada individual farmers report complete satisfaction with the King System. Fig. 1 illustrates the direction of the air current in the Rutherford system. The cool, pure air enters the inlet at 'A'; it is heavier than the warm foul air of the stable, and therefore it sinks to the floor. The warm, foul air is thus forced upward and is carried to the exterior through the foul air flue at 'B'.

Fig. 2 shows the fresh air inlets used in the King system. The fresh air enters near the ground, and passes up through a flue in the wall, and enters the stable from above at 'A'. This cool air mingles with the warm

air being inhaled by the cattle.

Fig. 3 shows the King method of expelling foul air. The foul air is forced to the bottom, near the floor, by the incoming cold air. The foul air escapes through the flue at 'C'. This is not the natural way. The natural way is for the foul air to escape at the ceiling, because it is lighter. The King system is at its best in a perfectly air tight stable.

In general, the Rutherford system is the most practical and reliable. It has the following advantages in its favor:

1. It is the simplest and easiest to operate.

2. It is the cheapest to install.

3. It is adapted to all classes of stables.

4. The air follows its natural course.

One of the great objections to the Rutherford system is that the cold air comes in direct contact with the cattle, and is not warmed as it is in the case of the King system.



Fig. 1.

This objection can be modified to a certain extent by installing the right type of intake. Fig. 4 represents a good type of intake. This inlet guides the incoming air current upward. This inlet depends upon the groove in the wall, and the control valve for the proper directing of the flow.

The number and size of inlets necessary to supply a sufficient quantity of fresh air is a debated question. It is better to err on the safe side and install too many than too few. This same advice applies to the outlets. The control valve regulates the rate of flow, and prevents the stable from becoming too cold. The valves are an essential feature of the inlet and outlet flues. They are not automatic, but can be gauged to suit the season.

The location of the foul air outlets is an important consideration in a

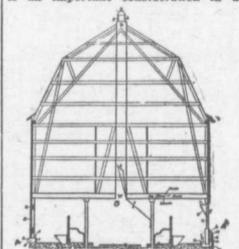


Figure 1.

climate similar to ours. Fig. 1 shows the outlet flue running through the center of the loft. All things considered, this is the best location for it. Many farmers object to the central flue, because it interferes with the hay fork, a difficulty that can be obviated by having the outlet flue hinged. This



Figure 2.

would enable it to be swung out of the way when storing hay. Fig. 3 represents an unsatisfactory location of the outlet flue; such a location is not adapted for our severe winters. The outlet flue along the roof. This results in the warm expelled air becoming chilled, and thus we get arrested

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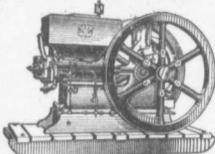
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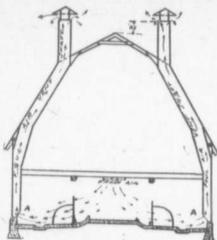


Figure 3.

ventilation, i.e., circulation ceases. The sharp bend at the eaves also hinders the flow. This objection is increased in the case of the ramble roof. For our climate it is not advisable to have the warm air flue run along under the roof.

With an outlet running through the centre of the loft, many people are inclined to think that they have effected safeguard against arrested circulation, even with an inlet in a flue. This may work admirably in a warm climate, but in a severe winter it will not give perfect satisfaction. To safeguard against any trouble of this kind, it is advisable to insulate the foul air outlet.

Fig. 6 illustrates a type of outlet advocated by J. H.



Fig. 6.

Oridale, of the Central Experimental Farm. This outlet is a bit more costly than the single board outlet, but it will insure better results.

The installation of a ventilating system in an old barn is often quite a difficult task. This is doubly true when the walls are of stone or concrete. If the walls are of wood then the problem is not so difficult. It is the concrete stable that suffers most because of poor ventilation, and for this reason an effort should be made

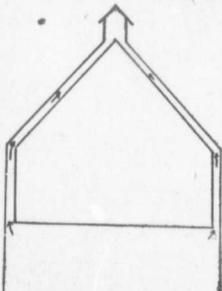


Figure 5.

to provide the inlets. The problem of providing outlets in an old barn is often so difficult. The main thing to keep in mind is the danger of a leak where the outlets pierce the roof.—T. H.

Justus Miller, B.S.A., editor of the Canadian Countryman, has been appointed Assistant Commissioner of Agriculture for Ontario to succeed Mr. W. R. Reek, who resigned a few weeks ago to become Deputy Minister of Agriculture for New Brunswick. Mr. Miller is a graduate of the O.A.C. and a native of Oxford county.

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With your Milking Machine I can produce milk of superior quality, according to the statement of the John D. Duncan Co., to whom I have been shipping. I find that the machine is in no way injurious to the cows or teats, and no other trouble has been experienced. The speed at which the machine can milk is regulated by the class of cows and the quickness of the operator.

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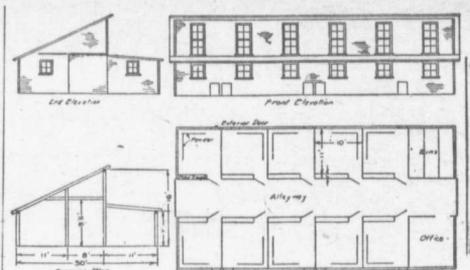
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The Farm Pigery.

THE farm hog is a fine proposition to-day. Probably no other class of live stock is receiving just as much attention at present. Canada is not, and never has been, noted as a pork producing country. One reason, perhaps, is our long winter season. Another reason is that the farm pigery is one of the most dilapidated looking affairs on the farm. The dairy barn and the horse barn have each received due attention, but the pigery still remains as it was in the times of our ancestors. Expensive piggeries have been constructed, however, and have only gone to show that the old time type was the best.

I have in mind an elaborate cement structure which I visited last March. The floors, walls and partitions were of concrete. The pigs were just as wet as if they had been in the river. The atmosphere was damp and intolerable. One might say that ventilation would help this particular case. Perhaps so, but I have yet to see a thrifty bunch of hogs born and reared in an all-concrete pigery.

A concrete floor and foundation, with frame walls, is the most desirable type. Good ventilation will aid in keeping the air dry. Farmers often have the floor slope away from the sleeping quarters. This is a first-class idea, and could be used to good advantage in the case of the concrete floor. The slope will insure dry sleeping quarters, because the water drains off. With a concrete floor it is always advisable to clean the pigery once a day. Daily cleaning and good drainage, supplemented with a liberal supply of bedding, will help to overcome many of the objections against concrete.

A separate farrowing pen, with a wooden floor, should be provided for the brood sow. The young pigs soon to suffer when reared on concrete floors, and if born and given a start before being placed on concrete they will do much better. In the warm, dry summer months, concrete has no ill effect on the youngsters.

The size of the pigery will depend on the size of the farm and the number of pigs kept. The building is usually detached from the other farm buildings, and it is advisable to provide sufficient room for a fair quantity of feed. The loft should be large enough to hold a load or two of bedding and some hay. A small tool room,

which may also serve as an office, is a very desirable feature. The house can be used as a shop for building crates and for keeping the records. The accompanying diagram illustrates a fairly inexpensive pigery, designed by Professor Dietrich, and known as the "Dietrich" swine house. It is a very practical layout, and one that could be used to good advantage in this country. One side could be devoted to old hogs and farrowing pens, the other for the growing stock. Grain bins are located at the end near the door. An ample supply of light has been provided in the side walls. A pigery built after this plan would be a decided improvement on the usual type found on our farms.

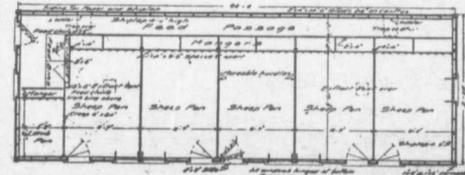
Sheep Barns.

THE cost of a sheep shelter may very easily be made excessive.

Under average farm conditions and with a small farm flock, some out-building is usually improvised into a sheep shed. Farmers have a pretty clear idea of the essentials to be kept in mind. The prime factor to be considered is the health of the sheep. Freedom from draughts, a water-proof roof and a dry floor, with an abundant supply of light and fresh air, are the prime considerations. The question as to whether a simple shed with no storage capacity is better than a high barn, in which provision is made for extensive storage, must be settled by surrounding conditions, and by personal preference. It is, however, very necessary that the farmer keep in mind the labor involved in carrying fodder to the sheep from the storage barn.

In planning the interior layout of the sheep shed, one of the most distinctive things to keep in mind is a lambing pen. The pregnant ewe must be isolated to a separate compartment a week or so before lambing. This compartment may be subdivided into a number of smaller pens, four or five feet square, by means of movable hurdles. When the lambing season is over, the hurdles may be removed and the compartment used as a feeding pen for the older lambs. It is advisable to divide the sheep shed up into permanent compartments. This advice applies with added force to the small farm flock.

The floor of the sheep shed must be very satisfactory. The ground must



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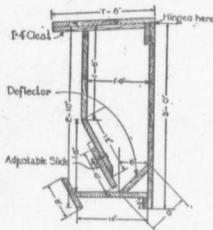
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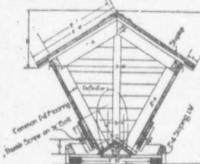
The Premier Cream Separator Co.
TORONTO, - ONT.

be well drained, so as to insure dry conditions under foot.
The cut illustrates a type of sheep shed used extensively in Western Canada. This is much too large for the ordinary farm flock, and would prove rather expensive. Much less space would do. Ordinarily in calculating the size of the sheep barn it is customary to allow each ewe 12 square feet. The plan shown will aid in laying out a smaller building. The main features to keep in mind are brought out in the illustration.

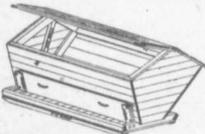


Building a Self-Feeder.

POULTRY men have long been wise to the advantages of the self-feeding hopper. Hog feeders are just beginning to find out that swine can use self feeders to just as good advantage as poultry. In the



Western States the self feeding plan is becoming quite popular, and its adoption in Canada is just a matter of time. Herewith we illustrate a couple of diagrams of self feeders of a design that has proved popular in the United States. The smaller feeder is designed to supply the needs of the small bunch of pigs. It is a one way feeder, and is to be placed next to a wall or fence. Its capacity is approximately five bushels. The diagram gives a clear idea of how this feeder



is to be constructed. Its length is three feet.
The second feeder illustrated is designed for feeding ground feeds to a herd of 35 to 50 hogs. It is a two-way feeder, and will hold approximately 24 bushels. Either can be constructed by any handy man.

The Minister of Agriculture, Hon. Martin Burrell, in issuing a statement to the public, urging increased production of beans in Canada, warns farmers to beware of using as seed beans recently imported from Japan or Manchuria. Several car loads of beans were disposed of by a big commissioning company to wholesale seed merchants and it is doubtful if they would be suitable for Canadian soil and climatic conditions.

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MADE IN CANADA

Sealed Tight
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"What Type of Silo Shall I Build?"

(Continued from page 7.)

dry sections of Canada, men who have had experience in erecting cement silos, who own the moulds or block machines that are necessary and who are competent to erect silos. In contracting with one of these men for the erection of a silo, however, it is well to have a written agreement, whereby the owner will be recompensed should cracks appear or cement scale off on account of poor workmanship or material. To get the best satisfaction, it will probably be necessary to wash the inside of the silo every two or three years with pure cement and water. Where gravel is right at hand and the labor can be

had, a cement silo is a good one to build.

The Ideal Silo.
Now for general principles. The ideal silo is cylindrical in form. Such a shape affords maximum capacity for the amount of material used in construction. It is also strongest and most durable. There is a terrific pressure on the inside walls of the silo, such a pressure that it is almost impossible to build square silos to withstand it. We have seen square silos, sustained by timber six inches square at intervals of three feet, that bulged out so badly at the sides that there were great quantities of spoiled en-

silage all the way down. The silo must be air tight with smooth, plumb walls and preferably a continuous door for ease in emptying contents. To secure economy in storage it should be at least two or three times its diameter in depth and it must be of such diameter that enough silage can be fed off daily to keep the contents from spoiling. When a combination silo is built, that is one with a deep cement base and a stave superstructure, the staves should be drawn as near the inside edge of the concrete as is practicable. If a wide ledge is left as is often the case, the setting of the ensilage is interfered with and there will be considerable spoilage.

The frost proof silo is not yet per-

fected, although the double wall concrete silo with small metal laths to bind the two walls together, is as near ideal as anything that has yet been offered to the farmer. The two and three-wall frame silos which are being built in Wisconsin and other western states are not giving full satisfaction, because of the danger of decay inside the walls. For this reason of protection against frost of as much importance as is generally supposed. Where the silage is carefully taken out, keeping the centre several inches higher than the top, there will be a minimum of freezing and the silo walls can be kept clean even in the coldest weather by keeping a pick in the silo to loosen the frozen contents.

The Missouri Silo.

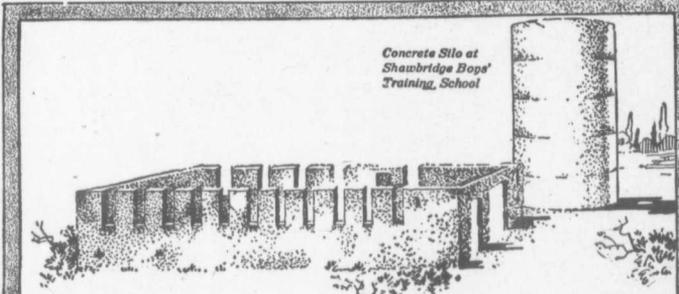
There is just one other type of silo to which I would like to refer: it has been popularized under the name of "The Missouri Silo." It was designed in the first place for the man on the rented farm whose landlord will not build him a silo. No foundations are built for this silo. A circular trench several inches deep and the desired diameter is dug on the silo site. The hoops are of three or four ply of half inch elm. A convenient way to construct them is to describe a circle on the barn floor, nail blocks around on the inside of the circle and then bend the hoops around the blocks, tacking the several ply of hoops together, being careful to break the joints as widely as possible. A scaffolding is then erected inside the proposed silo. The hoops are placed in position by tacking pieces out from the scaffolding at intervals of three feet. Then one-inch pine flooring is nailed to the inside of the hoops. A silo of this nature can be built for less than a dollar a ton capacity where the farmer does his own work and, if a proper agreement has been made with the landlord before erection, it can be knocked down and carried away by the tenant when he moves to another farm. It might also be used to advantage when extra space is needed in a hurry to handle an extra large corn crop. It is never advisable for the man on his own farm to build such a silo as, in the long run, it will be more expensive than any of the other types described.

The Silo That is no Good.

There is one silo that I would advise every dairy farmer to strictly avoid. It is the silo that you talk a great deal about and never actually build. There are too many silos of this variety. Many men who fully appreciate the value of ensilage and who are always ready and willing to discuss types of silos and comparative costs, have never built a silo of their own, but they are always "going to." The silo of "dreams" never provides succulent feed for the winter ration, never increases the stock carrying capacity of a farm, or its devotee's bank account. A silo of any type, if well made, will do all of these things.

Shortage of Swede Turnip Seed

SWEDIE turnip growers are urged this spring to endeavor to secure and transplant a few sound roots to produce seed for themselves and their neighbors. Owing to the abnormal conditions now prevailing there will likely be very little swede seed for planting in the spring of 1918 unless our Canadian swede turnip growers make provision for their own supplies by growing the seed themselves. Canadian supplies of swede and most other field root and garden seeds formerly came from Europe, but this source is now practically cut off. The prospects for home grown seed have been reduced by the present prices of swede turnips for food purposes, as it would now take nearly \$200 worth of full grown swede turnips per acre of



Concrete Silo at Shawbridge Boys' Training School

This Silo Defied Three Fires

THIS illustration is from an actual photograph of a silo at the Boys' Training School, Shawbridge, Quebec. On three different occasions this Concrete Silo has withstood the attacks of fire. The Silo was built in 1910 alongside a wooden barn. When this

barn burned, the scaffolding of the Silo was still in place; and although the Silo was thereby heated to a red glow, and the scaffolding entirely consumed, the concrete was not damaged. In fact, the silage was put into it immediately after the fire. Since then, this Silo has passed through two other fires and is still in use. After the 1910 fire, the barn floor and basement walls were built of concrete, and a root cellar was placed under the concrete floor. During the second fire,

the cellar was full of roots, which were afterwards found to be in good condition. Its wonderful fireproof-quality is but one of concrete's advantages. We have a book that describes all its advantages—and that tells just how you can use concrete to best advantage on your farm. Contains plans and full directions for scores of valuable improvements—most of which can be made in your spare time and with but a small cash outlay. The title of the book is

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"What the farmer can do with concrete"

The Interior Arrangement of the Stable

Shall Cows Face in or Out? Dimensions of Alleys, Mangers, Gutters, Etc.

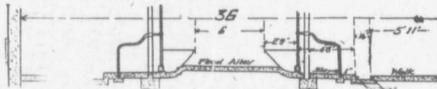
THE Modern dairy stable is a permanent structure. Mistakes in its layout are hard to remedy. For this reason a good deal of thought and study should be given before the final plan is settled upon. By careful planning, the labor of caring for the stock may be reduced one-half. Many stables in the daily routine of stable work may be avoided by a careful consideration of the details. In other words, efficiency, coupled with economy, should guide the farmer in drafting the final plan for his cow stable.

The width of the two-rowed cow stable varies to a certain extent, largely due to the method adopted for removing the manure. In general, farmers declare in favor of a stable 36 feet

The manger should be roomy and easily cleaned. The depth varies, but it can be at least one foot below the level of the feed floor. The width of the manger depends largely on the depth. A manger one foot deep and 24 to 30 inches wide will prove very satisfactory.

The length and width of the cow stand or platform will vary according to the breed and size of the cow. The average Ayrshire cow requires a stand about four feet, eight inches in length; the Jersey will need about the same; the Holstein will require almost 12 inches more. It is always a good idea to have the cow stand begin at one end fairly long, and gradually shorten it at the other end. This will provide

Fig 1
Width 36'
Cows Facing In.



wide. This provides ample room for feeding, cleaning, milking, and gives a good wide loft above.

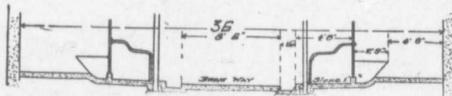
When Cows Face In.

The majority of farmers and breeders prefer to have the cows face a central feed alley. In government and college barns usually the cows face the wall. The central feed alley is the most practical. It has the following advantages:

1. Greater ease in feeding.
2. The silo can be located at the end of the central feed alley.
3. The milkers are nearer the light and hence cleaner milk is produced. This will apply with equal force to a milking machine were used.

Breeders of pure-bred stock prefer to have their good stock on one side. A prospective buyer is attracted by a row of uniform stock.

Width 36'
Cows Facing Out.



The disadvantages of the central feed alley are:

1. It costs more to instal manure carriers.
2. The back wall is spattered unless a good wide passage is provided.
3. There may be difficulty in stanchioning the cattle, due to cows getting in the wrong alley.

The arrangement of the cows is largely a matter of individual taste. The practical advantage of the central feed alley from a labor saving standpoint must not be overlooked.

The Feed Alley.

The feed alley should be wide and a bit higher than the cow stand. Obstructions in the form of high curbs in front of the manger, should be avoided. These cost money to install, and hinder feeding. The only good feature about them is that they prevent the cow from rooting out her feed onto the alley. This can, however, be readily brushed scattered along the other refuse feed scattered along the alley. An eight foot feed alley gives fairly satisfactory results. Anything less would cramp the operations of the feeder.

for the very long cow and the very short cow. The medium sized cow will be located in the centre. An aligning device has been perfected by the manufacturers of barn equipment, which is a great aid in stanchioning the very long and very short cow.

Gutters May Make Trouble. The type of gutter used may either be a source of comfort or annoyance, as the case may be. The wide, shallow gutter and the deep narrow gutter: will cause a great deal of trouble, and must be guarded against. The shallow gutter will not hold all the manure; the cow stands in it, and the walk is spattered with filth; it is also a fruitful cause of a cow casting her withers.

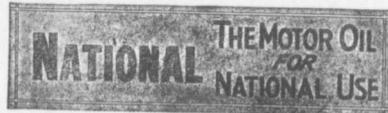
The deep, narrow gutter is hard to clean, and often the droppings fall back on the walk. Farmers like a gutter about ten inches deep at the

cow's heel, seven inches deep at the walk, and 18 to 20 inches wide. This provides plenty of room for all the manure excreted in 24 hours; it is easy to clean and the cow cannot drop her manure on the walk. The gutter should slope away from the cow's heels; this prevents her tail from becoming soaked with urine when she lies down.

The width of the walk behind the cows depends on how the manure is to be removed. When manure carriers are used, five or six feet is sufficient. If the farmer plans to haul direct to the field, it will require seven or eight feet. The walk should slope towards the manure gutter. This facilitates sweeping and cleaning.—T. H.

Our Front Cover.

THE front cover illustration of this our Farm Machinery Number, shows a part of the buildings and a few individuals from the Holstein herd on the farm of Mr. Gordon Goodenherd, Clarkson, Ont.



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BRANCH STATIONS THROUGHOUT CANADA



Information for the Silo Builder

WHAT size of silo shall I build? In the first place, don't build too small. Practically every man who has built a silo has been afterwards heard to express regret that he did not make it a couple of feet wider, or 10 or a dozen feet higher. It is first necessary to know the daily consumption of the live stock to be fed, and with this information one can readily determine the size of silo that he needs. The following table shows the amount of silage usually fed to different kinds of stock on full feed. Where other roughage is limited, however, and when pastures are very short, more ensilage will be fed than the amounts indicated:

	Lbs.
Dairy cattle per 1000 lbs. live weight 30	11
Beef cattle per 1000 lbs. live weight... 30	12
Horses per 1000 lbs. live weight..... 20	11
Dairy cattle, supplementary to pasture	12
Sheep, per head..... 15	14

The next important consideration is the amount of ensilage that can be fed off per day. In the past, it has been believed that it was necessary to feed two inches off the top of the silo every day to keep the ensilage good ber of tons of ensilage required:

Height of silage	Capacity of silos.																
	10		11		12		13		14		15		16		17		18
Feet	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
25	43	51	61	71	81	91	101	111	121	131	141	151	161	171	181	191	201
30	47	56	67	79	91	105	116	131	143	162	176	196	212	231	244	261	277
32	51	62	74	86	100	116	131	147	167	191	212	231	251	271	291	311	331
34	56	68	80	94	109	126	143	162	182	205	225	244	264	284	304	324	344
36	61	73	87	102	118	136	156	176	196	220	240	260	280	300	320	340	360
38	66	79	94	110	127	146	167	187	207	232	252	272	292	312	332	352	372
40	70	85	101	119	138	158	180	202	222	247	267	287	307	327	347	367	387
42	74	91	108	128	148	170	192	212	232	257	277	297	317	337	357	377	397
44	78	97	115	136	157	180	202	222	242	267	287	307	327	347	367	387	407
46	82	103	122	144	166	190	212	232	252	277	297	317	337	357	377	397	417
48	86	108	128	151	174	200	222	242	262	287	307	327	347	367	387	407	427
50	90	113	134	158	182	210	232	252	272	297	317	337	357	377	397	417	437

Weight
Diam. of layer silo...
Number of stock this silo will feed, allowing per head.

Diam. of layer silo	2 1/2	3	4	5	6	8	10	12	15	20	25	30	40	50	60	75	100
2 1/2	12	15	18	21	24	27	30	33	36	40	45	50	60	70	80	90	100
3	15	18	21	24	27	30	33	36	40	45	50	55	65	75	85	95	105
4	18	21	24	27	30	33	36	40	45	50	55	60	70	80	90	100	110
5	21	24	27	30	33	36	40	45	50	55	60	65	75	85	95	105	115
6	24	27	30	33	36	40	45	50	55	60	65	70	80	90	100	110	120
8	30	33	36	40	45	50	55	60	65	70	75	80	90	100	110	120	130
10	36	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	140
12	42	45	50	55	60	65	70	75	80	85	90	95	105	115	125	135	145
15	51	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144
20	66	70	78	84	90	96	102	108	114	120	126	132	138	144	150	156	162
25	81	85	94	102	110	118	126	134	142	150	158	166	174	182	190	198	206
30	96	101	110	119	128	138	147	156	165	174	183	192	201	210	219	228	237
40	132	138	148	158	168	178	188	198	208	218	228	238	248	258	268	278	288
50	168	174	184	194	204	214	224	234	244	254	264	274	284	294	304	314	324

The foregoing figures determine the diameter of the silo. The height of the silo is determined by the amount and ber of tons of ensilage required:

BUY WAR SAVINGS CERTIFICATES

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FOR EVERY \$25.00 YOU INVEST IN WAR SAVINGS CERTIFICATES YOU RECEIVE \$21.50 IN CASH.

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Work and save as earnestly and wholeheartedly as they are fighting in France!

Work at something that helps directly toward winning the war! Save, and lend your savings to the nation, to finance the struggle and furnish everything needed to the men in the firing line.

For every \$21.50 you lend the nation now, you will get back \$25 at the end of three years—an interest return of over 5%. Certificates are issued in denominations of \$25, \$50 and \$100 and may be purchased at \$21.50, \$43 and \$86 respectively, at any Bank or Money Order Post Office.

"Save for the men who are saving Canada."

The National Service Board of Canada.

R. B. BENNETT,
Director General.

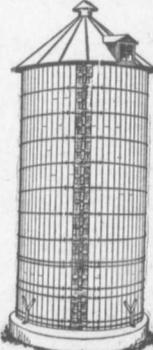
C. W. PETERSON,
Secretary.

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The Silo You Are Going to Build



It will most likely be the wooden stave silo. The farmers making a study of the silage question, have found that the wooden silo, and the wooden silo only, preserves silage perfectly.

To be certain that your wooden silo is perfect, make sure that you know

The Nicholson Cable Band Silo
(Patented)

The staves are side and end matched from top to bottom—no air spaces to spoil your ensilage.

Each band is a seven stranded cable. This will stretch and take up with the expansion and contraction of the silo, a decided advantage over the ordinary iron hoop.

Every Nicholson Silo supplied complete—guy wires, anchors, ground plan, special wrench, etc. Let us tell you more about Nicholson Silos. Fill in the coupon now for more complete information. Write to-day.

The Nicholson Lumber Co.
Limited
Burlington, Ont.

(Also Manufacturers of Nicholson Three-Wall Silos.)

The Nicholson Lumber Co., Ltd.
Burlington, Ont.
Dear Sirs:—Please send me complete information concerning NICHOLSON CABLE BAND SILOS.

Name
Address

CITY MILK SUPPLY

A Provincial Association

EDITOR Farm and Dairy.—It may interest to many Farm and Dairy readers to know that it is proposed to form a provincial association of milk and cream producers, linking up all of the milk producers' associations with the Province of Ontario. A meeting to complete this organization will be held in Toronto on Friday, June 8 at the Carlisle Hotel, 1:30 p.m. If there are any associations connected with the supply of milk or cream, for any of the cities and towns throughout Ontario who are interested, they are requested to communicate with A. J. Reynolds, Hampton, Ont., who will give further particulars.—A. J. Reynolds, R.R. No. 1, Hampton, Ont.

Guelph Producers Organize.

ALARGE and enthusiastic meeting of farmers in the vicinity of Guelph interested in the production of milk was held in the Council chamber, May 29. Mr. S. Young was appointed Chairman and John L. Carter, Secretary of the meeting. The Chairman explained that the object of the meeting was to try to arrive at some better, more businesslike and uniform method of handling their products, especially in regard to the prices which they are now obtaining, these varying at present, to the dealer, from \$1.40 to \$2 per hundred pounds. It was decided to form an organization to be known as "The Guelph Township Milk Producers' Association." The following officers were then elected: Pres., Sam Young; Vice-Pres., W. Wyndham; Executive Committee—E. Dyson, Jos. Murray, S. Pinder, A. Dunk, H. G. Earl, and the officers of the association; Sec.-Treas., John L. Carter.

After going thoroughly into the question of the cost of production it was decided that the price to the retailer be \$1.50 per hundred pounds at the farm from the 1st of July till the 1st of October, the price after that date to be set later. That means that dealers will be charged 4½ cents per quart.

"Build a Silo."

If you want to save on feed,
Build a silo.
It will help in time of need;
Build a silo.
Build of concrete, if you would;
Build of brick, or build of wood;
Build of anything that's good,
But build a silo.

Dairy feeds are soaring high;
Build a silo.
Summer seems a'go'in' dry;
Build a silo.
Cows, too, go dry on hay,
Sort of seem to fall away;
They need silage every day,
So build a silo.

Pasturage costs quite a heap;
Build a silo.
Winter feeds are never cheap;
Build a silo.
Build it wide and build it deep,
Cordin' to the cows you keep,
And for milk you'll never weep,
So build a silo.

That's the burden of my song,
Build a silo.
If you've cows you can't go wrong;
Build a silo.

Milk will flow and smiles'll come,
With the separator's hum,
And you'll shout, "I'm glad, by gum,
I built a silo."

Massey-Harris Service

Talk No. 5.—Manufacturing and Selling.

NO matter how much care may be exercised in the manufacturing of an article, the manner in which it is sold may to a large extent, cause one to lose sight of whatever merit the article may possess.

In some cases the manufacturer has a large force of travellers selling to the jobbers, who, in turn, have their travellers selling to the retailer, who supplies the consumer. The manufacturer must first make his profit, then each of the Selling Agencies comes in for a profit, all of which are added to the price of the article. Then, if it is an article which may require attention of any kind, one is so far removed from the manufacturer that service is practically out of the question from that source, and the various Selling Agencies lack the required knowledge or are indifferent towards an article which may be but a small part of their line, and which they might not handle another year.

Sometimes implements are sold by methods which apparently enable the vendor to make very attractive prices, but, when one comes to add the freight and other items incident to the purchase, and takes into consideration the quality of the goods and lack

of service in connection with same, the apparent "bargain" often looks very different.

In buying from Massey-Harris Company, Limited, you buy from the manufacturer. You pay no profit to middle-men—what would go to them for selling expenses and profits, you get in better implements and Service. Our Branch Offices, Travellers, Experts and Local Agencies are maintained solely for the purpose of rendering the very best possible service to our customers.

The manufacturing is done on as large a scale as is consistent with thorough workmanship, and by shipping in large quantities, we are able to secure very advantageous freight rates, so that, both in the manufacture and distribution of our implements, we are able to effect economies which are out of the question in a business conducted on a smaller scale, and can give our customers the highest possible quality in the implements themselves, and render Service without a parallel.

Don't let the matter of price alone influence you in your purchase of an implement; for the quality is remembered long after the price is forgotten.

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Factories at Toronto, Brantford and Woodstock.

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AND
Rural Home

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Peterboro and Toronto

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Stockwell's Special Agency.

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CIRCULATION STATEMENT.

The paid subscriptions to Farm and Dairy exceed 21,000. The actual circulation of each issue, including copies of the paper sent to subscribers who are but slightly in arrears, and sample copies, varies from 22,000 to 23,000 copies. No subscriptions are accepted at less than the full subscription rates.

Sworn detailed statements of circulation of the paper, showing its distribution by counties and provinces, will be mailed free on request.

OUR GUARANTEE.

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the editorial matter, and in order to protect our readers, we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with you as one of our paid-in-advance subscribers, we will make good the amount of your loss, provided such transaction occurs within one month from date of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in Farm and Dairy."

Readers shall not ply their trade at the expense of our subscribers, who are our friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honorable business men who advertise, nor pay the debts of honest bankrupts.

The Rural Publishing Company, Ltd.
PETERBORO AND TORONTO

*Read not to contradict and to confute, nor to belittle and take for granted, but to weigh and consider.—Bacon.

The Slaughter of Young Stock

ON several occasions recently, resolutions have been passed by various bodies, demanding legislation to prevent the slaughter of young calves. These bodies are usually city organizations, promoted to assist in greater production, the chief organizers qualifying for their positions, apparently, on the strength of their complete ignorance of all things agricultural. In no particular have these organizations shown their ignorance of the problems of food production more glaringly than in their suggestion that all calves, whether of dairy or beef breeding, be reared to maturity. The adoption of their suggestions would defeat the very purpose for which they are intended—an increase in the supply of human food. The subject is too lengthy to be considered in full. A couple of illustrations may serve to show the absurdity of the proposition.

Dairy farmers, as a rule, are working to the limit. Their barns are stocked almost to capacity and they are feeding practically all of the food stuffs that their farms produce. If legislation required that all of the natural increase of the herd should be raised to maturity, it would immediately become necessary to cut down the breeding herd. A steady replacement of a cow just what a serious curtailment this would mean in food production, may be gleaned from the following comparison: A good cow will produce thirty pounds of milk daily the year round. A good steer will gain fifteen pounds weekly. In the weekly or yearly production of the cow as compared with the increase in weight of the steer for the same period, there is six times as

much nitrogenous or flesh-forming substance, six times as much ash or bone-making material and a little more fat. In other words, a good dairy cow is as great a producer of human food as four or five good steers. Do our city advisers prefer steers?

Such legislation would serve in another way to put an effective damper on the development of the dairy industry. Dairy steers are not supposed to produce as plump carcasses as do beefed animals, and there is a prejudice against them on the market. If farmers were compelled to rear all of their calves, only dairymen with very high class herds—and these are in the minority—could afford to stay in the dairy business. Thousands upon thousands of dairy farmers would be compelled to adopt the beef or dual purpose breed to get calves of a color that would command a good price on the market. Thus would the dairy industry, which annually produces \$200,000,000 worth of nutritious food products, receive a severe setback. What our advisers need above everything else is some elementary knowledge of the industry which they propose to regulate.

Conscription and the Farmer

THE Government has announced its intention of introducing military conscription. As the measure is not yet before the House and its provisions not made public, it is wise at this time to reserve comment. It is known, however, that the measure will be patterned after the selective draft system which is to be inaugurated in the United States. This knowledge carries with it some assurance to the hard pressed farmer that the farm help available will not be further reduced, as, according to the United States system, men are to be taken, not only according to age and freedom from home ties, but according to the importance of the occupations in which they are engaged; no essential industry is to be undermined. Premier Borden's assurance that he will follow the United States system, therefore gives us reason to believe that conscription in Canada will not rob the farms of labor. In fact, might it not be well to extend the conscription measure so that it would be possible to put more experienced farm laborers back on the land and give them the same status for their service there as is accorded to the men who go overseas? The end of the war is not yet in sight, and the food problem is becoming more pressing every day. Any system of conscription that would further denude the farms of man power, would surely be short sighted and calamitous in its effects.

Acres Profit Competitions

ACRE Profit Competitions are now a popular and well established feature of the work of the Ontario Department of Agriculture among the junior farmers of the province. The competitions in themselves have stimulated much interest among rural young people. The reward, a short course in agriculture at Guelph is not the least valuable feature of the scheme. But good as the plan is, it is not without its dangers.

It would be regrettable were the results obtained by the contestants in these competitions, widely published as they are, to create false impressions of farm profits and false hopes among people who do not understand the conditions. All of us on the farm know that it is possible to take a piece of land, and by giving it special attention, make it yield unusual returns. These extra returns may appear to be profitable when considered as a unit, but when the farm is the unit, what seems to be profitable work on some small part of it may actually be unprofitable effort when its effect on the whole farm is considered. There is a tendency, too, in some quarters to believe that farmers are making undue profits and the publication of the results of acres profit

competitions, without qualifications may tend to accentuate this feeling of envy and dissatisfaction, which, though groundless, is wide-spread. They might also serve to encourage other city people to venture on a back-to-the-land scheme who have neither the knowledge or the capital that are necessary to succeed. Acres Profit Competitions should be safeguarded in this regard, and the publicity they receive be wisely directed. The United States departments have already learned this lesson.

Farm Fire Protection

AN insurance policy is practically the only fire protection enjoyed by the average rural home. An insurance policy is good so far as it goes. Every rural building should be insured. But this is not enough. In almost every case of fire the home owner is a heavy loser, and many fires that have proven disastrous could have been prevented had precautions been taken.

One of the first and most necessary parts of the fire fighters' equipment is a long, light ladder that will reach to the roof of any building on the farm. To this should be added a chemical fire extinguisher. Extinguishers that are as effective as thirty or forty buckets of water can be had for seven or eight dollars, and lacking when required for a dollar and a half. Lacking the chemical extinguisher, buckets and a water supply, where they can be readily gotten at, should be a feature of every farmer's equipment. Such precautions would have saved many farm properties that have gone up in smoke. On the farm there is little chance of stopping a fire when it gets a good start. The work of the rural fire fighter should be preventative.

Fads and Fancies

FADS and fancies have played havoc at some time or other in the development of practically every breed of live stock. Of the fallacies indulged in by breeders, none have been more destructive in real bred development than color fads. The Hereford, for instance, is one of the oldest of the best breeds and got off to the first and best start. But for many years development was at a standstill with fanciers of the breed, divided into three camps, and contending bitterly with each other as to what constituted proper color markings for the Hereford. And while this color war was raging, the Shorthorn breed was being developed along utility lines and becoming more and more popular. Even the Shorthorn has suffered, though not to the same extent, by passing fancies for reds, whites or roans.

Dairy farmers are, as a rule, the most level headed of men, but even dairy breeders have at times had a tendency to repeat the errors of the beef cattle men. Among Jersey men, the light and dark shades of fawn have both enjoyed periods of popularity. In recent years, both the Ayrshire and Holstein fanciers have undeniably been breeding for lighter color, and this in spite of the fact that some of the greatest cows of both breeds, viewed from the producing standpoint, are badly marked. Among Ayrshires, for instance, Brown Kate 4th, Jean Armour, Milkmaid of Orkney, and even Grandview Rose, have too much red in their markings to admit them to ultra fashionable Ayrshire society. In Holsteins, such great Canadian cows as "Rauwerd" and Totilla of Riverside are more black than white. The best dairy breeders, probably, place little value on color, but as their profits depend upon their ability to sell their surplus stock to advantage they must, against their better judgment, pay a good deal of attention to the fashionable colors of the day. Is it not regrettable that color fanciers should count for more with breeders than they do with Old Dame Nature, who will insist on clothing great cows in unfashionable apparel?

The O.A.C. Rural Conference.

THE Ontario Agricultural College announces that it has now completed the program for its Third Annual Summer School for Rural Leadership. This year the dates are Monday, July 23rd to Saturday, August 4th inclusive. The program is stronger than ever. Its leading feature is a course of ten lectures on the Rural School as a Community Building Institution. These lectures will be given by Mr. H. W. Focht, Specialist in Rural School Practice, U. S. Bureau of Education, Washington, D. C. There is probably no one who knows more about the subject than Mr. Forth, who has written on "The Danish Elementary Schools," "Danish Folk High Schools," "The American Rural School," besides many others. Then there are courses on Community Leadership, Rural Church Problems, Field Husbandry, Poultry, Dairying, Economics, Horticulture, Vegetable Gardening, Home Beautification, a special series of lectures for women, etc.

This year there will be a larger attendance of clergy than ever before. An effort will be made to link them together to promote the formation of a Country Church Movement in Ontario. If you are interested in securing further information, write to Dr. G. C. Creelman, President, Ontario Agricultural College, Guelph.

"More Corn--Less Work"

EDITOR Farm and Dairy: Your article entitled "More Corn, Less Work," in your issue of May 17th, was most interesting, and should be both timely and useful. I have, for some years past, been omitting the later cultivation of corn, and thoroughly concur with most of your recommendations. I do not think, however, that it is necessary to do so deep cultivation between the rows while the plants are small. Very often deep cultivation is necessary to loosen up the soil and allow subterranean rains to penetrate and not run off. My practice is to prepare the seed bed early and, if possible, get most of the weeds started before the corn is sown at all. This is not always feasible. But if the ground can be prepared 10 days ahead of seeding, rolled and left alone for these 10 days, most weeds that could trouble subsequently can be killed by the spring-tooth cultivator or disc. Then the ground can be harrowed (as many times as one thinks justifiable), rolled, sown and harrowed again. The next harrowing should take place just before or just as the corn is showing through the ground. The next and final harrowing should take place when the corn is six inches high and not before. Two cultivations, or at most three, after this, with the two-horse cultivator, are sufficient.

The first cultivation should be quite deep—say three or four inches; the second shallower. Generally speaking, I would not cultivate after the corn is three feet high, unless, as you say, cultivation can be confined to the surface. After the corn is three feet high there will be very little evaporation except through the leaves of the corn, because the plants will both shade the ground from the sun and protect it from the wind. Exceptions will sometimes occur, as, for example, when one has a hillside facing the south. Here, if the sun is very hot and the ground hard to the surface, loss of moisture, through evaporation from the surface, will be quite noticeable. I had a case of this last year. But, speaking generally, I do not think cultivation is necessary after the corn is two or three feet

high, providing the right thing has been done up to that stage.

Weather conditions, of course, may be quite unlike the above-mentioned plan, and one must be guided by conditions. For example, I have seen a heavy rain come just about the time the corn was two inches high, and so beat down the ground and delay cultivation that the last harrowing was useless. One of my neighbors says he cultivates first in such cases and then harrows across the rows. I have not, as yet, tried this plan.

In conclusion, I wish to compliment you on your article, and to add the following motto: "Kill the weeds early and wholesale."—W. C. Good, Brant Co., Ont.

The Experimental Farms Report.

THE first volume of the Experimental Farms Report for the year ending March 31, 1916, contains much information of value to the farmers of Canada. At such a time as this, when production means so much, no farmer can afford to overlook such information as this report contains when it is understood that it is available for the asking. It represents the work accomplished on the Central Farm at Ottawa and the fifteen other farms and stations distributed over Canada. Volume I. contains the report of the Director, which is a general review of the work accomplished, also the reports of the Divisions of Chemistry, Field Husbandry, and Animal Husbandry. Volume II., not yet ready for distribution, will contain the reports of the Divisions of Horticulture, Cereals, Botany, Bee, Forage Plants, Poultry, Tobacco, Illustration Stations, and Extension and Publicity.

An interesting statement appears in the report of the Director, which deals with the cost of growing certain crops, as follows: Mangels, \$1.55 a ton; ensilage corn, \$1.45 a ton; oats, 19.33 cents a bushel, and hay, \$5 a ton. The system of farming represented in these experiments is explained in the report. It is also shown as a result of seven years' experiments that in fertilizing the soil a distinct advantage is shown in the use of barnyard manure alone, or commercial fertilizer alone. The experiments suggest the possibility of combining the two profitably when barnyard manure is scarce or high priced. Referring to new strains of grain being produced, it is stated that hullless and beardless barleys are receiving close attention, with the promise of some exceptional results. Earlier and more productive varieties are being sought for, while new strains of oats, peas, beans, buckwheat and flax are being tested. These are but examples of the character of the information contained in the 598 pages of this first volume that can be received, without cost, on application to the Publications Branch of the Department of Agriculture, at Ottawa.

Sabbath Observance

EDITOR Farm and Dairy: I desire to thank you for the stand you have taken in your editorial for the observance of the Sabbath, and especially for the latter part where you refer to the Divine command to keep holy the Sabbath day. Surely we will not become so Godless as the Ottawa Food Commission. To do key in the church door. Where, then, would be our faith? And to whom or what would we be praying?—Jno. Mitchell, Carleton Co., Ont.

The government is making a great fuss about helping the farmer with government-owned tractors nowadays. Take the tariff off and we would buy our own tractors.—Jno. Rutherford, Weland Co., Ont.



MORE CREAM LESS LABOR

Through Using a

NEW DE LAVAL CREAM SEPARATOR

PATRIOTIC DUTY as well as dollars-and-cents self-interest now demands of every cow owner the saving of every ounce of cream and butter-fat.

Likewise the saving of time that is possible through a cream separator of ample capacity, that is easily turned and always in order.

There was never a summer in the history of the country when as well as to the individual producer of cream and butter.

Under present circumstances, a modern De Laval Cream Separator will save its cost every few weeks. Every cow owner owes it to himself and his fellow countrymen to effect this saving.

This is true whether you have no separator or have an inferior or half-worn-out machine, even if it be an old De Laval model.

It is important to remember, too, that if you cannot pay cash for a new De Laval machine, you can buy one on such liberal terms that it will actually pay for itself while you are using it.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for new catalog or any desired information.

Every New De Laval is equipped with a Ball Speed-Indicator

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LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Buttermasks. Catalogues of any of our lines mailed upon request.

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THE FARMERS SEEDSMAN FIFTY-ONE YEARS SERVICE

1866 1917

This is an abnormal year and the scarcity of good seeds is very marked, so

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and avoid the possibility of being disappointed.

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<p>BEED CORN</p> <p>Ontario Grown, cured in bags or crates, 50 lbs. Per Bushel</p> <p>Wisconsin No. 7..... 2.12 to 2.50 Golden Glow..... 2.00 2.75 Bailey and Leaming..... 2.00 2.50 White Cap..... 2.00 2.50 Longellow..... 2.50 3.00 N. York..... 2.25 2.75 Compton's..... 2.50 3.00</p> <p>Leaming, Podder, Mammoth Southern, shelled No. 1 in p... 2.50 Longellow, N. Dakota and White Cap, shelled..... 2.75 Jap. Bismarck Millet..... 7c lb. Garden Corn: Golden Bantam, 8c bus, 25c lb; Stewart's Evergreen, 9c bus, 25c lb; Blue</p>	<p>Rack Crib</p> <p>cured, 50 lbs. in bags</p> <p>Golden Glow, shelled..... 2.50 Wisconsin No. 7, shelled..... 2.75 Hungarian Millet..... 4.00 Siberian Millet..... 3.25 German or Golden Millet..... 3.00 Common Millet..... 2.75</p> <p>Daubentay Oats..... 1.50 Thousand Headed Kale, 25c lb. Sweet Clover, White Blossom..... 18c and 22c per lb. Alfalfa—Montana Grown (No. 1)..... 15.00 Ont. Variegated No. 2 (at least No. 1)..... \$23.00 to \$25.00 Luzerne's Grass..... 80c lb. Rape (Dwarf Essex)..... 12c lb. Hairy Vetch..... 18c lb. Amber Sugar Cane..... 8c lb. Evergreen..... 9c bus, 25c lb; Blue</p>	<p>Bush</p> <p>Golden Glow, shelled..... 2.50 Wisconsin No. 7, shelled..... 2.75 Hungarian Millet..... 4.00 Siberian Millet..... 3.25 German or Golden Millet..... 3.00 Common Millet..... 2.75</p> <p>Daubentay Oats..... 1.50 Thousand Headed Kale, 25c lb. Sweet Clover, White Blossom..... 18c and 22c per lb. Alfalfa—Montana Grown (No. 1)..... 15.00 Ont. Variegated No. 2 (at least No. 1)..... \$23.00 to \$25.00 Luzerne's Grass..... 80c lb. Rape (Dwarf Essex)..... 12c lb. Hairy Vetch..... 18c lb. Amber Sugar Cane..... 8c lb. Evergreen..... 9c bus, 25c lb; Blue</p>
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GEO. KEITH & SONS SEEDS **124 KING ST. E. TORONTO**



WHEN a Christian truly keeps his word, he keeps not only the promise, —but the spirit.

Winning the Wilderness

(Continued from last week.)

IT was not the usual bantering tone now, and there was something in the expression of Thaine's handsome face; something looking out from his dark eyes that Leigh did not see, because she was looking out at the lights and shadows of evening.

The sunset's afterglow had thrown a splendor far up the sky. In its reflected light, softened by twilight shadows, Leigh made a picture herself that an artist might love to paint.

She turned away at his words, and a quiver of pain swept her face as Thaine leaned toward her eagerly.

"Oh, Leigh, I wasn't joking. You are so unlike anybody else. He broke off suddenly. But Leigh was herself again and, smiling frankly, she added, "Let's count your blessings, then, and be thankful it's no worse."

Thaine rose at once. "I must be going. It is after eight and I ought to be at Bennington's not an arm's length from so honored to have your confidence. Won't you keep telling me your plans, and if I can help you, will you let me do it?"

He had taken Leigh's hand in goodbye and held it as he put the question.

"I'll be so glad to have your help, for we will see things alike, not as the older people see for us. It is only at our age that we dare take risks. Your father and Uncle Jim wouldn't come to Kansas now if it were now like it was when they were twenty-one."

Thaine did not release her hand. "I'm glad there is only one Leigh," he said softly.

"The light of his eyes and the sympathetic tone seemed all unlike the heir of the Sunflower Ranch, yet very much like the spirit of the father who had wrested it from the wilderness, and the mother who had courageously shared his every need.

"I don't know to what where my wilderness lies. But I hope, little girl, I hope I'll fight as good a battle on my frontier as my father has done —as you are doing. Good-night."

He hurried away and, falling into the gay company at Bennington's, was welcomed by Jo as a penitent, and abundantly forgiven.

While down at Cloverdale, Leigh Shirley sat long alone, looking with unseeing eyes at the twilight into which he had vanished.

CHAPTER XVI.

The Humane-ness of Changers.

What is the use of trying to make things worse? Let's find things to do, and forget things.

—The Light That Failed.

ON the third day after Darley Changers had closed with Leigh Shirley, Horace Carey walked into his office.

"Hello Changers, how's business?"

"I'm willing to trust you. Are you afraid to trust me?"

Darley Changers leaned back in his office chair and stared at the questioner.

Horace Carey's heavy hair was very white now, although he was hardly fifty-five years old. The decades of consecrated service to his profession had told only in this one feature. His face was the face of a vigorous man, and something in his life, maybe the meaning of giving up and the meaning of the service, he once told Jim Shirley, he had known, had left upon his countenance their mark of strength. As Darley Changers looked at this face, he realized, as he had never done before, the freedom and joy of an unsullied reputation and honest dealing.

"Lord, no, I'd trust you in hell, Doc," he exclaimed bluntly.

"I won't put it to the proof," the doctor assured him. "Nor will I trouble you nor myself with any other matter not concerning us two. Tell me frankly all the trouble about this sale."

Briefly, Changers explained Smith's hatred of Jim Shirley, and his anger at the present sale.

"All I ask is that you will not break your word to Miss Shirley," Horace Carey said. "I happen to know that the money will be ready for you. This Smith is the same man who came to old Carey's Crossing years ago, of course?"

"Why, do you remember him?" Darley Changers asked in surprise.



The Remodelled Farm Home of one of Our Folks, Mr. A. E. Phillips, Prince Edward Co., Ont.—Note article on Opposite Page.

clared. The trouble is I'm dead sure I'll not get the other fourteen hundred."

Thomas Smith had been paid the two hundred dollars and had fully released the land to Changers to finish the sale. Unfortunately for Changers, Smith still hung about Wyckerton, annoying his agent so much that in a fit of anger, Changers revealed the fact that Leigh Shirley was the buyer of the Cloverdale Ranch. Smith's rage was the greater because he did not believe the price money could be paid by a girl, without resources, and against this girl he was now ready to move.

The burden of the whole matter now was that Darley Changers had taken his life in his own hands by the deal. The bulldog in Changers was roused now, and, while he was a good many things evil, he was not a coward.

But for his anger this morning, he would hardly have been so free in answering Doctor Carey's query. Carey was a living rebuke to him, and no man loves that force anywhere.

"I tell you, I'm in a devil of a fix," he repeated.

"Well, be wise and go to a doctor in time," Doctor Carey said, only half in jest. "Changers, we haven't always worked together out here, but I guess we know each other pretty well.

"I've crossed his trail a hundred times since then, and it's always an ill-smelling trail. Some day I may follow it a bit myself. You'll do good to break with him," the doctor assured him.

"If Doc Carey ever starts on that harem trail, I'd like to be in at the end of the chase," Changers declared with a grin.

"Why not help a bit yourself? I'm going East for a week. When I come back, I'll see you. Maybe I can help you a little to get his claws unhooked from your throat," Carey suggested, and the two men shook hands and separated.

Changers stood up and breathed deeply. The influence of an upright man's presence is inspiring. Horace Carey did not dream that his confidence and good will that day were turning the balances for Darley Changers for the remainder of his life. Changers was by nature a ferret, and Carey's parting words took root and grew in his mind.

The May rains that had flooded Grass River and its tributaries did worse for Clover Creek in Ohio a few days later. The lower part of the town of Cloverdale was uncomfortably submerged until the high railroad grade across the creek on the Aydelot

farm broke and let the back water have broader outlet.

Doctor Carey had not startled the same old foafers who kept watch over the railway station when he suddenly dropped into the town again. They were too busy watching the capers of Clover Creek to attend to the regular part of duty. And since he had been a guest of Miss Jane Aydelot as much as a half dozen times in two decades, they knew about what to expect of him now.

They were more interested in a big bluff stranger who dropped into town off the early morning train, ate a plentiful meal at the depot restaurant, and then strolled down to the creek. He loitered all day about the spot where the grade broke, nor did he leave the place when the crowd was called away late in the afternoon to a little stream on the other side of the town that had suddenly risen to be a river for the first time in the memory of man.

To Doctor Carey, Jane Aydelot looked scarce a day older for the dozen years gone by. Her days were serene and full of good works. Such women do not lose the charm of youth until late in life.

"I have come to help, as you told me to do when I took Leigh away," Doctor Carey said as they sat on the porch veranda in the pleasant light of the May evening.

Jane Aydelot's face was expectant. Nobody except Doctor Carey knew how a little hungry longing in her eyes disappeared when he made his brief visits and crept back again when he said good-bye.

"I am waiting always to help you," she replied.

"I need fourteen hundred dollars to loan to Leigh, and I must have that sum at once."

Miss Jane looked thoughtfully at the deep woodland, hiding the marshes as of old.

"I can arrange it," she said presently. "Tell me about it."

And Horace Carey told her all of Leigh's plans.

"It is a wonderful undertaking for a girl, but she has faith in herself, and if she fails, the land is abundantly worth the mortgage with nothing but weeds on it," the doctor explained.

"She is a charming girl. She seems to have inherited all of her mother's sweetness and artistic gifts, without her mother's subservience to others; and from her father, she has been business qualities, but fails to inherit his love of gain and traits of trickery. Her executive mind with her uncle's good heart make a winning team. By the way, my affection for Jim Shirley is leading me to make some quiet investigation of an agent of Tank's who is hounding Jim and will, I suppose, turn against Leigh. Can you help me at all?"

Doctor Carey had always felt that Miss Jane knew much more than she cared to tell of the Shirley family's affairs.

She rose without replying and went into the house. In a few minutes she returned and gave a large sealed envelope into Doctor Carey's hands.

"Do not use that until it is needed to protect someone from Tank Shirley's violence. It is legally drawn and witnessed. You will find it effective if it is needed at all."

"I have one more duty, Miss Aydelot," Doctor Carey said. "My time is brief. I have an intuition, too, that I may never come East again."

Jane Aydelot's face was pale, and her hands closed involuntarily on one another as she waited.

"I must have you and Asher Aydelot reconciled. What can I tell him of you?"

The pink flush returned to the pale cheeks. "Let him read my will. I copied it (Continued on page 22.)

The Upward Look

The Power of Prayer

In the Upward Look column of last week we published two or three incidents in the life of Mrs. Jonathan Goforth, missionary to China, which told of some of the wonderful blessings which have come to her through the power of prayer. This week we are publishing several others as written by Mrs. Goforth for the Sunday School Times:

"Soon after coming to China, the Rev. Hunter Corbett, one of the most saintly of God's missionaries, gave a testimony which was later used of God to save me from returning home. He said that for 15 years he had been laid aside for weeks every year with that terrible scourge of the East, dysentery, and at last the doctor gave it to their definite decision that he must return at once to the homeland and give up China. The grand old man said, 'Now God had called me to China, and I also knew that God did not change. So what could I do? I dare not go back on my call; so I determined that if I could not live in China I could die there; and from that time the disease left its hold on me.' This testimony was given over 25 years ago when he had been almost 30 years in China, and he is still living and working for Christ in China, a blessing to all the Chinese and the missionaries—who know him.

"For several years I had been affected just as Dr. Corbett had been, and each year the terrible disease seemed to be getting a firmer hold upon me. At last one day my husband brought me the decision of the doctors that I should return home; and as I lay there ill and weak the temptation came to yield. But as I remembered Dr. Corbett's testimony and my own clear call, I felt to go back to my own country. My conscience would be to go against my conscience, I, therefore, determined to do as Dr. Corbett had done—leave myself in the Lord's hands—whether for life or death. This happened more than 20 years ago and since then I have had very little trouble from that dread disease. Yes, the deeper the need, the more bitter the extremity, the greater is the opportunity for God to show His mighty power in our lives if we but give Him a chance by unswerving obedience at any cost. 'In the day when I cried, thou answeredst me and strengthenedest me with strength in my soul.' Ps. 138:2."

"Often has my own weak faith been rebuked when I have seen the results of the simple, child-like faith of our Chinese Christians. In many occasions where prayer have been of such an extraordinary character that when told in the home-land, even ministers have expressed doubt as to their genuineness. But, praise God, I know they are true. The following is but a sample of them:

"Li-Ming, a warm-hearted, earnest evangelist, owned land some miles north of Chang De Fu. On one occasion when visiting the place, he found the neighbors all busy placing around their fields little sticks with ting flags. This they believed would keep the locusts from eating their grain. They all urged Li-Ming to do the same and worship the locust god, or his grain would be destroyed. Li-Ming replied, 'I worship the one only true God and I will pray Him to keep my grain that you may know that He only is God.' The locusts came and ate on all sides of Li-Ming's grain, but did not touch his. When Mr. Goforth heard this story he determined to get further proof, so he visited the place for himself and inquired of Li-Ming's

neighboring what they knew of the matter. They one and all testified that when the locusts came their grain was eaten and Li-Ming's was not. The Lord Jesus once said, after a conflict with unbelief and hypocrisy, 'I thank Thee, O Father, Lord of heaven and earth, because Thou hast hid these things from the wise and prudent and hast revealed them into babes.'"

"The winter of our return from China after the Boxer troubles, I felt keenly the need of a good sewing machine, as I could not possibly do the children's sewing by hand and still get time for my meetings. One day I asked my husband for money for a machine and he told me it was impossible, as we had only sufficient for bare necessities. He was leaving on a deputation tour; and after he had gone I just asked the Lord to send me money for a machine. I received such assurance that money would come that I went down town and selected the machine most suitable for the price being \$36. Three days later, a letter came from a band of ladies in Western Ontario, enclosing \$23 and some odd cents. The letter said: 'Please accept the enclosed by way of money you have lost, as our substitute in China.' A few days later a second letter came, enclosing \$12 and some odd cents, the letter stating that I was to use the gift to help purchase a sewing machine! The two amounts came to the exact amount needed for the machine. This appeared to me all the more surprising, as I did not know of any one who knew about my wanting a machine except my husband. Before Mr. Goforth returned I had purchased it and was able to show him when he came home that the Lord could give me what he could not."

Home of One of Our Folks

The old stone house on Cottage Cove Farm stands as one of the landmarks on the southern bay shore front of Prince Edward County. For many years this house was a one-storey cottage, but a disastrous fire burned the roof and contents and the owner, Mr. A. E. Phillips, decided to enlarge it by building a second storey. This storey, as the illustration on page 15 shows, is of frame. The house is about 50 feet square. The ceiling of the lower storey is fully 12 feet from the floor and every room has that commodious appearance so attractive to many lovers of rural life. Last summer a veranda was added on the west side of the house. It is in keeping with the rest of the house, being 10 feet wide and a corresponding height. The masonry pillars set it off very nicely. From this veranda one can look away across the blue waters of the Bay of Quinte and ever from it comes the cooling breeze which can be felt otherwise but restful after a hard day's work in harvest field or kitchen. The large lawn around the house is nicely kept and adds much to the attractiveness of this farm home. A porch is to go on the side where the steps are shown before the house will be complete. Taking everything into consideration, Mr. Phillips' farm home is one of which he is well beyond. And it is not worth while making our home as attractive as possible?

Modern Conveniences in Farm Homes

The home on the farm to-day can have the modern conveniences. The cost is really small compared to the returns. A water system can be put in that will cost about as much as a binder. It is used every day of the year and the binder only work or two. A furnace that will keep the whole house warm will cost about as much as a drill and a plow. The furnace can be used nearly half the year

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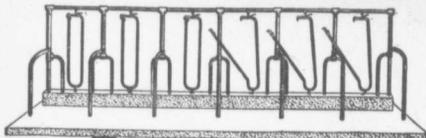
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Sold also in many other sizes and styles of Refinery Sealed packages.

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Then there is the big saving in time and labor. The cleaning of the barn is done much more quickly and easily. Valuable time is saved for other, and more important, tasks.

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while the drill and plow are used but a few weeks.

The modern improvements in the home not only lift the heaviest work from the shoulders of those least able to bear them, but they also make the home more sanitary. One sick spell may cost enough to pay for installing a water system or a furnace. One funeral will certainly cost as much.

Farm machinery has cut out much of the hardest work for the men on the farm, and the modern conveniences in the home will cut out much of the heaviest work of the women on the farm, and will add much to the health and comfort of all members of the farm family.—N. Dakota Exper. Station.

HOME CLUB

Brightness and Industry—the Ideal

THREE months ago the question, "What are your views on matrimony?" would have elicited from me the answer, "They aren't." But apartment life in our bachelor customary shrewdly scolding the we have acquired the habit of discussing such subjects to keep our minds off the breakfast of ham and eggs we might have had next morning if we had been able to cook it.

If the light-hearted girl be classed as a butterfly, I take it for granted that the industrious girl, possessed of high ideals and a college degree, is also some kind of insect—probably the busy bee. In the nature of things the butterfly is bound to attract the attention of the average man. A hundred little boys will run after a pretty butterfly for one who will run after the bee. The boy who follows the bee does so for a sordid reason—to get the honey—and he gets stung. And remember that men are only grown-up boys!

The normal man likes a girl's initials before, not after her name. Have you ever noticed at a social event the entrance of a girl with a college degree? She is about as popular as Kaiser would be in a Canadian meeting. As a general rule the man who is allotted to take her in to supper is taken violently ill early in the evening and goes home to spend a quiet evening reading Webster's Dictionary—he finds it more interesting.

A girl may have too much education. It makes her a stick. Her ideas are too dogmatic to make possible a smooth adjustment with those of her husband, unless the adjustment is all on his part. Education has not the same effect on the man. He has an opportunity to get his high brow ideas off his chest at his work. The woman must unburden herself in the home. The home life in whose cooperation must exist, and this simpler the ideas originally brought into the home, the easier the adjustment.

But the woman who would make the ideal wife is neither the butterfly nor the bee. I would take her out of the insect class altogether and call her a humming bird—combining brightness with a certain amount of industry. For while the man works outdoors, the good wife must busy herself indoors if team work is to be possible.

Co-education is an especially good lens for giving a clear perspective of what characterizes a good wife. A significant fact appeared at a co-educational college (which I had the privilege of attending) at which some girls studied for teachers and others took household science. The men were there for a four-year course. The first-year men as a rule, were at-

tracted by the butterflies from the teachers' course. Second-year men were not guilty of associating with girls—much. The third and fourth-year men devoted their attentions to the girls of the homemakers' course, or one-year students in household science. The senior science girls, however, were usually left severely alone. Who wants to live with a dietitian?

Here I would class the one-year science girl as the humming bird, and the senior girl as the bee. A "co-ed" friend of mine in discussing this question, stated his views thus: "When I choose a wife with the faintest chum, then she will know a little about cooking, a little music, appreciate a little literature and wit, she will be husky enough to stand in the back door and chuck the henfeed clear out to the barn."—"Bachelor Bill."

Some Successful Experiments

I WOULD like to tell Home Club members that I am very proud of my success in canning "greens" last summer. It was just an experiment, and because some of you might like to try it, it might be interesting to you to know that it was a huge success. It was just the wild greens I did—"lamb's quarter," we call it. And now when I open a jar and heat it, we could not tell it from the real good greens. And it is such a treat in the spring and early summer.

I would also like to tell about our experiment with flour. (I wouldn't dare try to tell the farmers' wives of Ontario anything about bread). The price of flour was more than we could stand. And seeing in Eaton's catalogue an advertisement for a small hand-mill, it gave us the idea of making our own flour. So we got one and have our own "whole wheat flour" at the price of wheat. It is quite a saving and is essentially much more wholesome and we like it so much. For variety I try different proportions. For bread I take one-third or one-half whole wheat. But I make muffins and biscuits sometimes with just a little white flour, and we think they are fine.

Did you know that oatmeal could be cooked and used in lots of other ways than porridge? In an extract from a government bulletin showing that, compared as to cost, oatmeal has more food value than any other article of food in common use, set me to experimenting on it. I have found that it works beautifully as the foundation of a "savory" dish. I tried cooking it, seasoning with salt and pepper, and before serving, stirring in a generous proportion of grated cheese. (Was it in Farm and Dairy that I saw that suggestion?) Anyway it was good. Then "out of my own head" I made a mixture of boiled oatmeal and condensed cold pork, which I seasoned with salt, pepper and poultry seasoning, and baked, and my men folks found it an extremely satisfying dish. Also I have tried it with milk, eggs and sugar, as a pudding. Dates make a nice addition to this.—A B.C. Pioneer.

It is the opinion of some that at sometime in her life every housewife must meet her greatest household enemy—the bedbug. Here are some methods of eradicating this pest. Fill a spray with one teaspoonful of carbolic acid and one quart of benzine. Spray articles and bed very freely. Another is to use quicksilver and the white of an egg mixed, or painstaking use of the liquid from crude rosin out with kerosene, is said to be effective.

There is always plenty of work to be done, but it doesn't pay to be so busy that we haven't time to be neighborly or to help make the community in which we live a better and more pleasant place in which to live.

A Double Protection Policy

THERE are hundreds of good plans of life insurance on the market, each one of which is suitable for a certain class of buyers.

There are life policies with premiums payable by the assured throughout his lifetime. There are also limited payment life policies with payments ceasing after a specified number of years.

Then there are endowment policies payable to the assured himself in a specified number of years or to his family should he die during the term. There are also limited-payment, long-term endowments.

Under the last mentioned class the amount of the policy is payable to the assured upon his arrival at a certain age, say 60—and payment is made to his family in the event of prior death.

This is a policy that protects the household while protection is most needed and which reverts to the assured should he attain an advanced age, and in his turn require the protection.

This is the most practical, the most sensible policy available to-day. It protects the family while they are helpless, and protects the assured should he attain the age of helplessness.

Write for rates applicable to your age and for booklet entitled "Endowment Policies."

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Waterloo, Ontario

Labor Savers at a Nominal Cost

MUCH has been said and written on the subject of how to lighten the labors of the farm housewife, and on increasing efficiency in the home. And should it not be the privilege and aim of every woman to do her work in the easiest way possible? Labor-saving devices do much in lending assistance to the busy housewife, and aid materially in making housework pleasant. The prices asked for some of the patent labor savers, however, look rather prohibitive to many of us, and we put off purchasing from year to year, because we feel we cannot afford to do

water is taken up by the wicks and carried down on the sides of the cover by capillary attraction when evaporation takes place, drawing the heat from the inside and lowering the temperature. Tests have shown that if the refrigerator is kept in a place where the air circulates around it freely, a temperature of 50 degrees F. may be obtained.

Make a screened case three and one-half feet high with the other dimensions 12x15 inches. If a solid top is used, the water pan, which may be a pan 12 inches square, is placed on top of this. If the refrigerator is used indoors, it should stand in a large pan to catch the drip. The covering should be made to fit the frame and be fastened on with buggy or automobile curtain hooks and eyes, arranged so that the door may be opened without unfastening these hooks. The bottom of the covering should extend to the lower edge of the case.

Another device which interested us in this book on "Home Labor Saving Devices" was a roller tray dinner wagon. If we were to purchase such a contrivance made in wicker or expensive wood, we would find the price very high, but one like the illustration can be made at a nominal cost. It is a great step saver, as the dinner everything on one trip. After dinner, the dishes for washing may be piled on to the dinner wagon and taken to

the kitchen in short order. The diagram practically explains itself. It consists of a china closet, a drawer for silver and another for linen, and a roller tray, all in one. The material required is given as follows:

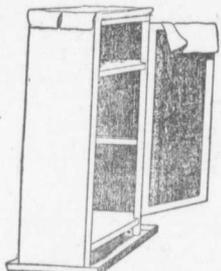


Homemade Shower Bath.

25 feet white pine; one piece of Jack chain, No. 14, 18 inches long, to support top; one pair one and one-half inch (butt) hinges, to hold top; 12 No. 5 screws, three-quarter inch, to fasten hinges; one-half pound 5-penny nails; two brass hand bolts, to fasten on drawer; eight No. 10 screws, two and one-half inch, to fasten legs to

bottom shelf; two furniture casters, to put on legs, and two swivel or baby carriage wheels. This wagon might also be made without the china closet, using the top as a tray only.

A very simple, convenient and cheap bath is another device worth mentioning. The materials required are: A two or four-gallon tin bucket; 12 feet of rope; one or two pulleys and staples; two inches of piping and a clothespin. Punch a hole in the bottom of the bucket, and solder in piece of piping. The rubber tubing is attached to this and a sprayer from a watering can or a nozzle placed on the end. The rope is tied to the handle, passes over a pulley and runs through a staple in the joist beside the window sash, which allows the bucket to be raised or lowered to suit the convenience of the person taking the shower. The flow of water is adjusted by the use of a clothes pin operated on the rubber tubing. From the diagram it would appear that there might be a tendency for the water to splash on the walls and floor. As a precaution against this, would it not be a good plan to erect a circular steel rod, supported by three or four uprights of the same material, and hang heavy canvas on it, either with rings or hooks. A shower bath should be found of great value in the home where other water fixtures have not been installed. It should be especially appreciated by the menfolk in summer when they come in from their day's work, hot and dusty.



Iceless Refrigerator.

so. We should not become discouraged, even if our bank account is small, as it is possible to make many labor savers at home which will fill our requirements nicely.

Rhea C. Scott, District Agent for Home Demonstration Work in Virginia, has recently compiled a book on "Home Labor Saving Devices," and has dedicated it to "the women and girls of the farm, lovers of the fields, and friends of the flowers, whose hearts hear the call and whose hands seek the skill to make the rural home a place of light, of health, and of beauty." In this volume appear many illustrations and descriptions of many made devices, two or three of which we reproduce herewith.

One of the trials of the housewife during the hot summer days is to keep milk, butter and other perishable foods in good condition. Of course,



Roller Tray Wagon.

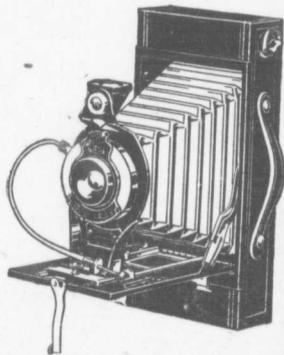
some people lay in a supply of ice every winter and do not have this trouble to contend with. Those who do not, however, may make good use of an iceless refrigerator, such as the one shown in the diagram. This convenience is comprised of a simple wooden frame with a covering of cotton flannel, burlap, Indian head, or linen crash, made to fit so that little air is admitted into it. Wicks made of the same material as the covering are tacked on top of each side of the cover and extend over into the pan of water sitting on top of the frame. This

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Same Roofs
Still in
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A Compact Bungalow
THE bungalow style of house is booming more popular every year, not only in the city, town or village, but in the rural sections as well.

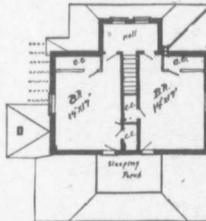
The design accompanying this article is of a seven-roomed bungalow,



First Floor Plan.

designed to meet the needs of the small farmer, or for the farmer who wishes to retire. The rooms are of good size, large enough for the average family of to-day. The bathroom downstairs will be found more convenient than when placed on the second floor. The stairway is centrally placed and easily accessible from all parts of the house. The breakfast nook off the kitchen will be found very convenient, or, if desired, this space may be used for a pantry, with a swing door in place of the slide doors. The kitchen is designed to lighten the housekeeper's labor and save time and steps.

The pergola outside of the dining-room windows will help keep this room cool in summer. The fire-place in the living room will help make this



Second Floor Plan.

room cozy and cheerful on cold winter nights.

The two bedrooms upstairs may be divided when desired. A sleeping porch opens off both the bedrooms.

This bungalow, built of brick and shingles, or of cement blocks, with hot air heating system, plumbing, and hardwood floors in main rooms, will cost about \$2,500.

A Generous Benediction.

A young mountaineer brought his sweetheart to the justice of the peace to get married. After the ceremony the young man said:

"Well, judge, how much do I owe you?"

"The law allows me a dollar, but some give me a little more."

"So?" said the bridegroom, as he pulled out a quarter, two dimes and five pennies and dropped them into the astonished judge's hand. "Well, here's fifty cents; with what the law allows you that makes a dollar and a half, and you can consider yourself well paid for a half hour's work."

Winning the Wilderness

(Continued from Page 18.)

When I had your telegram two days ago. I cannot give him my property Uncle Francis' will forbid it. But—take the copy with you. I hope my wishes will be realized."

Doctor Carey held her hand long when he bade her good-by. In her clear gray eyes he read a story that gave him infinite sorrow. Snapping down, he put his arms about her shoulders and, drawing her to him, kissed her once on her forehead, and once—just once—on her lips, and was gone.

"They never met again. But those who knew her best in Cloverdale remember yet that from that Maytime of that year, Miss Jane's face was glorified with a light never there before."

"Down at the creek, Doctor Carey saw a large man intently studying the bank beyond the break in the railroad grade. Something made the doctor pass slowly, for the figure appealed to his interest. Presently, the man turned away and, climbing up to the National pipe road before him, made his way into town. As the light of evening fell full upon him, it revealed to Doctor Carey a very white face, and eyes that stared, as if seeing nothing—even the bluff face and huge form of Darley Chambers."

Two weeks later when Darley Chambers gave Leigh Shirley the deed in her own name to the Cloverdale Ranch, he said in his blue eyes:

"I'm sayin' nothing against Jim Shirley, madam, when I say I hope you'll keep this in your own name. Some day you'll know why. And I hope to God you'll prosper with it. It's cost more'n the money paid out for it to get that quarter section of prairie out of the wilderness. Sorrow and disappointment, bad management, and blisters, hope, hard work, and hate. But I reckon it's clean hands and a pure heart, as the Good Book says, that you are usin' now. This money don't represent all it'll cost me yet by a dang'd sight."

He bade her a hearty good-bye and strode away.

The mortgage for the loan was given to Horace Carey, as agreed upon between himself and Miss Jane Aydelot.

"If Leigh knows it's Aydelot money she might feel like she's taking what should be Thaine's. Would the Aydelots feel the same if they knew it?" Miss Jane had asked.

"The thing the Aydelots have never grieved for is this Ohio inheritance," Carey answered her. "Asher gave it up to live his life in his own way. If you knew what a price of a fellow he is, although he's only a Kansas farmer, you would understand how that prairie ranch and the lure of the sunflower have gripped him in the West."

The day after the completion of the sale Dr. Carey went to the Big Wolf neighborhood. In the dusk of the evening he drove up to Darley Chambers' office in Wykerton. As he was hitching his team Rosie Glimpke rushed out of the side street and lunged across to the hitching post.

"Oh, Doctor Carey, com' queek mit me," she exclaimed in a whisper. "Com', I just come from Miss Aydelot's. They mak' me com' home to work at the Wyker House, ant a man get hurt bad in there. Com', do com', 's' urged in a frenzy of eagerness.

"What's the trouble?" Dr. Carey asked.

"Com'. I show you. I 'traid the man com' back and find them. Com' make 'em not from Miss Aydelot's. They mak' me com' home to work at the Wyker House, ant a man get hurt bad in there. Com', do com', 's' urged in a frenzy of eagerness.

(To be Continued.)

Chain Stitching, A Favored Trimming

IMPORTANT NOTICE

Farm and Dairy patterns shown in these columns are especially prepared for Our Women Folk. They can be relied upon to be the latest models and include the most modern features of the paper pattern. When sending your order please be careful to state bust or waist measure for adult size for children, and the number of the pattern described. Orders are filled within one week to 10 days after receipt of the full amount. Patterns for Our Women Folk, 10 cents each. Address orders to Pattern Dept., Farm and Dairy, Peterboro, Ont.



CHAIN stitching in a heavy silk is one of the prettiest and most favored stitchings at present. Rows of this makes a braid-like effect. Many collars are shown with this style of trimming. A combination of colors, one row of each, on a collar, makes an effective finish. Cuffs, too, are not forgotten when the finishing touches are being added. A very chic collar and cuff set can be fashioned from pique. If finished with further trimming and add quite a distinctive touch to a suit or separate coat. Such collars and cuffs, either of pique or organdie, also give the final touch of smartness to many serge dresses.

Now that pockets have come back to us they are so welcome that we make even more than pockets of them. They are also trimmings and draperies. One of the newest designs in the slipper pocket, which bulges at the top and is sometimes cut in one with the back portion of the skirt or jacket.

We have heard a rumor that dresses come into favor again. We hope this will dress up front or side closing appeals to us as much more satisfactory and more attractive.

2093—Lady's Dress.—Here is an attractive style from which to construct a summer dress out of some of the dainty wash materials. The collar and reverse effect is very pleasing, and should appeal to many.

2068—Lady's Hooded Jacket.—This sack jacket, and would make a pretty and useful gift for a friend. Four sizes: Small, medium, large and extra large. The small

size requires 1 1/4 yards of 36-inch material.

2092—Sports Suit.—The sports suit can be used for many other purposes besides that for which it is named, and many handsome costumes are shown fashioned after the model of the one shown herewith. The skirt, collar and cuffs are made of contrasting material from that of the blouse, and very pretty materials are being shown for combining in such costumes. Three sizes: 12, 14 and 16 years.

2072—Girl's Dress.—This little dress is rather unusual and should therefore appeal to the fancy of the fastidious little miss. The front and back panels and belt are cut in one, the belt being joined at the under-arm seams and trimmed with buttons. Five sizes: 4, 6, 8, 10 and 12 years.

2069—Girl's Dress.—The dress here shown is simple of construction and looks cool and comfortable. Bloomers may be made of same material as shown in the small view. Long sleeves and high neck, can also be utilized if desired. Six sizes: 2, 4, 6, 8, 10 and 12 years.

2074—Lady's Apron.—The overall type of apron seems to be a favorite with many, and this style is a good one. It would be used as a working dress for warm weather, and the belt effect takes away from the loose appearance which might otherwise look rather clumsy. Four sizes: Small, medium, large and extra large.

2077—Boy's Rompers.—What small boy would not look well in such a chic outfit as the one shown herewith? It is just the kind for summer wear, with low neck, short sleeves and loose trousers. The smaller views explain the construction very well, and this suit should prove a favorite with many mothers. Five sizes: 2, 3, 4, 5 and 6 years.

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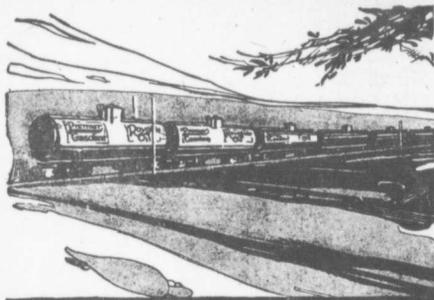
FLEET FOOT
Shoes on the Farm

The farmer does not have to spend his hard-earned profits on expensive leather boots, these days. He and his Wife wear **FLEET FOOT SHOES**. Easy on the feet and the pocketbook; light, springy, sturdy, comfortable, sensible, inexpensive.

Banish hot, heavy leather boots—and wear easy **FLEET FOOT SHOES** this summer.

Your dealer has, or will get, the styles you should wear.

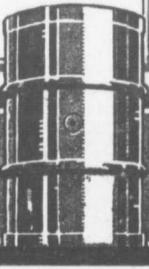
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TRAINS of tank cars bring crude petroleum to our refineries—deliver the refined product to the country town or the tank station nearest you. Every one of our 1200 tank cars is a link in the distributing chain which brings the right lubricant for your machine from the oil well to your farm. All of our oils are supplied in steel barrels and steel half-barrels—convenient, economical. No waste. You use every drop you pay for.

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	<p><i>For Open Bearings of Farm Machinery</i> PRAIRIE HARVESTER OIL —very heavy body, meets cold, won't thin out with moisture</p> <p>ELDORADO CASTOR OIL —a thick oil for worn and loose bearings</p>
	<p><i>For Steam Cylinder Lubrication, whether Tractor or Stationary Type</i> CAPITOL CYLINDER OIL —the standard product for steam cylinder lubrication.</p>
	<p><i>For Grease Cup Lubrication of Bearings</i> THRESHER HARD OIL —a clean, solidified oil, high melting point</p>



The Makers' Corner

Butter and Cheese Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making, and to suggest subjects for discussion.

The Cheese Situation

NEVER were cheese dealers, cheese makers or cheese factory patrons in a greater quandary than at present. Cheese is not moving. The common report from country boards is "No bids, no sales." The factories are full of cheese and storage facilities are already crowded to the limit. The situation was cleared to a certain extent last week when Baron Devonport, the British Food Controller, beginning May 29, ordered all cheese imported from Canada, Australasia and the United States re-quitoned, and henceforth will control all dealings in it. Cheese will be put on the market in England at a price enabling retailers to sell it at sixteen pence per pound, or 32 cents. When the announcement was made in Toronto, produce men predicted that the Canadian price would be 20 to 22 cts. a lb. Even yet, however, cheese is not moving. The following report from the Listowel on June 1st is typical of the reports that come from country boards:

"At the Listowel Dairymen's Exchange to-day 1,860 boxes were boarded, but awaiting the move of the agents of the commission, the buyers were not active in bidding, the best price on the board being 15c for white and 19½c for colored, in small lots. On the street some colored sold at 20c.

"It looks as if some of the factories with upwards of 800 boxes of white would have to take just what they can get, and not knowing when the agents of the commission will buy or the price they may offer are dubious as to what is best to do. For lack of cold-storage facilities in connection with their factories some will be forced to sell and may be glad to get 15c, which looks small as compared with 25c, one half paid last month. It is much better, though, than a year ago, when the best price was 15½c.

"With the commission not yet buying and the regular buyers indifferent, since all Canadian cheese is requisitioned on arrival at British ports, it is a problem for the factories to know what to do, and at a recent meeting the Listowel Dairymen's Exchange directed its Secretaries to communicate with Commissioner Ruddle at Ottawa. His reply is in part as follows:

"The members of the Exchange must be under some misapprehension as to the cause of the present deadlock. I do not see that the naming of a commission has anything to do with the difficulties which have recently arisen. They are entirely owing to the fact that the Admiralty, who control all the ocean space, have refused to carry any cheese for the present, because there are other things which the people of the United Kingdom require more urgently, and I suppose they have a right to decide these matters for themselves. This is a matter which the commission has nothing to do with, nor has the Canadian Government any jurisdiction. So far as I can develop the present situation would have never been heard of, because, as a matter of fact, the commission has taken no action of any kind, has never had a meeting, except informally, and is not responsible for anything that has happened.

"I want to make this point quite clear, because it is quite natural that

there should be some confusion in the minds of the people over the appointment of the commission, and the results which have followed the action of the Admiralty. If space were available for the shipment of cheese there is no reason why buying and selling should not go on as before any announcement was made concerning the commission. The commission must wait till they have advice from the British Board of Trade as to what price they are willing to pay for the cheese.

"Both the Government and the British representative on the commission have been urging prompt action, and are doing everything that can be done to expedite the matter."

As the British Government has announced its prices in Great Britain, a price may soon be set for Canada—perhaps before this issue of Farm and Dairy reaches its readers. Once a price is established buying and selling would go on as before. Evidently Mr. Ruddle's letter, copied above, was written previous to the announcement of Baron Devonport, but it serves to throw light on the shipping situation.

Independent Telephone Companies Win Important Victory

THE long drawn out fight between the independent telephone companies of Canada and the Bell telephone monopoly has at last been partially settled and that by a decided win for the independent companies. Briefly the situation has been this: The small independent companies throughout the country, including farmers' mutual lines, have desired connections with the Bell company, both for local convenience and long distance messages. Whether or not such connections have been depended altogether on the pleasure of the Bell company. The Provincial Railway Board in Ontario had power to enforce such connections with companies having a provincial charter, but the Bell did not come within its jurisdiction as its charter is a Dominion one. Recently the independent companies, with the support of the United Farmers of Ontario, asked that a Joint Board be appointed with representatives from the Dominion and Provincial Railway Boards, which should have jurisdiction over both Dominion and Provincial chartered companies. This they did not get. But what they did get is important.

According to decisions handed down last week by the Special Railway Committee of the Dominion House, the Bell company is now forced to give connections to a local line desiring such connections. For instance, if a local line outside the town of Brighton desires to connect up with the Bell line in Brighton, they may do so whether the Bell people desire it or not, and this without compensation. The small company near Toronto, for instance, has been unable to connect with the Bell company \$300 a year for such connections and 10 cents per message on such long distance call, although the connection was of as great advantage to the Bell people as to the local line. The new order does away with such charges. Where the two companies cannot agree as to the terms of the connection (installing the wires, etc.), the Dominion Railway Board can settle the matter for them.

The settlement of this long pending matter affects thousands of farmers who are local lines, who will rejoice at this victory.

The present freight rates on pure bred live stock will apply only until Sept. 1st. On and after that date the same rates will apply to pure bred shipments as to grade or market cattle.

A Milk House for the Dairy Farm.

It is difficult for the milk or cream shipper to do without a milk house. Often a stall in the cow stable is improvised into a milk room. It is boarded in and called a milk house. In this dark and unwholesome room the milk is strained and separated or cooled, as the case may be, and prepared for shipment. Often the farm house kitchen is utilized as a milk room. This does not provide the best conditions for the milk, and also adds to the burdens of the already overtaxed housewife. The best, the most efficient, and most sanitary way is to have an independent dairy house. This may be large or small, according to the individual requirements. It is, however, advisable to provide room for expansion.

The milk house should be conveniently located. It must be within easy access to the stable and to the farm house, and yet in such a position that it will not be subject to all the odors from the stable. A well drained site is very desirable. One of the essentials to a good dairy house is the floor. A good floor is half the dairy house, and is one of the most expensive features of it. Wooden floors are highly

"James, what was Washington's Farewell Address?"

The new boy arose with a promptitude that promised well for his answer.

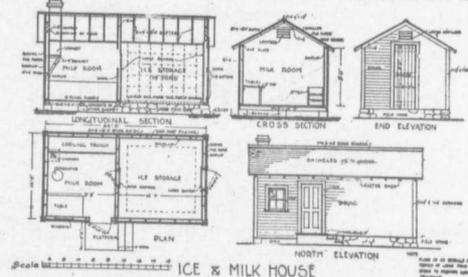
"Heaven, ma'am," he said.

The Evolution of the Dairy Barn

(Continued from page 5.)

stable should be in window glass and the windows should be three feet deep. This proportion is about right. Some fancy stables have one-half or all on the wall space in glass, but in these stables it has been found necessary to use double windows in winter and even then it is difficult to keep the stables comfortably warm. Sunlight is the cheapest germicide we have and the sunlit stable is always more pleasant to work in than the semi-darkness of the old time stable.

The ideal flooring material to go under the cows has not yet been invented. Cement is good, but it is cold. Cork brick and cressed blocks are a big improvement on any other form of stable flooring, but unless a man is fairly well supplied with cap-



undesirable. They have to be replaced quite frequently, and are difficult to clean. Concrete or some other waterproof material gives the best results.

The dairy house would not be a real dairy house unless an ice house was attached to it. Natural ice is available on almost every farm in the winter time, but I am sorry to say, it is not available in the summer time. This is the season we need it most. We need it for preserving our milk, and many other farm products. The ice house is a very cheap structure, and perhaps no other building on the farm returns a higher rate of interest on the money invested. The ice must be provided with drainage underneath, and often the floor is composed of loose, round stones. This is just as good as any other flooring material, and has the added advantage of being inexpensive.

Figure 1 illustrates a combined milk and ice house. This is one of the best layouts we have seen. The building is by no means pretentious, but it fulfills the desired requirements of a combined milk and ice house. The measurements may be changed to suit individual requirements. It will be noted that a plank floor has been provided for the milk room. We cannot sanction this feature, and must advocate a concrete floor. The room is provided with ventilating facilities, which is very desirable, both for the milk and ice rooms. A door opens from the ice house into the milk room, and from the ice house to the exterior. The building is 12 x 12 feet, and has been designed for a small farm dairy.

Miss Wheat, the new teacher, was hearing the history lesson. Turning to one of the scholars, she asked:

ital they will be barred because of their expense. Good plank floors extending to within nine or 10 inches of the gutter and finished off with cement are probably the most practicable at present.

There is a mistaken idea abroad that the ideal dairy stable, that is ideal from the standpoint of cow comfort, is possible only to the millionaire farmer. We have what we consider an ideal dairy stable ourselves and it was built at a minimum cost. Our ventilating system cost only a few cents for nails; we picked up the lumber necessary to make the ventilating flues around the place. The cement floors were laid with the assistance of a couple of day laborers and the actual cost for cement and labor hire was less than plank would have cost to cover the same area. We have abundance of light in the stable and a coat of whitewash will work wonders in brightening the interior still further. The window sash, by-the-way, were purchased second hand when an old house in the village was torn down. We have steel traps and would like to have steel equipment complete, but can not afford it. The complete equipment will come in time for it has much to commend it. Finally the layout is convenient. The roof house and the silo open into the feed room. The granary is directly above the feed room and chutes from the bottom of the feed bins, carry the grain just where it is needed. The feed room is just at the end of the double row of cows facing in. We have spent no money for style, but we have a stable that is sanitary and comfortable with none of the essentials omitted.—F.E.E.



Kennedy Road, Seneca Township, York County Highway Board, Ontario. Treated with "Tartia-B" in 1915.

"With half-loads going to and fro, You're twice as far from town, you know"

The farm that is not served by a good road is only worth half as much as it would be if served by a modern road.

Good roads convert a dismal, stuck-in-the-mud community into one that is up-and-coming, and throbbing with life and growth.

Nothing makes a farm so unattractive and valueless as to have to go through a high

Good roads mean somewhat heavier taxes but what do you care for that, if people are willing to pay you twice as much for your farm because it has become twice as

Made in Canada
Tarvia
Preserves Roads Prevents Dust

profitable? The farm ten miles out on a good road is nearer than one that is only five miles out on a mud-hole. Good roads may make all the difference between starvation-farming and prosperity.

A few years ago good roads meant plain macadam roads, which were expensive to maintain after they wear away so rapidly under automobiles and are so susceptible to damage by frost. Modern macadam roads, however, are built with Tarvia. It makes them automobile-proof and excludes frost. Tarvia roads don't cost much to maintain, yet they stay in beautiful condition the whole year round.

The success of a community can be measured roughly by the volume of business it does with the roads are built. When good roads the local freight-traffic increases by least and bound—more products going out, and more money and goods coming in. Statistics prove that where good roads replace poor ones, the people save enough in hauling expenses the first year to pay for

We have booklets about Tarvia which we would be glad to send you if you are interested.

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Are the original peptic coagulators. Are uniform and tested for curdling-power. Have stood a full year's test in several hundred cheese factories, and are not an experiment. Used properly, give a full yield of cheese of prime consistence and flavor. Cost less than Rennet extract.

Don't delay or experiment with novelties. Specify "P. D. & Co." and get a reliable product. Ask your supply dealer for information and prices.

*The term "Curdalac" is registered as a trademark in the U. S. Patent Office.
Walkerville, Ontario. **PARKE, DAVIS & CO.**

UNUSUALLY ATTRACTIVE

Auction of Holsteins

At OAKVILLE, Ont.

Wednesday, 20th June, 1917

This will be the most important Holstein sale of 1917. It is supplied by five of Ontario's foremost breeders, whose consignments are made, not because they wanted to sell those high-class animals, the demand being greater than their capacity to sell, but because each felt that a high quality sale would prove of incalculable benefit to the Breed and its Breeders.

The sale will be an educator—affording an opportunity for comparison and exchange of views, and in teaching the value of merit to new breeders and beginners, embracing, as it does, FORTY strictly high class animals.

The quality is vouched for by the consignors, Messrs. GORDON S. GOODERHAM, of Oakville, Ont.; R. M. HOLTEBY, of Port Perry; ANTHONY GIER, Waterloo; MAJOR OSBER, Bronte, and J. ALEX. WALLACE, Simcoe.

Among the four males to be sold is a 2-year-old son of

KING SEGIS PONTIAC KONIGEN

the \$5,000 sire from Mr. Wallace's herd. Many of the cows will freshen near sale date, these being bred to famous herd sires.

Catalogues ready shortly. SEND FOR ONE TO-DAY. Study the merit and breeding and plan to be with the best Breeders and Holsteins at OAKVILLE, Ontario.

Wednesday, 20th June, 1917**THE ONTARIO SALE & PEDIGREE CO.**

87 King Street East

TORONTO

ONTARIO

Gooderham's Consignment

to the

Oakville Sale June 20 1917**1. Lady Mercena Schuiling**

Made 26.44 lbs. butter, 224.20 lbs. milk 7 days in R.O.M., with average fat per cent. of 4.93. A large, strong, well turned heifer. She will be bred to King Segis Pontiac Posch.

2. Manor P.H. Gem

This heifer made 19.61 lbs. at 3 years of age from 417.9 lbs. milk, with an average of 2.75 per cent. fat. She is a particularly straight, neat heifer, with a future ahead. She is just recently fresh and her bull calf by King Segis Pontiac Posch will also be in our offering.

5. Hengerveld Jewel Posch

Just a year old June 10. A clean, neat heifer, out of Jewel Cornelia Posch, with 23.96 lbs. milk and 940 lbs. butter in R.O.F.

SIREs**1. Manor Segis Pontiac**

Born Feb. 7. A particularly fine young sire, well marked, straight and clean. His dam is one of our finest young heifers with a record of 18.69 lbs. butter and 419.5 milk as a 2-year-old. Of course he is by our great Sr. herd sire, King Segis Pontiac Posch, a son of the great \$40,000 Artman bull.

2. King Segis Gem, 2nd bull calf

Look Up Their Breeding

Gordon S.
Gooderham**MANOR FARM**Clarkson
Ont.**The Framing of the Dairy Barn**

(Continued from page 4.)

and must be constructed to withstand this extra pressure. Again, in the end bent we do not require an open centre as is the case with the interior bent. Figure represents a common and very satisfactory type of end bent. Figure 6 is very similar in many respects, but is a stronger frame. The plank frame form of construction and the gambrel roof barn go hand in hand. Probably this has done more than one thing to popularize the plank frame. Figure 7 is a diagram representing the respective capacity of the gable and gambrel roof loft. The capacity of the gambrel loft is about double that of the gable loft.

Loans to Farmers

SIR Thomas White has given formal notice of his bill to amend the Bank Act, to which he made reference in the Commons a few days ago. The bill recites that "the chartered banks may loan money to farmers and those engaged in raising stock, upon the security of their live stock—that is to say, horses, cattle, sheep and swine, and the offspring of

any such animals, and including wool clipped from sheep while such sheep are subject to such security; and further, to provide for the filling of the security and the priority of the bank's in claim, and entry, seizure and sale in case of default in payments due, and disposal of the proceeds."

The Silo

THE melancholy days have come, The saddest of the season, When factories close up one by one!

Short pastures are the reason. The buttermaker walks the plank, For milk and cream are lacking; The cheese man gets a lay-off, too, And goes to lumber-jacking.

Year after year it's just the same, And true of every section;

Excepting those where silos, full, Are seen in all directions. The silo is a wondrous thing— When wintry storms are blowing, The milk flow lasts from spring to spring.

And factories keep a-going. So if you want to hold your place When snow is on the ground, Get silos, in your neighbourhood And run the year around.

40 LB. BLOOD AT SERVICE**SIR SADIE KORNDYKE SEGIS**

(16,194)

A brother to Mable Segis Korndyke 40.32 lbs. butter (to the sire of K.K. S. V. Topsy, 3 1-2 yrs., 40.38 lbs. butter). His dam is sired by a brother to Sadie Vale Concordia 4th, 41.06 lbs. butter. His sire's dam, Pontiac Clothilde DeKol 2nd, 37.21 lbs., 7 days—1,271 lbs. in one year. His dam, Sadie Cornucopia Mignone, 33.36 lbs. Butter—134 lbs. in 30 days—101 lbs. milk one day. His dam and sire's dam have each made three records of over 30 lbs.

FOR SALE**Our 29-lb. Show Bull, PIETJE PAUL**

Born April 6, 1915. He has been our herd Sire for the last two years. He is 70 per cent. heifer get. Will guarantee him right in every way

A. D. FOSTER & SON**Bloomfield, Ont.**

BELL PHONE

WELLINGTON, ONT.

THE SOUTHERN COUNTIES AYRSHIRE MEET.

A PUBLIC meeting under the joint auspices of the Ontario Department of Agriculture and the Southern Counties Ayrshire Breeders' Club, will be held on Wednesday, June 13, 1917, at 1.30 p.m. sharp at the Farm, Belmont, Ont. Prof. H. Barton of Macdonald College will take charge of the judging class; Prof. A. Letich, G.A.C., will also address the meeting. As this farm is not convenient as a hotel for a generous supply of lunch along with everybody will be made welcome.

A meeting of the members of the Club is called for 11.30 a.m., to consider matters in connection with the consignment of other business that may properly come before the meeting.

Parties desiring to reach Belmont by train can reach there from St. Thomas Ingersoll at 11.35 a.m. Trains leave Belmont for the west at 4.52 p.m., and for the east at 7.42 p.m. We would suggest meeting to come in auto loads. The Secretary on the morning of the meeting at 5.30, the party will proceed direct to Mt. Hope, where a short stop will be made to inspect the herds of J. H. Harris & Son and the Morrison Bros. 10.30 and proceed to the place of meeting—no. McKee, Secy.

AYRSHIRE COWS AND HEIFERS THAT HAVE QUALIFIED R.O.P FROM APRIL 4 TO APRIL 25.

Mature Class.
Dairymaid, 2nd, 15,365 lbs. milk, 417 lbs. fat, 4.01 per cent. Latta, 2nd days. T. C. Trevelton, Brantford.

Roine de la Petite Riviere, 30,255; 13,263 lbs. milk, 525 lbs. fat, 3.56 per cent. fat, 251 days. Arthur Legare, St. Brant, Que.

West Poa of Hickory Hill, 32,335; 11,616 lbs. milk, 470 lbs. fat, 4.04 per cent. fat, 235 days. N. Drymont & Sons, Brantford.

Mabel, 12,733; 10,375 lbs. milk, 356 lbs. fat, 3.52 per cent. fat, 353 days. Robert H. Little, Campbellford.

Primrose of Heaven Meadow, 33,930; 9,949 lbs. milk, 357 lbs. fat, 3.5 per cent. fat, 303 days. W. C. Tully, Athelstan, Que.

Bronze of Balquido, 38,888; 9,535 lbs. milk, 372 lbs. fat, 3.9 per cent. fat, 291 days. John McKee, Norwich.

Four-Year Class.
Hobland Barbara, 39,426; 8,859 lbs. milk, 347 lbs. fat, 3.86 per cent. fat, 425 days. R. H. Howick, Que.

Burleigh Right Kind, 47,055; 8,757 lbs. milk, 335 lbs. fat, 3.86 per cent. fat, 319 days. H. E. Newtham, Brantford.

Three-Year Class.
White Violet of Hickory Hill, 49,055; 9,764 lbs. milk, 323 lbs. fat, 4.04 per cent. fat, 305 days. N. Drymont & Sons, Brantford.

Walley of Walnut Hill, 40,661; 9,006 lbs. milk, 361 lbs. fat, 4.00 per cent. fat, 346 days. W. G. Strong, Gervie.

Scottie's Queen of Silver Springs, 41,533; 8,192 lbs. milk, 320 lbs. fat, 3.76 per cent. fat, 334 days. T. C. Trevelton, Brantford.

Cherry Bank Laina Morton, 44,409; 9,532 lbs. milk, 308 lbs. fat, 3.52 per cent. fat, 352 days. J. and C. D. McArthur, Howick, Que.

Auchenfeld Brownie 3rd, 48,424; 7,751 lbs. milk, 295 lbs. fat, 3.8 per cent. fat, 273 days. J. and C. D. McArthur, Howick, Que.

Two-Year-Old Class.
Trixie of Hickory Hill, 44,984; 7,532 lbs. milk, 285 lbs. fat, 4.00 per cent. fat, 306 days. N. Drymont & Sons, Brantford.

Stonehouse Fancy Yet, 43,124; 7,409 lbs. milk, 259 lbs. fat, 2.9 per cent. fat, 323 days. Wilton E. Dryden, Cowanville, Que.

One-Year-Old Class.
Floss of Springbank, 44,087; 11,430 lbs. milk, 453 lbs. fat, 3.88 per cent. fat, 366 days. A. S. Turner & Son, Elykiana's Corners.

Beaver Meadow Carrie 2nd, 44,314; 10,444 lbs. milk, 503 lbs. fat, 4.71 per cent. fat, 355 days. W. C. Tully, Athelstan, Que.

Barradoe Peardine, 48,941; 9,711 lbs. milk, 356 lbs. fat, 3.66 per cent. fat, 357 days. R. H. Howick, Que.

White Pride of Silver Springs, 45,227; 9,403 lbs. milk, 407 lbs. fat, 4.32 per cent. fat, 344 days. T. C. Trevelton, Brantford.

White Lady of Silver Springs, 45,552; 8,529 lbs. milk, 294 lbs. fat, 3.48 per cent. fat, 327 days. T. C. Trevelton, Brantford.

Hoase, 45,329; 8,204 lbs. milk, 325 lbs. fat, 3.85 per cent. fat, 350 days. Alex. Hume & Co., Campbellford.

Silver Locks of Clover Ridge, 40,987; 7,953 lbs. milk, 340 lbs. fat, 4.25 per cent. fat, 365 days. Wilton E. Dryden, Brantford.

Cherry Bank Laina Morton 2nd, 44,406; 7,297 lbs. milk, 300 lbs. fat, 4.11 per cent. fat, 368 days. P. D. McArthur, Howick, Que.

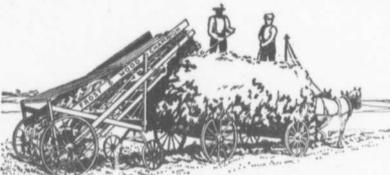
W. F. STEPHENSON, Secretary.

HAY

can be a pleasure to harvest and a good money maker—if you have efficient hay-making equipment.

Frost & Wood Champion Side Delivery Rake

It gathers up the hay into long, loose, fluffy windrows where it can cure uniformly. The hay doesn't burn and discolor—nor lose succulence and market value. The "Champion" has 3 tooth bars arranged on a cylinder which gives a steady rolling motion to the hay until it gets to the windrow. Two castor wheels support the rear end and stop all "digging in" by the teeth. Light draft—very strong—and anyone who can drive can use it.



THE FROST & WOOD CO. Ltd., SMITH'S FALLS

Montreal

St. John

Sold in Western Ontario and Western Canada by



USE A "CHAMPION" AND COMMAND TOP MARKET PRICE.

Increased production means bigger crops through less waste and higher quality for the crop you get. Use a "Champion" and get more hay and better hay.

Frost & Wood Champion Hay Loader

It's a pleasure to see it pick up the long windrows as clean as a whistle—just as fast as you care to handle the hay and all the work going where it ought to—on the machine. The "Champion" is very simple—6 tooth bars set in a drum, gather the hay and lift it on to a rope-and-slat apron which raises it to the wagon. The whole is operated directly by pawls in the wheels, and thrown in and out of gear by two small levers. Proper design—splendid materials—splendid service.

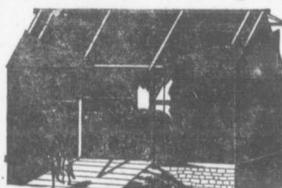
Let us send you new Hay-making Folder—just drop us a card or see our nearest Agent.

COCKSHUTT PLOW CO. Limited

Brantford, Ont.

Horse Fork Haying Outfits Complete

The Best of Everything



Best heavy malleable cast, best pure Manila rope, improved lock lever, double bar-pow fork or slings if desired. All complete with necessary fittings to put up in your farm.

We have outfits for wood track, steel track or for field stacking.

Put up your own outfit and save big money. We can ship promptly. Catalogue free.

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Factory Distributors HAMILTON, CANADA



More Profit from Your Cream

ONE man (name on request) writes in to say his 300lb. Viking gives him 1 1/2 lbs. of butter closer by a good deal than the \$75 separator he used to have.

Ask your dealer for our free descriptive booklet, or write us Dept. 6 Swedish Separator Co. 515 South Fifth Ave. Chicago

C-N-R C-N-R C-N-R C-N-R C-N-R C-N-R C-N-R



Take Your Opportunity — NOW

What are your prospects as "hired man"? How long will it take you to own a farm of your own?

These are questions which every ambitious man must face. Don't settle in the rut of hand to mouth existence.

Get a FREE HOMESTEAD

Our "Homesteaders and Settlers' Guide," to be had for the asking, will tell you how and where. Write to the nearest C. N. R. agent or General Passenger Dept., 65 King St. East, Toronto, Ont.

SEED CORN "That Will Grow"

We can supply rack-cured corn on the cob or shelled, from the following varieties: Improved Leaming, Wisconsin No. 1, Early Hallel, White No. 2, Yellow Dent.

This corn was grown and cured by specialists in seed corn, and is therefore of a very superior grade of seed. Let us quote you on all kinds of garden and field seeds, including mustard, sugar beets, turnips, carrots, butter beans, white beans, peas, potatoes, buckwheat and field grasses. Cotton Seed Meal, Oil Cake Meal, Clover Meal, Bran, Shorts, Feed Oats, Whole Oats, Pure Linn, Good Meal, Good Luck Brand Call Meal, and a complete line of Good Luck Brand Poultry Fodder. Write, please or wire for prices.

CRAMPSEY & KELLY 778 Davenport Rd., TORONTO

Use SHARPLES To Prevent Cream-Waste

Sharples is the *only* separator that skims absolutely clean at *all* speeds. All other separators lose considerable cream when turned below speed—admitted by leading experiment stations and all separator manufacturers. Average loss from this cause is 10 lbs. of butter per cow per year, or 80,000,000 lbs. in the United States alone! Sharples would save it all!—due to the wonderful Suction-feed, which automatically regulates the milk-feed so as to insure clean skimming whether you turn fast or slow.

Sharples is an absolute necessity *now*—when the world is clamoring for "more fat." It is the *only* separator that gets *all* the butter-fat out of the milk. Prevent waste by getting a Sharples—and get it *now*, while you can. Ask nearest Sharples dealer to explain it.

SHARPLES Famous Suction-Feed "Skims clean at any speed" SEPARATOR

the only separator that:

- skims clean at widely-varying speeds
- gives cream of unchanging thickness—all speeds
- has just one piece in bowl—no discs
- skims milk faster when you turn quicker
- has knee-low supply tank and once-a-month oiling

Made and guaranteed practically forever by the oldest and greatest separator factory in America. Over a million Sharples users! See your dealer and write for catalog today—address Department 77.

THE SHARPLES SEPARATOR CO.
TORONTO, ONT. REGINA, SASK.
The Mitchell & McGregor Mfg. Co.,
Brandon, Man., Distributors for
Manitoba.

"He turns pretty slow but he gets all the cream"



CYCLE-BASC SLG

On account of transportation difficulties, it was impossible for us to make deliveries in Ontario during the spring, and farmers who had bought our goods could not get supplies. We had to cancel thousands of tons of orders.

We are now making contracts for Summer shipment, and can guarantee delivery. Our Salesmen are now out arranging agencies where we are not already represented.

If you think you could place 20 tons among your neighbors, let us hear from you at once. You will be reasonably remunerated for your trouble, but what is better, you will help to win the war by increasing the food production of the Empire.

The Cross Fertilizer Co., Ltd.

SYDNEY - - - NOVA SCOTIA

S. C. White Leghorn Day-Old Chicks

Order now for our well known laying strain. Pens mated to Barron cockerels. Satisfaction guaranteed. Write for our booklet re Care and Feeding of Day Old Chicks.

UTILITY POULTRY FARM - Stratford, Ont.
LT.-COL. T. G. DELAMERE, Prop.

THE SALE OF 20,000 POUND COWS.

Few opportunities will come to the breeders of Holsteins in Ontario quite as great as that of W. A. McElroy's dispersion sale to be held at his farm at Chertsville on June 14th. In R.O.P. work this herd stands in a class by itself in Eastern Ontario, and every animal will be open to the purchaser's bid. For several years past Mr. McElroy has devoted his efforts to producing the type of animal that would stand up to the heavy strain of large yearly production. That he has succeeded in this is indicated by the number of unbroken records in his herd. His sale on June 14 will include five cows with records of over 20,000 lbs. in R.O.P.'s. One good cow (13 years) has also made a record of 19,000 lbs. in the present year. Moreover, there is a junior two-year-old in the herd that promises to establish a 20,000 lb. record for herself by the time her year is finished. A few of the other big records include: 4-year-old, a 14,000 lb. 3-year-old. In short, because work there is a 22 lb. cow, R.O.P. with 101 lbs. milk in a day. Among the junior two-year-olds are three that have made 18 1/2 lbs. in the 7-day work. Among his older foundation animals is a cow that has made a 24 lb. record at 11 years, and another with a 22 lb. record at 10 years. These figures are sufficient in themselves to indicate the unusual buying opportunity that is to be given to the breeders at this sale. Practically all of the herd consists of daughters and granddaughters of the animals with records as above. In such stuff should be able to duplicate the work of his ancestors.

Something special good is also being offered in the way of sire. One young bull 10 months old and just ready for good service, is backed by four nearest dams whose combined yearly records average 25 1/2 lbs. milk. There are four bulls in all from cows that have gone over the 20,000 lb. milk in a year. One of these is a son of the only cow in Canada to have two 20,000 lb. daughters. There are two grandsons of the only sire in Canada to have two 20,000 lb. daughters. The senior herd sire at Hillside, DeKok Mutual, Countess, owned jointly by G. A. Bresh-n of Hillcrest Farm, Norwood, and Mr. McElroy will prove one of the biggest attractions of the sale. In a herd where the females have made outstanding records in yearly productions 5 over 20,000 lbs. and many others well up, a bull of superior individuality and backbone families that have proven their ability to stand at the top of the ladder in yearly production was required. DeKok Mutual Countess was the sire Mr. McElroy selected as filling the bill.

His dam, DeKok Mutual Countess, 20,696 lbs. milk in one year, R.O.P., at 5 years and 3 months, exceeded any other heifer in America at that time, for both milk and butter. Her eight-months-after-foal freshening record of 18,22 lbs. butter from 415 lb. milk in 7 days, is still the Canadian record. This dam has a wonderful capacity, a massive udder, and a net-work of heavy veins on both udder and abdomen, that even as a heifer invariably called forth the remark from most prominent breeders that they had never seen its equal. She was sired by a bull great DeKok 12th's Mutual Bull, a bull with three 20,000 lbs. daughters. Her dam is the well-known 20,000 lb. cow, Hauer, whose second daughter in milk has just completed an official record of 34 lbs. butter in 7 days, 192 lbs. in 30 days; 192 1/2 lbs. milk in one day, 2,055 lbs. in 10 days, and 2,138 lbs. in 30 days. Her 30-day butter record, and exceed that of any other milk records, exceed that of any other three-year-old in Canada. This gives Hauerward the maximum of record, not only being the highest semi-official milk bull producer in Canada, for yearly work, but also the dam of 3 daughters (the first in milk) that are both Canadian champions in several divisions.

DeKok Mutual Count is sired by a son of Dutchland Sir Henserveld Macleod, 19 A.R.O. daughters, and the great old foundation cows of the A. D. Forster herd, Helena DeKok's DeKok, a world record cow at 14 years, for milk and butter, and dam of the 100 lb. cow Helena Keyes. The recent 800 lbs. in 7 days, Sr. 4-year-old, the champion heifer of New Zealand, and the several 30 lb. cows and 20 lb. heifers, are all maternal descendants of old Helena. In breeding, therefore, DeKok Mutual Count is the only bull in Canada whose dam and dam's dam have produced over 20,000 lbs. milk in one year, semi-official test. The individuality of this bull is particularly good, and he has already sired a fine bunch of daughters owned in herds where they are just ready to be developed. Patrons of the McElroy dispersion sale will do well to consider placing this fellow in their district either privately or by co-operative means.

Keep the date—June 14—open. If you few breeders can afford to be anywhere other than at Chertsville. The catalogue are ready, and can be secured by writing Mr. McElroy.



MAKE YOUR BIKE

A MOTORCYCLE

with all a standard outfit on delivery, an attachable seat, 17 1/2 HP. 100 cc. motor. Write today for the FREE BOOK describing the SHAW Bicycle Motor & Motorcycle. Also catalogues, new and old case lists. Write for detailed information and a free copy of the book.

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PATENTS IN ALL COUNTRIES

Book "Patent Protection" Free
BABCOCK & SONS
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SHIP YOUR BUTTER & EGGS

to us. We are not commissionaires. We pay net prices and remit promptly.

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Established 1854. TORONTO, ONT.



QUEEN'S UNIVERSITY KINGSTON ONTARIO

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MEDICINE EDUCATION
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Mining, Chemical, Civil, Mechanical and Electrical Engineering.

HOME STUDY

Arts Course by correspondence. Degree with one year's attendance.

Summer School Navigation School
July and August December to April
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Bone Spavin

No matter how old the animal, how lame the horse, or how many doctors have tried and failed, our

Fleming's
Spavin and Kingbone Paste

is the only cure guaranteed—your money refunded if it doesn't make the horse go sound. Applied by a stick or minute application—occasionally by a plaster, new and old cases alike. Write for detailed information and a free copy of

Fleming's Vast-Packed
Lithiated Liniment

Ninety-nine per cent. of all cases of Spavin, Kingbone, and other ailments of the horse, cured by Fleming's Vast-Packed Lithiated Liniment. Send for this book before you try any other kind of horse medicine.

FLEMING BROS., Chemists
83 Church Street Toronto, Ont.

HYLO SILO

Sweet Fresh Ensilage down to the last forkful

THE HYLO SILO is a fully airtight, No. 1000 or 2000 gallon capacity silo. It is made of galvanized iron and is perfect fitting down to the last forkful. Made of Corrugated Iron and Tinned Steel. Has a double door and a double door.

Send for price and catalogue. Write for price and catalogue. Write for price and catalogue.

Chas. H. Co. Ltd. 47 York St. Toronto, Ont.

Market Review and Forecast

TORONTO, June 4.—The most striking news of the week is the break in wheat prices, the increase in visible supply being largely responsible. The Winnipeg market shows a net decline of over 25 cents. The present situation is rather erratic. Dealers do not know where they are at. The proposed action on the part of the government has not materialized, and millers are quietly reporting developments. Old World crop conditions and crops are about average. Spain, Holland, and other smaller countries report a little above average acreage sown. France, Great Britain and Italy a little below. Government control in Great Britain will have a bearing on prices. It is proposed that other cereals be mixed with wheat to make it go. This dilution of wheat cannot help but cause a dropping off in prices. Ideal growing weather during the past week has caused a good deal of buoyancy amongst city consumers. Fine weather will bring around the new sown cereals as well as the winter wheat. New pasture is coming along fast, and less resulted in a drop in milk feeds, butter, etc.

Government buying has prevented as big a decline as otherwise would have been the case. Wheat which declined 15 cents, and is now steady. Good growing conditions prevail throughout America, and the indication points to a large cereal crop. This optimistic feeling is having its effect on prices. Quotations follow: No. 1 northern, \$2.65; No. 2 winter, \$2.46; No. 3 winter, \$2.43. **COARSE GRAINS.** Prices have declined slightly on all line along fine, and we can look for further sagging in prices. Quotations

SPRINGBANK AYWRESHRES
For sale. One choice yearling bull; a few bull calves from 3 to 6 months old; also a few choice heifer calves. All are bred to color and type, and from R.O.P. dams.
A. S. Turner & Son, Ryckman Corners, Ont.

HINMAN THE UNIVERSAL MILKER
Hundreds of Hinman operators make extra profits each month. Saving unnecessary costs of hired men to milk.
Canada's shrewdest dairymen buy the Canadian Made Machine. THE HINMAN is a Simple and Safe machine.
Write for Catalogue "D" and see who use HINMAN.
H. F. BAILEY & SON GALT - ONTARIO
Manufacturers Under Hyman Patents

19 Years' Success
at
\$60.00 per Unit

Jerseys
Victoria County
We are offering a splendid young Registered Jersey Sire—neat and trim—of the highest breeding.
Henry Glenning & Son, Manitoba, Ont.
Ready for Service

AYRSHIRES
FAIRMOUNT AYWRESHRES
Mature cows and young stock for sale always on hand (both sexes) from large Jersey producing high testing cows, sired by Robin Hood of Fairmount, Imp. U.S.A. No. 4934, son of the famous Netherhall Robin Hood, Imp. No. 2573. Inspect herd or write for particulars.
B. J. TAYLOR
AYERS CLIFF, QUE.

LAKESIDE AYWRESHRES
A select lot of young bulls, all ages, sired by Auchincbrain Sea Foam (Imp.) 35758 (8965), Grand Champion at both Quebec and Sherbrooke, from Reberd of Performance Dams. Write for catalogue.
Proprietor: **GEO. H. MONTGOMERY, Dominion Express Bldg., Montreal.**
Manager: **D. MCARTHUR, Phillipsburg, Que.**

LAKEVIEW HOLSTEINS
Are still in the lead. The latest Holstein year book shows that they hold able at both Toronto and London Exhibitions, 1915 and 1916. Now we are offering several richly bred young fellows that are looking forward to buy the 1917 winner.
Don't miss this opportunity. Act quick, and plan to spend a day at Lakeview. Terms cash or time.
Major E. F. OSLER, Prop. Bronte, Ont. T. A. DAWSON, Mgr. Merrickville, Ont.

CLEAR SPRING FARM HOLSTEIN HERD HEADER
Korndyke Burke Hst Lsb, No. 31608, born April 19th, 1914. Grandson of Pontiac Korndyke, and his dam has record of 691 lbs. milk, 25.5 lbs. butter in 7 days. To avoid in-breeding, have decided to let him go. He or his offspring, regarding this bull.
J. C. JAKES MERRICKVILLE, ONT.

HOLSTEINS
Could save 10 cows or heifers bred to the Great Bull KING REGIS DOWN. Myrtle Cliff. Manchester, G.T.R.
R.M. HOLTRY, Port Perry, R. R. 4

Registered Holsteins
Bulls from one month to 17 months old for sale. All from our grand herd here. Echo Segis Fayne, whose sire is half-brother to Segis Fayne Johanna, the world wonder, that has just made a record of 50 lbs. in 7 days. If you or your acquaintance, regarding this bull.
JOHN M. MONTLE, Sunnyside Stock Farm STANSTEAD, QUE.

CLOVER BAR HOLSTEINS
A choice bull calf born March 17, 1917, whose three nearest dams average 30 lbs. butter in 7 days and 100 lbs. milk a day; also a few others from I.R.O.M. dams.
P. SMITH, R. R. 3, STRATFORD, ONT.

RIVERSIDE HOLSTEINS
For Sale, Choice Young Bulls, sired by King Johanna Korndyke, a brother of Pontiac Lady Korndyke, a 50.33 butter in 7 days, 166.92 lbs. 30 days—world's record when made. females bred to "King".
J. W. RICHARDSON, CALEDONIA, ONT.

MR. HOLSTEIN BREEDER
It is customary in selecting a herd sire to choose one backed by great records. Do not forget the individual. We breed to a standard for INDIVIDUALITY and PRODUCTION. Our best sire, our first-meat sire from the National and Western Fair, 1916, with a Can. Cham. 3-year-old over 30 lbs. cows, or from King Sylvia Keyes, whose 20 nearest relatives average for 7 days, 29.97 lbs. butter and whose dam, 3 generations average 112.5 lbs. of milk per day. A L PAULT/LESS INDIVIDUAL. Correspondence solicited.
W. G. BAILEY Ont Park Stock Farm, R.R. No. 4 PARIS, ONT.

HIGHLAND LAKE FARMS
Herd sire, AVONDALE PONTIAC ECHO (under lease), a son of MAY ECHO SYLVIA, the world's record cow for milk production and Canadian sire of one hundred individual daughters of a 22.21-lb. cow. Our herd sire, KING REGIS, brother to the sire of three world's record cows—the SEIGIS PONTIAC CANADA, a half brother to AVONDALE PONTIAC ECHO, interests you. Write for prices on either male or female.
R. W. E. BURNABY, (Farm at Stop 55, Yonge St. Radial), Jefferson, Ont.

HIGH-CLASS YOUNG SIRE FOR SALE

Born Feb 13, 1916, fit for service. A grandson of the famous MAY ECHO SYLVIA. SIR ECHO SYLVIA HENGGRIVELD is a grand individual, good enough for any herd. Sired by AVONDALE PONTIAC ECHO, the 41-lb. sire. His dam is the great show cow PRIDE HENGGRIVELD LEINNOX, with records as follows: At just four years 29.53 lbs. At barely five years 29.55 lbs. and again at five years 30.12 lbs. She is a granddaughter of the great KING REGIS. A BARGAIN FOR IMMEDIATE SALE.

H. Lynn, Manager. **AVONDALE FARM** A. C. Hardy, Proprietor.
BROCKVILLE, ONT.

LAKEVIEW HOLSTEINS

Are still in the lead. The latest Holstein year book shows that they hold able at both Toronto and London Exhibitions, 1915 and 1916. Now we are offering several richly bred young fellows that are looking forward to buy the 1917 winner.
Don't miss this opportunity. Act quick, and plan to spend a day at Lakeview. Terms cash or time.
Major E. F. OSLER, Prop. Bronte, Ont. T. A. DAWSON, Mgr. Merrickville, Ont.

CLEAR SPRING FARM HOLSTEIN HERD HEADER

Korndyke Burke Hst Lsb, No. 31608, born April 19th, 1914. Grandson of Pontiac Korndyke, and his dam has record of 691 lbs. milk, 25.5 lbs. butter in 7 days. To avoid in-breeding, have decided to let him go. He or his offspring, regarding this bull.
J. C. JAKES MERRICKVILLE, ONT.

HOLSTEINS

Could save 10 cows or heifers bred to the Great Bull KING REGIS DOWN. Myrtle Cliff. Manchester, G.T.R.
R.M. HOLTRY, Port Perry, R. R. 4

Registered Holsteins

Bulls from one month to 17 months old for sale. All from our grand herd here. Echo Segis Fayne, whose sire is half-brother to Segis Fayne Johanna, the world wonder, that has just made a record of 50 lbs. in 7 days. If you or your acquaintance, regarding this bull.
JOHN M. MONTLE, Sunnyside Stock Farm STANSTEAD, QUE.

CLOVER BAR HOLSTEINS

A choice bull calf born March 17, 1917, whose three nearest dams average 30 lbs. butter in 7 days and 100 lbs. milk a day; also a few others from I.R.O.M. dams.
P. SMITH, R. R. 3, STRATFORD, ONT.

RIVERSIDE HOLSTEINS

For Sale, Choice Young Bulls, sired by King Johanna Korndyke, a brother of Pontiac Lady Korndyke, a 50.33 butter in 7 days, 166.92 lbs. 30 days—world's record when made. females bred to "King".
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R. W. E. BURNABY, (Farm at Stop 55, Yonge St. Radial), Jefferson, Ont.

VILLA VIEW OFFERS FOR SALE

choice bull calves all sired by our \$2,000, 35 lb. ALCAZARITA Bull. The demand has been greater than the supply. 60 head in the herd and only 5 ARBOGAST BROTHERS, Sebringville, Ont.

DAIRY PRODUCE.

Weather conditions have been very favorable this past week. New butter coming it has brought prices down two cents. We can look for further slight decline if weather remains good. Quotations are: Creamery prints, fresh made, 42c to 44c; creamery solids, 41c to 42c; cheese dairy prints, 38c to 40c; twine, 25c.

ordinary dairy prints, 34c to 36c; bakers', 30c to 31c.
The cheese auction still shows a dead lock as far as board trading is concerned. Some private sales are reported, but few board sales. Export demand is weak, and the board are waiting for the commission to act. Cheese, new large, 32c to 26c; twine, 25c to 26c; June, large, 30c to 31c; twine, 25c to 26c; June, large, 30c to 31c.

LIVE STOCK.
Cattle prices have been steady during the past week. Butcher cattle have been in good demand. Extra choices steers went for \$12.75, but slight demand for stockers and feeders. Hogs and spring pigs in strong demand. Pork prices remain unweakened. Quotations follow:
Cattle heavy \$11.85 to \$12.25
do good 11.50 to 12.00

Butchers' choice handy 11.75 to 12.00
do good 10.75 to 11.25
do common 9.25 to 10.00
Butchers' bulls, choice 10.25 to 11.00
do good 9.50 to 10.25
do medium 8.50 to 9.25
Butchers' choice cows 10.25 to 10.75
do good 9.25 to 9.75
do medium 8.00 to 8.50
Feeders, 900 to 1,000 lbs 9.25 to 9.75
do medium, 700 8.00 to 8.75
pounds 8.00 to 8.75
Stockers, 700 to 900 lbs. 7.25 to 7.75
do medium 6.50 to 7.00
Canners 6.00 to 6.25
Hogs, good to choice 8.50 to 9.00
do com. and medium 6.00 to 6.50
Springers 60.00 to 120.00
Calves, veal choice 10.00 to 11.50
do medium 10.00 to 11.50
do common 6.00 to 7.50
do grass 6.00 to 8.50
do heavy fat 7.50 to 10.00
Sheep, yearlings 14.50 to 15.50
do clipped 12.50 to 13.50
do common, unclipped 12.50 to 13.50
do culs, unclipped 2.50 to 3.00
*Sheep, ewes, light, unclipped 12.00 to 13.00
do heavy and bucks 4.00 to 7.00
do culs 1.50 to 1.60
Hog, fed and washed 16.50 to 17.00
*Unclipped sheep are selling at \$2.50 to \$3 per cwt. higher than clipped.

FOR SALE

Odd Lots FENCING And Odd Size Gates

In the course of the year we find on our hands a large number of gates made wrong size by mistake, and also some sizes we do not now list. We also, in the same way, accumulate a stock of odd-sized rolls of fence, and special styles.

The following is a partial list. We will mail a complete list to any fence or gate user applying.

Freight paid to Old Ontario stations on lots amounting to \$10.00 or over. For delivery in Quebec and Maritime Provinces add 10%.

Order by lot number. Better give second choice. Will divide lots when desired.

FENCING

The following 3 lots are excess amounts of fences made on special orders, are first class and perfect in every particular. All No. 2 gauge, with stays 22 inches apart. All in 40-rod rolls.

LOT 1—300 rods, 8-bar, 32-inch hog fence spacing 3-3 3/4-4-5-7-7 inches at 4c per rod.

LOT 2—350 rods, 7-bar, 44-inch, spaced 1-5/8-7-8 1/2-9-9 inches at 35c per rod.

LOT 3—280 rods, 7-bar, 44-inch, spaced 2 1/8-3 3/8-4-5 1/2-6 1/2-7 1/8-8 1/2-9 at 62c per rod.

The following fences are first-class, but mostly in odd size rolls. These are all No. 2 gauge, stays 22 inches apart.

Medium Weight Fence.	24	26
14	20	36
15	26	42
16	10	21
18	200	8
20	37	25
21	20	8
22	40	25
23	8	44
24	7	44
25	8	44
26	8	44
27	8	44
28	8	44
29	8	44
30	8	44
31	8	44

LAWN FENCES.
Remnants of 20 to 50 feet. Not painted. Will paint white or green for 2c foot additional.

1. Bagel Style.
20" 30-inch, per foot \$0.07
21" 30-inch " " .09
22" 30-inch " " .11
23" 30-inch " " .13
24" 30-inch " " .15
25" 30-inch " " .17
26" 30-inch " " .19
27" 30-inch " " .21
28" 30-inch " " .23
29" 30-inch " " .25
30" 30-inch " " .27
31" 30-inch " " .29
32" 30-inch " " .31
33" 30-inch " " .33
34" 30-inch " " .35
35" 30-inch " " .37
36" 30-inch " " .39
37" 30-inch " " .41
38" 30-inch " " .43
39" 30-inch " " .45
40" 30-inch " " .47
41" 30-inch " " .49
42" 30-inch " " .51
43" 30-inch " " .53
44" 30-inch " " .55
45" 30-inch " " .57

2. Climax Style.
20" 36-inch, per foot \$0.11
21" 36-inch " " .13
22" 36-inch " " .15
23" 36-inch " " .17
24" 36-inch " " .19
25" 36-inch " " .21
26" 36-inch " " .23
27" 36-inch " " .25
28" 36-inch " " .27
29" 36-inch " " .29
30" 36-inch " " .31
31" 36-inch " " .33
32" 36-inch " " .35
33" 36-inch " " .37
34" 36-inch " " .39
35" 36-inch " " .41
36" 36-inch " " .43
37" 36-inch " " .45
38" 36-inch " " .47
39" 36-inch " " .49
40" 36-inch " " .51
41" 36-inch " " .53
42" 36-inch " " .55
43" 36-inch " " .57
44" 36-inch " " .59
45" 36-inch " " .61

GATES

The following gates are first-class, but are mostly odd size or odd style, or an overstock.

The first dimension is the space between posts the gate will fill. The second is the height. Prices include hinges and latch. Can supply any two fitted as one double.

Lot No.	Length	Height	Style	Price
53	2	2 ft. 6 in.	30	Page
54	2	1 ft. 6 in.	34	Climax
60	2	5 ft. 6 in.	36	Page
62	4	5 ft. 6 in.	36	Acme
64	2	4 ft. 6 in.	36	Acme
67	2	6 ft. 4 in.	20	Acme
74	7	6 ft. 6 in.	67	Page
81	5	6 ft. 6 in.	36	Acme
85	2	12 ft. 0 in.	36	Page
89	15	4 ft. 6 in.	36	Page
91	30	4 ft. 6 in.	36	Page
92	2	4 ft. 6 in.	36	Page
93	13	7 ft. 0 in.	48	Page
98	2	8 ft. 0 in.	42	Page
102	3	11 ft. 0 in.	42	Page
103	3	8 ft. 0 in.	40	Acme
104	3	8 ft. 0 in.	36	Climax

AMEL POULTRY NETTING

24-inch, per 150-ft. roll \$2.50

THE PAGE WIRE FENCE COMPANY LIMITED.

WALKERVILLE ONTARIO

HILLSIDE DAIRY FARM BIG DISPERSION SALE

50 Head

Record Holsteins at Chesterville, Ont.

THURSDAY, JUNE 14, 1917

The present seems to be an opportune time for the man, who is in a position to carry on dairying, to get a start in breeding pure bred cattle, and for the older breeder to strengthen his herd with the introduction of new blood, because of the splendid demand ruling for dairy stock and dairy products. The Hillside herd occupies an enviable position on account of the exceptionally high records in R. O. P., six of our cows having produced, under official test, over 20,000 lbs. milk each in one year. No other herd of any breed in Canada has been able to duplicate this record.

DEKOL MUTUAL COUNT

our herd sire, is without doubt one of the greatest black and white bulls in Canada, the combined records of his dam and granddam being unequalled by any other dam and daughter in Canada. He has headed the Hillside herd for three years, and his offspring in the sale include 13 daughters, and 8 sons. ALL THE FEMALES OF BREEDING, with the exception of one or two of his daughters, HAVE BEEN BRED TO HIM.

If you are interested in buying a few head bull along lines giving greatest results in production of milk and butter fat, it will pay you well to make arrangements to attend the Hillside Farm Dispersion Sale. SALE COMMENCES 1 O'CLOCK P.M., SHARP, THURSDAY, JUNE 14th. Farm is located one and a half miles west of Chesterville. Suitable conveyances will be given on approved joint notes. TERMS OF SALE—Four months' credit without interest will be given on approved joint notes payable at the Bank of Ottawa, Chesterville, or 6 per cent. per annum will be allowed off for cash.

WRITE FOR CATALOGUE.

W. A. McELROY, Prop., Chesterville, Ont. THOS. IRVING, Auctioneer, Winchester, Ont.

CHEESE BOARD SALES.

London, Ont., May 27—2,000 boxes offered. No sales. Bidding at 21c.
Belleville, May 26—2,100 boxes offered. 1,100 boxes sold at 20 1/2c.
Stirling, May 31—340 boxes offered; no bids, no sales on board. Three hundred sold at 19 1/2c off May 30.
Woodstock, May 30—Hoarded 2,315 boxes of coloure cheese. The price bid was over 2c less than last week. It was 10c on the first call, and the same on the second. On the 3rd day buyers refused to raise the bid, and the factorymen took the cheese home.
Perth, Ont., June 1—625 white and 200 coloure. No sales; no bids.
Victoria, Que., June 1—Three cars of cheese loaded will be sold in Montreal at market price. No market for the Cheese Board held.
Alexandria, Ont., June 1—866 boxes of white offered; no sales on board.
Cambridgeford, June 1—1,076 boxes hoarded; 80 boxes sold at 17c.
Napese, June 1—1,530 boxes white and 265 boxes coloure. No bids, no sales.
Ipswich, June 1—1,705 boxes of coloure and 50 white. No bids, no sales.
Tipton, June 1—705 boxes of cheese, all coloure, 1,190 sold at 19c; balance un-sold.
Montreal, June 1—There was a keener demand for cheese, but prices were lower. At the auction sales, 10c cheese sold at 20 1/2c, which is 5-16c per pound lower than on Monday.

THE OAKVILLE SALE.

ELLSWHERRE appears the announcement of the first sale of the Ontario Sale and Pedigree Company, to be held on June 20th at Oakville, Ont. The high standing and reputation of the consigners as breeders of Black-and-Whites is a guarantee of the quality of the animals that will be offered. An opportunity is here offered for young breeders and beginners with pure-breds, to purchase some excellent foundation stock. Forty head will pass under the hammer, including a 2-year-old son of King Seals Pontiac-Kentien, the \$25,000 sire. Our readers should note the announcement and send to the address given, for a catalogue.

A CANADIAN HOLSTEIN CHAMPION OF GOLDEN MILK.

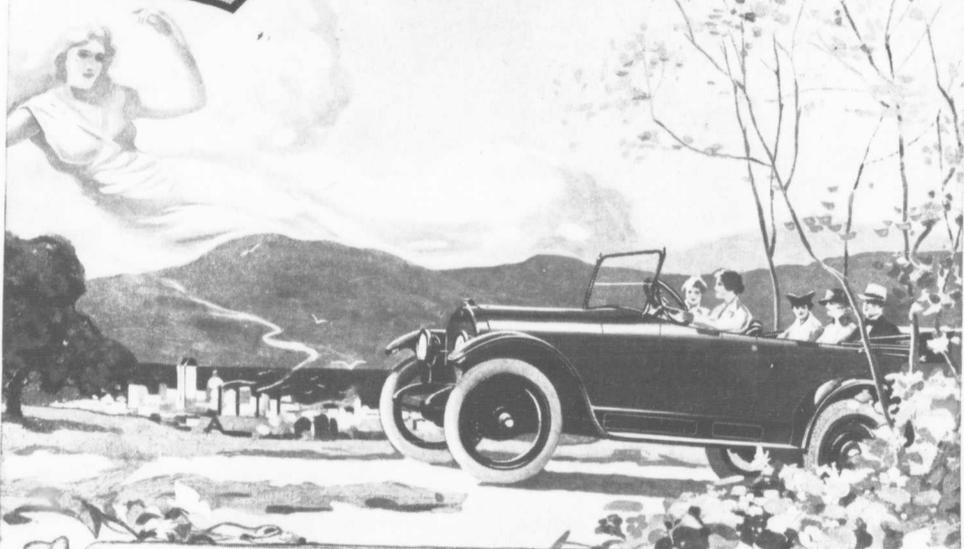
MR. HAROLD BLORE, Riverton, Pictouburg, South Africa, writes: "You may be interested to know that a cow of mine has just become the champion milk cow of South Africa, and that she was imported from Canada. She was exhibited at Pretoria, and at two milkings in twenty-four hours yielded 75 1/2 lbs. of milk testing 3.6 per cent. fat. She had been changed two weeks before the three milkings, to the order to meet the conditions of the trial, which took place under the rules of the British Dairymen's Association. One point was allowed for every pound of butter fat, with penalties for the milk being under 2 per cent. or the milk being other than fat under 8 per cent. But the cow incurred no penalties, and she was awarded to be the highest milk producer to be gained in the Union of South Africa. At home, in her own shed, she had for about a month been giving between 80 and 90 lbs. of milk per day. The long railway journey and the changed conditions of life and feeding, not to mention the discomfort of being produced by curious sightseers, were responsible for the shortfall!"

BIG PRICES FOR HOLSTEIN-FRIESIAN CATTLE IN ENGLAND.

At a sale of Holstein-Friesian cattle in A. Crew, recently, by Messrs. John Thornton & Layman, Miesel, Albert, a bull bred in Holland, was sold for 600 guineas; another, a Northdown, 600 guineas; and others fetched 200 guineas and downwards. A cow, Colton Dairy Girl, fetched 375 guineas.

Overland

TRADE MARK REG.



All out of doors coaxes, teases and invites you to get an Overland

There's one for you. See the Willys-Overland dealer today — let him show you the most comprehensive line of cars ever built by any one producer — make your selection now.

Catalog on request. Please address Dept. 921

Willys-Overland, Limited
 Head Office and Works West Toronto, Ont.

Willys-Knight and Overland Motor Cars
 and Light Commercial Wagons

Light Fours	
Five Passenger Touring	- - - - - \$275
Two Passenger Roadster	- - - - - \$250
Four Passenger Sport Model	- - - - - \$1110

Big Fours	
Five Passenger Touring	- - - - - \$1250
Three Passenger Roadster	- - - - - \$1230

Light Sixes	
Five Passenger Touring	- - - - - \$1435
Three Passenger Roadster	- - - - - \$1415

Willys-Knights	
Seven Passenger Four, Touring	- - - - - \$1950
Seven Passenger Eight, Touring	- - - - - \$2730

All Prices f.o.b. Toronto
 Subject to change without notice

How You Can Invest Provincial Funds Profitably Upon Your Own Farm---Now

By Draining Your Low, Wet Fields---It Will Pay You and It Will Pay the Province

Why It Will Pay You

Because you can borrow funds through your Township Council from the Provincial Government up to \$1,000 for drainage purposes at 5% on the amortization plan.

Because at this rate for \$100 you borrow you will have to pay but \$8.05 annually for 20 years, at the end of which time the debt will be wiped out. Because under average conditions \$100 will pay for the drainage of 4 acres—thus the average yearly charge per acre will be but \$2.00.

Because accurate experiments on nine different representative farms in widely separate parts of the province proved last year that an average increase in crop values of over \$8.50 an acre was secured by under drainage.

Because as an investment the annual expenditure of \$2.90 for borrowed money on the 20 year amortization plan with an \$8.50 annual return—well, it can't be beaten. Because by investing your own money in under drainage you can secure dividends of at least 15% to 20% on your capital.

Why It Will Pay the Province

Because Ontario has about 5,000,000 acres of cleared land in need of drainage, and Ontario has an equal acreage of unreclaimed land, which, if drained, would grow splendid crops.

Because if an average increase of \$8 an acre were thus obtained in Ontario's crops—really this estimate is very low—the people of Ontario would have increased revenues amounting to \$80,000,000 annually.

Because this is a practical way to increase the production of foodstuffs at a most critical period in the life of the nation.

How It Will Increase Your Profits

Drained soils are invariably cultivated from a week to ten days earlier than the same soils not drained. This means a longer period for seeding and consequently more acreage can be cropped with the same number of horses and men and with much less labor per acre.

Drainage makes thorough tillage possible. The moisture content of a soil is the key to its successful cultivation, and upon the condition of the seed bed chiefly depends the successful production of crops. Less plant food is lost from a drained soil than an undrained soil.

Undrained soils are notoriously cold soils. Water is one of the most difficult substances to heat. It requires more heat to evaporate one quart of water from a soil than it does to evaporate a quart of water from a tea-kettle.

This heat is lost to the germinating seeds.

In 1915 weather conditions permitted both drained and undrained land to produce heavy crops. In the fall the heavy rains prevented the harvesting of many acres of undrained fields. In some districts only the crop on the drained land was saved. In 1916 the excessive June rains proved most conclusively the value of under drainage—ask the few who are selling wheat and potatoes to-day about it.

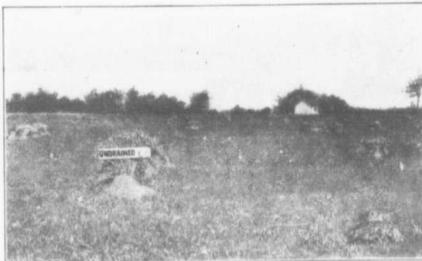
Practical Timely Hints

Tile Supply.—In 1854 Ontario had one machine manufacturing tile on a commercial basis. In 1917 Ontario has 246 tile manufacturing plants, the majority of which are manufacturing clay tile. This is wonderfully significant. We have made progress in the past—that is the best guarantee we shall make greater progress in the future.

Labor Saving Devices.—The traction ditcher has almost entirely replaced the old hand method of cutting trenches for tile drains. The work of the ditcher is entirely satisfactory, and is more economical than hand labor. In 1904 Ontario had one machine. In 1917 Ontario has 160 machines, each capable of cutting 70m to 150 rods of completed trench in one day.

To get in touch with the tractor owner nearest your farm write your District Representative. He will tell you—that's his business.

Open Ditches.—Those which serve as outlets for large acreages can be made most profitable to the individual owner if this system of drainage is supplemented by tile drainage on his farm. Such open ditches remove only the surplus water and leave areas situated at some distance from the ditch still saturated.



This field does not pay for its tillage.



This field was a poor producer until tile drained.

How the Department Helps

The Department of Agriculture, through the Ontario Agricultural College, will give to the farmer expert advice re planning of drainage systems, and where necessary will furnish a map showing location of drains, size of tile and other detailed information necessary for the installation of drainage systems. This work is done free of charge in Counties supporting a District Representative. A nominal fee of \$2 or less is charged in all other Counties. 320 visits were made in 1916 and 15,900 acres of farm land surveyed for drainage purposes.

The Ontario Government will lend to the farmer wishing to drain, a sum of money at 5% equal to 75% of the total cost of the drainage scheme, providing such sum does not exceed \$1,000 to any one man. This money is repayable in twenty or ten equal annual payments. Each payment equals \$8.92 in the case of the twenty year loan, and \$12.95 in the case of the shorter term.

If you wish immediate, practical, timely information upon:

The details of the Government loan arrangement.

How to secure a loan for drainage purposes.

How to secure a drainage expert to make a survey of your farm, services free.

Any point regarding the interpretation of the drainage laws.

How to secure an outlet.

How to get in touch with a traction ditcher.

How profitable drainage would likely be on your particular farm.

Any specific question regarding the installation of drains according to your particular requirements.

Where and how best to secure tile according to your locality.

Or any other practical question concerning farm under-drainage, write the office of the Commissioner of Agriculture, Parliament Buildings, Toronto, Ont.

When writing for information kindly give full details regarding your particular problem and conditions. Otherwise the reply cannot be other than of a general nature.

For full general information, write the office of the Commissioner of Agriculture for Bulletin 174—"Farm Under-drainage—Does it Pay," and Bulletin 175—"Farm Drainage Operations."

The Ontario Department of Agriculture
PARLIAMENT BUILDINGS, TORONTO

SIR WM. H. HEARST
Minister of Agriculture

G. C. CREELMAN
Commissioner of Agriculture

