

# MICHIGAN FARMER

AND LIVE STOCK JOURNAL.  
PUBLISHED WEEKLY. ESTABLISHED 1843.

The Only Weekly Agricultural, Horticultural, and Live Stock Journal in the State.

VOL. CXL. No. 6.  
Whole Number 3629.

DETROIT, MICH., SATURDAY, FEB. 8, 1913.

50 CENTS A YEAR.  
\$2 FOR 5 YEARS.

IT is a common thing for the grower of truck crops to find that some of the vegetables in the row rot badly very early in the season. This trouble is especially frequent in cabbage and head lettuce, while it is not rare in any of the common vegetables. The rotted vegetables are characterized by a disagreeable odor which comes from the decaying of the material and the nature of the rot itself is characteristic. The name Soft Rot describes very well the condition of the affected plants since they seem to melt down and become a soft, mushy mass. Very frequently, these ill-smelling masses are alive with insects, no doubt attracted by the very strong odor. These insects working and burrowing into the mass and then going to other plants undoubtedly are a factor in the transfer of this disease along the rows.

#### Cause.

Bacteria cause the soft rot of these vegetables. Experiments have shown that one species is especially concerned with this trouble and the species is the same on all the common vegetables. These germs are able to produce a substance which destroys the material which cements the cells of the plant together. This dissolving of the cementing material causes the plant to lose all semblance of firmness, and it becomes the slimy mass that has been referred to. Of course, this work of breaking down the plant is an enormous task considering the size of the organism doing the work but what is lacking in size is made up by numbers of the germs. Each ounce of rotting material contains billions of these small organisms and hence a vegetable inoculated with this trouble is doomed. If any grower doubts this, let him watch the progress of the soft rot once started in a locality, and he will note that the gradual transference of the trouble from one plant to another by insects or by cultivation, eventually causes a rotting of many plants in the vicinity of the original infection. A little of the material

## Soft Rot of Vegetables.

from a rotted plant may be pricked into a healthy plant and in this way, the infectious character of the disease can be noted. The pictures which illustrate this article, with the exception of the cabbage, were produced by artificial inoculation. A pure culture, that is, the growth

tures of the germ is shown in the cuts.

#### Control.

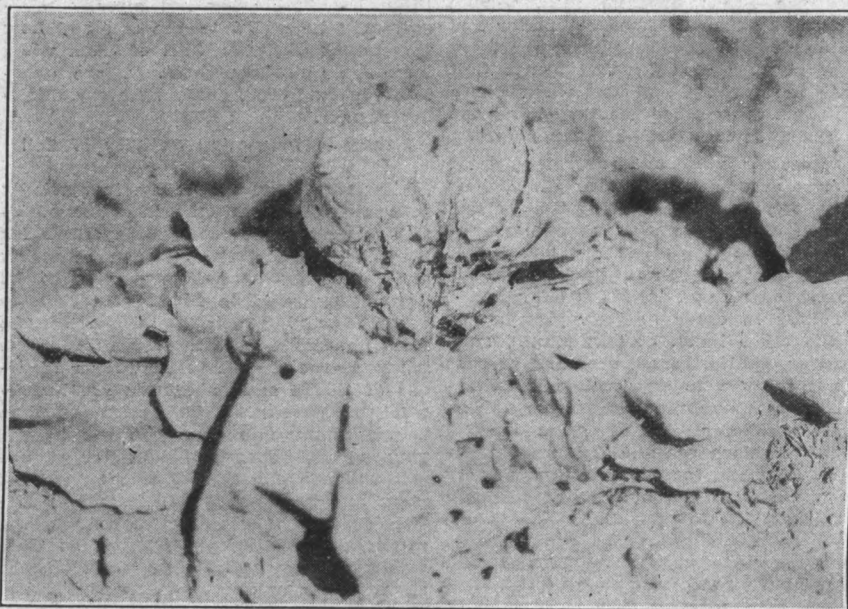
To control the soft rot of vegetables, the general proposition of removing the diseased plants whenever they are seen is the best recommendation. If the grower realizes the possibility of transferring

recommended but it is much easier to remove the source of infection in this case than it is to attempt to control all the insect visitors. In lettuce, it has been found that planting close in the row favors very much, the rotting. Just why this is depends perhaps on many factors, among which might be mentioned the extra tenderness of the plants grown in such surroundings and also the greater possibility of passage of the disease from one plant to another.

#### Damage.

Considering any one field of cabbage or any plot of lettuce, the amount of damage done by soft rot is small, that is, it will rarely show up more than five per cent in any field of cabbage, and in the case of lettuce, it frequently only attacks the outer leaves, leaving the central head all right and fit for sale. Yet this small percentage in each field is sufficient to make a considerable difference in the yield and when you consider the loss for the many fields in the state, the disease becomes one which is worth fighting and as has been said, the control measure is a very simple one. During the first of the season, there perhaps will be only one head of cabbage which will show these symptoms and prompt eradication of that plant from the field and burning will do much to reduce the rot in the fields.

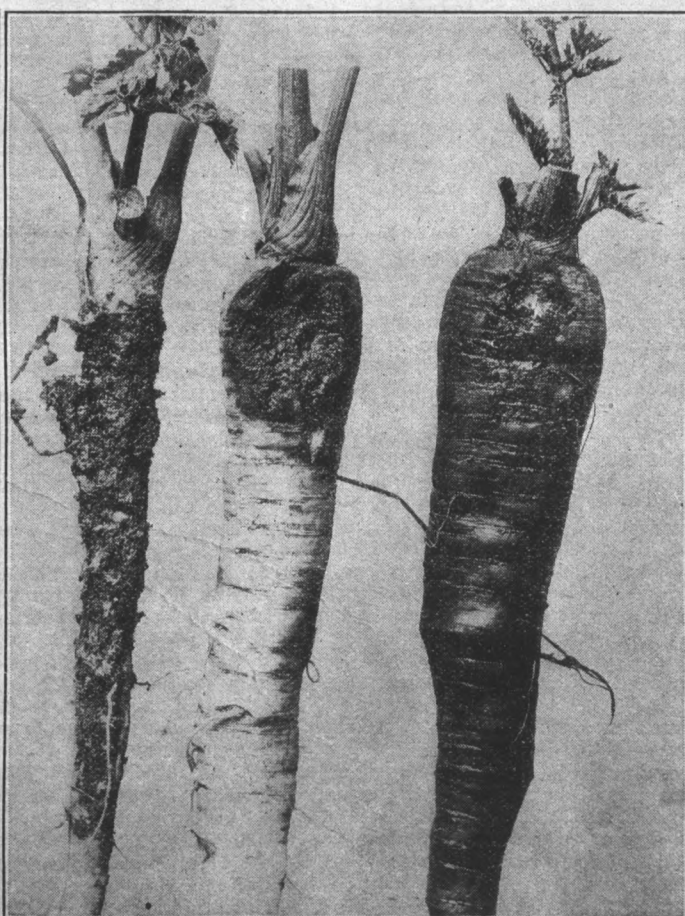
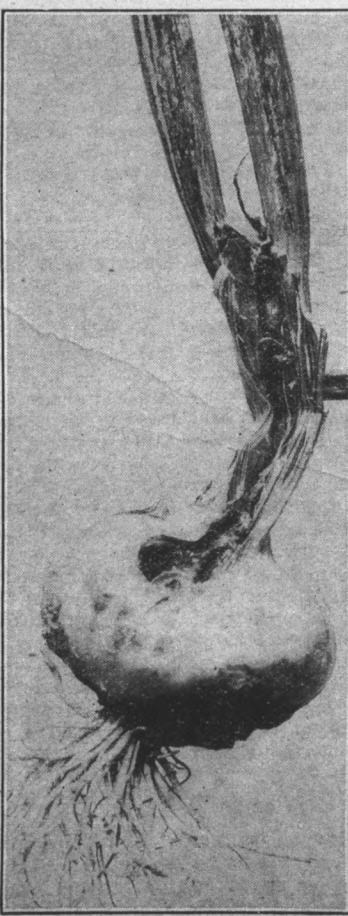
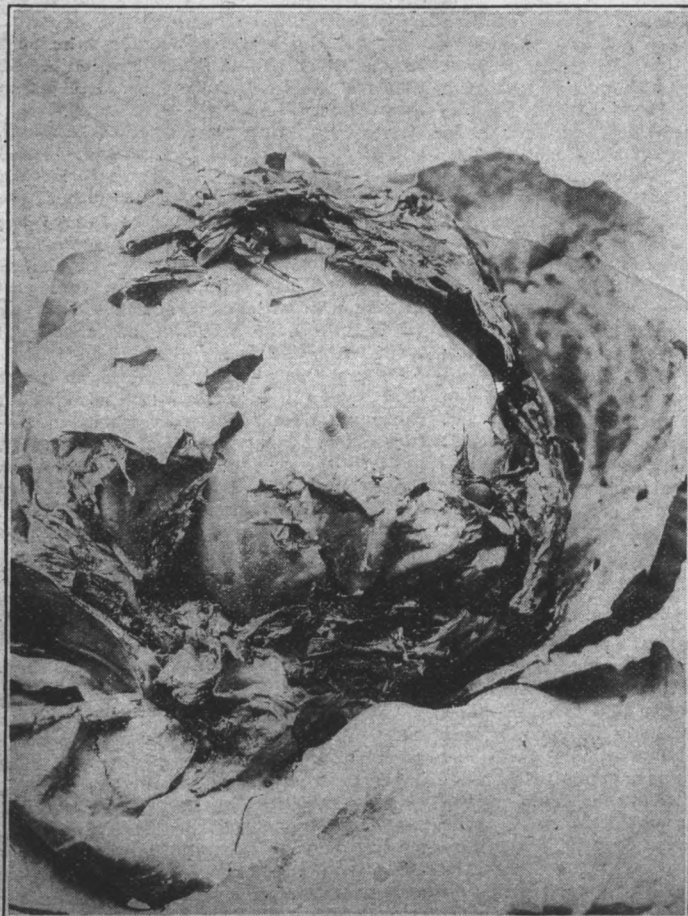
Many people who read about plant diseases, especially plant diseases caused by bacteria, immediately become greatly alarmed, no doubt because the word "disease" is used in this connection. So far as is known, the plant disease bacteria do not cause diseases of the human body and while it is a debated point whether sewage bacteria can live upon and be carriage by plants grown in sewage-polluted fields, nevertheless, in no other way so far as is known, do plants become a factor in carrying the organisms which cause human diseases. Plant bacteria are of importance, not through any possibility of causing disease in human beings but because they cause a great economic



Soft Rot of Cabbage in Fields. Outer Leaves Removed to Show Rotted Stalk.

of the organism free from all other germs was obtained by the ordinary bacteriological methods. This organism was cultivated on various food materials and a small amount—just what could be carried on the point of a needle—was pricked into healthy vegetables in the garden. The result of this inoculation with pure cul-

ture of the soft rot from one plant to another; if he will remember that plants do not rot unless the germs are carried to the plant and inoculated into it, then he will realize the importance of keeping the fields clean and free from these sources of infection. In general, any method which keeps down insect attack is to be



Soft Rot of Cabbage, Onion, Parsnip and Carrot Produced by Inoculation, the Result of Inoculation Showing the Infectious Character of the Disease.



loss to the state, a thing which has an effect on the farm profits and on the price which the consumer must pay for the goods.

Mich. Ag. Col.

G. H. COONS.

#### A PRACTICAL, HOME-MADE DEVICE FOR LEVELING TILE DRAINS.

With the winter months shortening into weeks it will soon be time to commence spring work and one of the first requisites to secure a maximum yield from our fields is to insure their proper drainage.

Hoping that the readers of the Michigan Farmer can obtain some useful information from some of my past experience with digging ditches for tile, I will tell what we have done in the last year.

Last March we set about draining a low hole in the old-fashioned guesswork style and when the hired man told me he was through I went down to look the job over. Where the ditch ran through the lowest part of the hole or low spot, the bottom of the ditch was only about ten inches deep and from all I could see there was no more fall to be had. But knowing that something had to be done before we could lay tile and have them do any good we went back over the ditch twice and finally got about two feet fall instead of ten inches. Well, we laid the tile but this set me thinking that there must be some way for we farmers to cut out the guesswork in laying our tile and still not have to buy an expensive leveling instrument or hire a surveyor at a large wage. I thought of all the leveling arrangements I could think of until one day I saw a couple of masons leveling up, for a foundation, with a length of hose and two water gauge glasses.

Needless to say, this was just what I was looking for, so I immediately bought two steam engine water gauge glasses, 3/4x16 inches, and with an old 50-foot piece of hose I had all that was needed to make a water level. To make, take a 50-foot length of hose and couple the two ends together; be sure there is a rubber washer in the coupling so there will be a water-tight joint, then cut the hose in the middle, that is, half-way from the coupling, and insert a water gauge glass in each end and twist a wire around the top of the hose to hold the glass in tight. Fill the hose with water with a funnel until the water shows well up in either glass, and it is ready.

In leveling a ditch start at the outlet and drive a stake every 45 feet the entire length of the ditch, then on the first stake driven make a mark about five feet higher than the bottom of the ditch. Now hold one end of the hose at the first stake and have someone else hold the other end against the second stake and when the water in the glass is even with the mark on the first stake have the man at the second stake mark half an inch above the water in his glass—this gives you half an inch fall every 45 feet. Do the same on up the ditch. When you get ready to grade the bottom of the ditch set a stake opposite each of the first stakes driven, drive a nail in these stakes level with the marks on the opposite stakes, then nail laths across so the bottom of the lath is resting on the nail and even with the mark on the other. These are called rainbows and can be pushed up out of the way, when digging past the stakes. Now if the bottom of the ditch is to be five feet below the bottom of the rainbow cut a small pole five feet long and if, for instance, you are midway between two rainbows and you want to see if the bottom is down to grade sight over the top of the pole; if it is in line with two of the rainbows ahead the ditch is deep enough, and so on until the job is finished.

Last fall we laid nearly a thousand feet by this method, laying the tile on boards, and they are working fine. I also, just out of curiosity, leveled up the ditch described above which we laid by guesswork. We lost 13 1/2 inches, not counting the necessary fall. This shows the wisdom of leveling a ditch. Tile is a permanent improvement and should be laid very carefully. They should be doing perfect work when a hundred years old.

Van Buren Co.

H. M. ARNOLD.

Too much emphasis cannot be placed on the fact that tile draining is a permanent improvement. If the work is well done it is certain to be a profitable investment on all lands which would be improved by artificial drainage, but the cost is too great to make careless work profitable.

—Eds.

## Maintaining Soil Fertility-IV.

At the present time we are beginning to appreciate the fact that the soil, instead of being a dead, inert thing, holding mere chemical compounds to be assimilated and made alive by plants, is teeming with bacterial life. These bacteria are the agents that tear down the dead bodies of animals and plants and restore the elements of plant food to the round of nature. The processes of nature are such that atoms of plant food are repeatedly used, passing in endless cycle from plant to plant, or from plant to animal and back again to plant, but always with the intervention of bacteria. While our knowledge of bacteria in the soil has not advanced to the point that positive conclusions can be made in other than a limited way, still, the results have such an important bearing upon the nitrogen content of the soil that they must be considered before we can adopt a rational rotation of crops.

Nitrogen is the most important and expensive food material that is required by plants. A plant cannot acquire nitrogen by absorption through the leaves, nor can it take uncombined nitrogen through its roots, and yet a plant would perish unless nitrogen existed in some readily obtainable, combined form within reach of its roots. On the other hand, experience has shown us that, though nitrogen is such an important factor and so difficult to obtain by plants, yet there are a number of cultivated plants that obtain it somehow, and that when grown in a rotation or otherwise they leave the soil richer in this element than before.

The cereals, roots and tubers are great nitrogen consumers, for they draw their supply from the soil, leaving it poor and depleted in nitrogen after repeated croppings. These crops suffer starvation if the soil does not contain sufficient available nitrogen, and it must be supplied artificially in order to grow such crops. On the other hand, certain plants, such as clover, alfalfa, beans, peas and vetches do not respond to applications of nitrogenous manures, yet they seem to obtain large quantities by some natural means. Besides containing large quantities of nitrogen, these plants in some way actually add to the amount of nitrogen in the soil. It was the study of this one group of plants that first brought into prominence the importance of the soil. These plants have the power of obtaining atmospheric nitrogen through enlargements upon the roots called tubercles or nodules, which are caused by bacteria. These bacteria gain admission to the plant through the root hairs, and rapidly increase in numbers. The irritation thus caused usually results in the formation of a nodule on the root joint.

#### Nitrifying Bacteria Promote Soil Fertility.

From a study of bacterial considerations it follows that one of the primary conditions for the transformation of nitrogen into a form available for growing plants is the presence of nitrifying bacteria in the soil and favorable conditions for their growth. The generality of soils have these nitrifying bacteria already present, so that the stimulation of their activities is needed, more than the addition of more bacteria. If it is necessary to supply more of the nitrifying bacteria, this can be readily done by the use of farm manure, which contains them in abundance. The question, therefore, of the greatest importance is how these nitrifying bacteria in the soil can be made to act upon the store of organic matter in the humus. The fact that these nitrifying bacteria and the nitrogen-fixing bacteria require about the same soil conditions for their proper development and work simplifies the question to a great extent. They must have suitable temperature, moisture, movement of the air in the soil, some base for their products to combine with, and likewise some food. In other words, our little friends and helpers, the soil bacteria, demand as conditions of doing their best for us that the physical and chemical conditions of the soil be favorable. These little helpers are far from idle when there is any work to be done. They must have food and at times must have it abundantly. They must get this food from the soil. How rapidly they work may be shown by the rapidity with which they use up a piece of animal or vegetable matter when buried in the soil. Soil bacteria, like other organisms, have a definite problem of existence, which is met by the conditions they find in our soils. At times one species of bacteria predominates in numbers and activity; at other

times, under different conditions, other species will predominate. If the bacteria which set up certain activities predominate the value of the soil is enhanced, when other classes predominate the reverse is true. Every farmer should consider the conditions which meet the requirements of the various soil-improving bacteria, and especially those over which the man who manages the soil has some control. The importance of soil bacteria is apparent when we see that the soil would not grow staple crops without the work of these organisms.

#### Nitrogen a Most Important Factor in Plant Nutrition.

While it is possible that these organisms, or bacteria, are as important to the mineral elements of fertility as to the nitrogen of the soil, yet the problem of securing and transforming nitrogen is of greater significance to the fertility of the soil. The nitrogen in the soil is rapidly lost unless the best methods are employed in its management and for that reason it is more important that we devote our attention to promoting the development of the bacteria that act favorably upon the nitrogen and its various compounds, than upon the mineral constituents of the soil and plants.

It is a practical question to learn how these bacteria, being not already present, may be added to the soil and how we may make the best of them when they are already present. These questions demand close study by every thinking farmer.

#### Means of Promoting Activity of Soil Bacteria.

Most soils tend to become increasingly acid under cultivation. The accumulation of acid is extremely unfavorable for bacterial life and the nitrogen gathering and nitrifying bacteria are first to be harmed by it. The addition of lime to correct existing acidity is one of the most important steps in preparing for the improvement of such soils. Proper methods of tillage and cultivation are beneficial to bacteria. The action of lime brings about numerous changes in the physical and chemical character of the soil which are beneficial to all forms of plant and bacterial life in it. The addition of lime is of direct benefit to the nitrifying bacteria, which form as their product nitric acid. This, like all acids, if present in any amount is very harmful to bacterial life and, if not neutralized by a suitable base, would soon kill the bacteria which produced it. Where a base, like lime, is present for neutralizing the nitric acid, these little organisms can continue their work almost indefinitely, provided they have raw material to work with. There are very few soils which lack the proper bacteria for carrying on these processes. All they need is drainage, tillage, organic matter and sometimes lime.

There has been much misuse of lime by farmers who have not had an understanding of its action. It must be kept in mind that, lime, although an essential element of plant food, cannot replace nitrogen, phosphoric acid or potash in the promotion of plant development. As a direct food for general farm crops it is seldom needed, but for the legumes—such as clovers, alfalfa, peas, beans and vetches, its use is generally imperative for the best returns where the soil is not well supplied with lime.

#### The Role of Lime in Soil Fertility.

As a rule, the most profitable results from the use of lime have been on soils that have been allowed to get in a bad physical shape or to become sour or acid because of large accumulations of organic matter, poor drainage or insufficient aeration brought on by poor tillage and cultivation. On such soils lime will frequently increase the crop yields without the addition of any nitrogen, phosphoric acid or potash. In addition to supplying plant food and improving physical conditions of soils, lime hastens the decomposition of organic matter in the soil, liberating much of the inert or locked-up nitrogen in the organic matter of humus. Also the supply of stored-up potash and phosphoric acid is acted upon by lime and a decidedly larger per cent is brought into an available form for plant growth. Lime hastens to exhaust soil constituents rather than build up the soil, especially if used year after year without the addition of any other fertilizing material.

The time for applying lime depends to a great extent upon soil conditions and systems of crop growing practiced, how-

ever, when other conditions are right the fall or early winter is the best time to put on the lime, especially if the caustic or slaked form is used. If the carbonate of lime is used, it may go on in the spring with less danger of injury to the crops than when the other forms are used. If lime is applied properly in the fall ample time is afforded it to become well mixed with the soil before spring. The carbonate or air-slaked form of lime does not act so quickly or energetically as the caustic forms.

As a general rule, the best results come from applying lime broadcast and thoroughly disking it into the soil. The quantity of slaked lime to use to the acre varies with different crops and soils. About one thousand to three thousand pounds or its equivalent of some other form to the acre will give the best results. Lime should be applied alone, never mixed with any other fertilizers, before being applied. Properly used to encourage the development of helpful bacteria and to promote the growth of clover and other nitrogen-gathering crops, lime will be a mighty factor in the work of improving our soils.

New York.

W. MILTON KELLY.

#### SOY BEAN CULTURE.

Plow your land early in the spring, selecting land that is not too foul with weeds, work well with disk and harrow until a firm seed bed, with the surface loose and melting, is secured. Prepare as for corn, giving frequent harrowings to kill the weeds as they appear. We always plant our soy beans in rows and they should be planted so as to have a plant on an average of every two or three inches in the row and the rows 30 to 36 inches apart. We plant them 36 inches apart so that the cultivation can be more easily accomplished, though they do well and have room to develop in 28 inch rows.

I consider it very important to plant seed of good quality. Soy bean seed, unless it is fresh and has been properly stored, is very apt to be low in germination. It is also important to plant shallow, about one inch, and not to exceed one and a half inches in depth; too deep planting gives bad results. A bushel of good seed is sufficient to plant from two and one-half to three acres if in cultivated rows.

The cultivation of soy beans is a simple matter. Unless conditions are very unfavorable, the plants appear above ground in a week and tillage may be begun. I practice level cultivation as the harvesting can be more easily done than if the rows are ridged. Comparatively poor land is preferable to too rich soil; the yield is heavier and the habit of the plant is better on poor ground than on rich. We have raised soy beans in Wayne county successfully for the last two years and consider them a valuable crop. Soy beans make excellent hay and for dairy cattle at least yield results equal to alfalfa hay.

To get the best hay from soy beans I believe they should be cut when about half the pods are full grown, but before they begin to change color in ripening. Our horses were very fond of the hay, cut and cured in this way. They looked well and felt well as it seems to have a tonic effect, and stock fed either the grain or the forage becomes full of life and energy as with no other grain that we have ever used. I consider soy beans as one of the coming crops, and any farmer who will test them as thoroughly as I have done will not be willing to farm without them.

Do not wait until too late to plant them. The best varieties require about the same time as corn in which to mature grain. They will stand quite a frost, both in the spring and fall. Of course, the ground should be warm when they are planted so they will come up quickly. The crop needs about as many cultivations as corn, but the work must be done while the plants are young, for as soon as the buds appear cultivation must cease if you wish to successfully grow soy beans, as the roots spread out and are near the surface and are easily disturbed.

Wayne Co.

J. P.

When you can buy your weekly state farm paper at 50 cents a year, an even dollar for two years, \$1.25 for three years, or only \$2.00 for five years, you certainly need not look elsewhere for your farm paper. If your subscription expires with this issue send your order at once so you won't miss any copies. Tell your friends about it, too; you will be doing them a favor.



## OUR RECLAIMED SWAMP LANDS.

Among the many improvements of this section of country, there is nothing that adds more to the general appearance of the country than the draining, clearing and improving the tamarack or muck swamp. Not only has the appearance been improved but the general health and comfort of the inhabitants has been greatly benefited. Swamps which but a few years ago were filled with stagnant water the year round and were the home of snakes, frogs and turtles, and were breeding places for mosquitos and malaria, are now raising good crops, there being hardly a trace left of their former dismal appearance.

Experience has proven that without proper drainage good results can not be obtained. To take the water from the first foot of earth is not enough. Deep tile draining is necessary.

There are several good examples of what can be done with the muck swamps in this neighborhood. A tamarack swamp of over 700 acres was thought to be worthless. It was first surface drained by the county to improve or make the surrounding country more healthful. Portions were cleared and cropped, but, on account of the water lying so near the surface the crops amounted to little or nothing and, the ground being wet and cold, the crops generally froze. Finally men took hold of the matter with a will and put in drains as mains running out in different directions. One long drain with tile 22 inches in diameter was laid through a hard clay bank where it was necessary to dig nearly 30 feet deep for several rods. On this drain one man

this is done the land will produce as good as ever; if not done a water hole will be the result.

New swamps when first broken up and before the drains work or draw the water off, are soft and miry, and in order to work them it is necessary to shoe the horses with what are called paddles, which are made of inch boards about eight inches square and clamped to each foot, but when the muck settles and drains draw off the water loads can be drawn over these same places in wet times that could not be drawn over clay fields.

Hillsdale Co.

W. G. BOYD.

## THE LATH AND PLASTERED OR CEMENT-LINED SILO.

I have been much interested in your writings in the Michigan Farmer, especially in regard to the lath-and-plaster silo. I should like to build one this year and have forgotten the suggestions you made in regard to building one. Would you kindly send me an outline as to how to build one, or answer in The Farmer. Would like to know especially about the door frame and how close to put the hoops together.

Oscoda Co.

R. S.

You build the foundation wall for a lath and plastered silo just the same way you would for any silo. Then put a circular sill on the wall, set up the studding on either side of the doorway, put them the proper distance apart, which would be about three feet so that you will have an opening that a man can get in and out of easily. Set these two studding bevel-ways so that the opening will be a little narrower on the outside than on the inside of the silo. This is done

by cutting it into these short lengths there will be no trouble in getting the lumber to fit. Nail them quite securely to the studding and when you get through plaster it with a good coat of cement made by mixing two parts good clean sharp fine sand with one part of cement. Sheet it up on the outside, not with common clapboards, because they won't go on readily, but take 6½-inch lumber and have it ripped to make 6x¼-inch material and jointed, to use on the outside. The boards will come close enough together so that there will be no openings sufficiently for snow or rain to get in in quantities to cause any damage, and lumber in this way will go on readily without any trouble, while if you get common clapboards where one edge of it is thicker than the other and attempt to lap them they will not go around in a straight line on your silo and you will have trouble.

Make your doors out of common matched lumber by cross-boarding them with tarred paper between. Then saw the edge of your doors so that they are a little beveled and will fit into the beveled door frames. Have them big enough so that they will just come flush with the inside of the silo after it is plastered. Make each door to fit each place and number them so that when you want to put them in again you will know just where each door belongs.

For the top of the silo or roof of the silo lay two 2x8's across the top of the silo three feet apart and toe-nail them. Then between there and the edge of the silo on either side put a 2x6 and a 2x4. This will make a roof with a little slant from the center. Cover towards each side with any smooth lumber and put on common paper roofing which will be sufficient. On top of the 2x8's which go through the center set two 2x6's and fasten them to the 2x8's. Then make a cap for this opening in sections, out of common matched lumber. Make it just large enough so that it will fit down over the 2x6's which set on top of the 2x8's. When filling the silo have the opening across the silo open at one end where you want to set your ensilage cutter and put the spout into the end of this opening then you don't have to have any dormer window. You can fill the silo full and when it is full put on the cap.

COLON C. LILLIE.

## IS IT BEST TO SEED ALFALFA WITH WINTER RYE OR WITH OATS?

Would like to sow some alfalfa in the spring. I have two pieces of ground, one piece of about three acres, where I had beans last year. I have sowed this field to rye and have not seeded it yet. This ground is clay loam. I have another piece of about three acres where I had potatoes. This ground is sandy loam. I am going to sow it to oats in the spring. Both pieces are well drained. Which would be the best field to sow to alfalfa? Both of these pieces were heavy sod last spring.

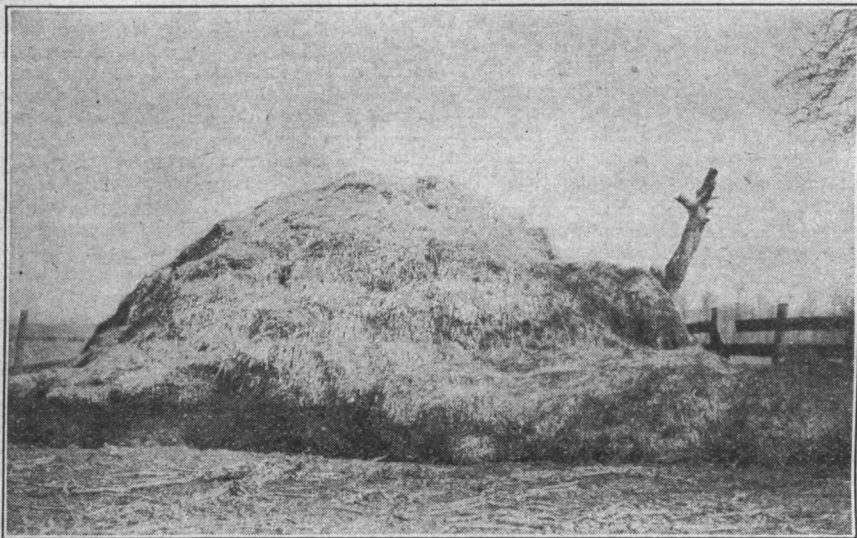
Lapeer Co.

G. A. S.

We haven't got to a point yet in this country where we can recommend seeding alfalfa on a rye field sown last fall the same as you would common red clover. I think the principal reason is because our soil is not thoroughly inoculated with the alfalfa bacteria. In my opinion, after we get to growing alfalfa and it has been in a rotation of crops on all the fields so that we have the soil well inoculated we can seed our winter wheat to alfalfa and be just as sure of a crop of alfalfa as we are now in seeding to red clover. Alfalfa has to have a little bit better chance because it isn't helped the way red clover is by soil inoculation.

There is one objection to seeding alfalfa with oats in the spring and then harvesting the oats. You are more apt to get a good catch and a thrifty growth of alfalfa if you fit up this land and sow it to alfalfa alone without any oats, or if you will sow one bushel of oats to the acre and then when they are in the milk cut them off for hay and get them off before the hot, dry weather comes that takes the moisture from the alfalfa. Alfalfa seems to be a little bit more tender to start than red clover, I think, as I said, largely because the soil is not inoculated and it doesn't get this natural help.

I wouldn't care to risk a full seeding of alfalfa on this rye field. If I was going to do anything I would mix alfalfa with red clover. You are pretty sure of getting a crop of red clover and some of the alfalfa probably will grow, and this will help inoculate the soil. I am doing this with all my seedings at the present time. I would not hesitate, however, to seed alfalfa in the oat field by seeding one bushel of oats to the acre and then fertilizing well. Where the soil is not inoculated we have got to put the ground



A Waste of Valuable Absorbent Material Rarely Seen on an Up-to-date Farm.

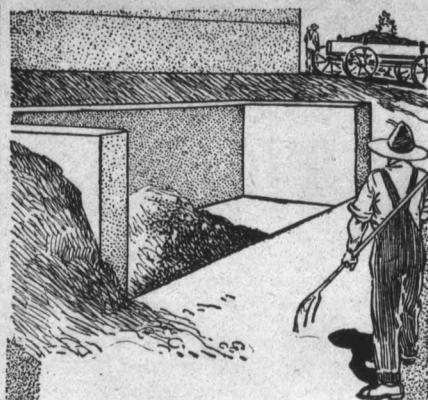
was taxed over \$800. This swamp is now all cleared and well drained. Good crops of all kinds are grown upon it. Although small grains do not always stand up well.

These lands are occupied by good farmers with good productive farms. They have good farm buildings and in several instances good cellars under their houses. Among them they have three peppermint stills. They raise more garden truck than is raised on any other land of same area in the country.

Another swamp was tiled four years ago, the main being a county drain with large-sized tile at no place laid less than five feet below the surface. Seven acres of this swamp has been in corn for the past three seasons, the second crop of corn taken from this seven acres after it was cleared filled two silos, the size of each being 10½x37 ft. on the inside. One of these silos was refilled after settling and three loads of corn were left that could not be put in. The third crop was nearly as good.

The muck in these swamps varies both in depth and quality, it being but a few feet deep in places and no one knows how deep in others. Some is black, fine and loamy; in other places light and spongy and light brown in color. The former is much the best, but with tillage and continual rotting it will all become alike. As yet no lime or commercial fertilizer has been used, but it has been found that after continued cropping stable manure applied is of much benefit. In nearly all cases marl is found below the muck around the outer edges of these swamps, varying in depth from one to six feet.

Fire does great damage to the muck swamp, the drained ones especially. I have seen swamps burned over and the strings of tile laying over the surface, the fire burning as far as drained. In such cases the only thing to do is to deepen the outlet and drain as before. If



## Concrete Manure Pits

The old fashioned way of dumping manure into an ordinary hole in the ground, or into a wooden bin, is rapidly giving way to the modern concrete manure pit. A concrete pit holds the valuable fertilizing juices—keeps the manure rich—increases its value 10% to 50%. And

## LEHIGH PORTLAND CEMENT

is the best all-round cement for concrete work on the farm. Specify Lehigh and you are following the example of leading engineers who have chosen Lehigh for big jobs after exhaustive tests. The trade mark on each bag is your sure protection.

## Two Books on Concrete FREE

These two books should be read by every progressive farmer in the country—they will save you money. The first, "The Modern Farmer," describes over 20 different farm uses of concrete, while the second, "Concrete Silos," is full of valuable information on silos. Send to the Lehigh Portland Cement Co. 3362 People's Gas Bldg., Chicago 11 mills, 11,000,000 Barrels Capacity 78



## EXCELSIOR ALFALFA AND CLOVER DRILLS

Guaranteed without Reservation to any reputable farmer for drilling

## Clover in Wheat

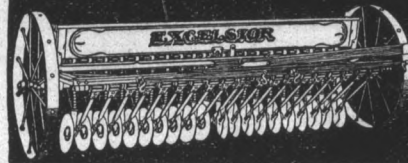
Cultivates your wheat without injury and increases yield 3 to 7 bu. per acre. Saves half your seed and secures far better stand than by any other method. The Excelsior is sold with this understanding. Records from reliable farmers show that they have paid for the Excelsior with what they saved in seed alone.

## The Excelsior is the Original Drill

with the discs 4" apart for the proper planting of alfalfa, clovers, timothy, rape, millet, etc.

Write for full information now! Our SPECIAL BOOKLET #96 has proved invaluable for others—it will for you; it shows conclusively WHY the Excelsior is the one best drill for such costly seeds. Our literature mailed only on request.

**Velvetlawn Seeder Co.**  
Springfield, Ohio



## Know You're Right

Weigh your grain, stock and coal yourself and know positively you're getting a square deal.



**The McDonald Pitless Scale**  
weighs accurately every day in the year. Protected bearings cannot freeze. No pit required—everything above ground. Steel frame—steel joists—10 year guarantee. U. S. Standard. Used for weighing U. S. Mails. Flying Dutchman Dealers sell them. **FREE BOOKLET.** Write today. **MOLINE PLOW CO.** Dept. 26 MOLINE, ILL.



## The Chance to Save the Dollar



IT is right here. Your seed is right, your cultivation is right, and the weather is right, or a bumper crop; but if the manure or fertilizer is not right you stand to lose the bumper crop even if you do succeed in making a small one. It is up to you to feed

for a big crop, if you expect one, for your soil, filled though it may be with plant food, cannot furnish enough available plant food, and will not yield a large crop what it requires. That is where

### A. A. C. Co. Fertilizers

do their work.

#### THERE IS GOOD PROFIT IN BEANS

"Growing beans as a cash crop is my hobby. I have fertilized beans for eight years, and what I know I have learned by experience.

I am going to sow fifty acres of beans this Spring. Some of the ground is very poor. On the poorest I will sow 300 pounds of Fertilizer broadcast with a drill and work the ground in good shape, and then when I sow my beans will sow 200 pounds more per acre on each side of the beans, making 500 pounds per acre on the poorest ground.

My experience in growing beans has taught me to use a quick acting fertilizer with high percentages of Nitrogen, Phosphoric Acid and Potash. Last season on a soil that would not grow ten bushels of beans per acre, by using 500 pounds of A. A. C. Co. High Grade Fertilizer I grew 27 bushels per acre.

Don't be satisfied with 10 or 11 bushels per acre. If your soil is not too heavy, and if you get it rich enough, you can grow 30 to 40 bushels per acre. I am speaking of pea beans. Sow three pecks to one bushel per acre according to size of beans. Above all, don't use cheap fertilizers, for they are too dear to buy." (Name given on application.)

We want agents for unoccupied territory. Write us for particulars.

**The American Agricultural Chemical Co.,**

D Detroit Sales Department, Detroit, Mich.

## THE CLIPPER EXCELS

### THE MOST PROFITABLE WORK THAT CAN BE DONE ON THE FARM

Is to select and clean all seeds and grains for sowing. This will improve the quality of the seed and bring it up to the highest standard. It will improve the quality, increase the yield and free your land from foul weeds. For this reason you should reclean all clover and other seeds that you buy before sowing. This is just as important as it is to clean your seed, grain and corn from your granary before sowing.

Every farmer knows that **Large, Plump, Heavy** kernels of seed, grain or corn will produce more and stronger plants, which will increase the yield and improve the quality. Admitting that this will benefit your crop only 10%, what would be your gain for one year? To say nothing of ridding your land of foul weeds, etc.

The U. S. Agricultural Dept., State Experimental Stations and all Prominent Seed Houses use the "CLIPPER" Cleaners for doing just this kind of work and recommend them.

**BECAUSE** their experience has proven The "CLIPPER" to be the **Most Successful Machine for Grading and Cleaning All Seeds and Grains.**

This machine will do the same high-grade work as our large \$400 machines. **We Guarantee Satisfaction. Prepay the Freight. Give Thirty Days' Free Trial. You To Be The Sole Judge.**

Three factors stand out prominently in farm progress—the soil, the working of same and the seed; none of which can be neglected, if bigger and better crops are aimed at. Distributing points in every grain growing state. Shall we send you our catalog and terms?

**A. T. FERRELL & COMPANY, - Saginaw, Mich.**



## Make Your Own Drain Tile

### THE FARMERS' CEMENT TILE MACHINE

Makes tile 3 to 8 inches in diam., 12 1/2 inches long. One man or boy operates it by hand or power. 500 tile per day by hand, 1,200 by power. Tile thoroughly cured by patent process. No tamping or use of pallets. This machine and tile used by Experiment Stations of Agricultural Colleges and the U. S. Dept. of Agriculture. 5,000 farmers have doubled the yield of land by underdrainage, and saved 75% of cost by using our Machine. You can do the same. Save cost of hauling and breaking. Make perfect tile \$3 to \$5 per thousand. MACHINE SOLD DIRECT FROM FACTORY TO YOU. **TEN DAYS' FREE TRIAL.** SEND NOW for 36-page Illustrated Catalogue. Tells you about great benefits of underdrainage, how to take levels and get grades, make and lay your tile at low cost.

**FARMERS' CEMENT TILE MACHINE CO.,**

Box 307, ST. JOHNS, MICH.

in good condition and fertilize it well if we want to get the alfalfa to grow thriftily. On rich land, land that has been kept up in splendid condition, or on land when it is well fitted and heavily fertilized with stable manure or commercial fertilizer we don't have practically any trouble in getting a good growth of alfalfa. It seems to like to grow on rich soil. If the soil is rich it will establish itself and will furnish its own inoculation afterwards. Mr. S. could seed both of these fields or either one of them to alfalfa in another way. After harvesting the rye he can go on and fit up this soil, plow it if necessary, otherwise fit it with a disk or cutaway harrow, make a good seed bed, and then in August seed it to alfalfa. He could do the same thing with the other, take off the crop of oats first, and then fit it and seed it. That is a good way to seed common red clover although it is not a common way in this country.

COLON C. LILLIE.

#### THE FARMER'S INVENTORY.

Webster defines business as, "That which occupies the time, attention and labor of men, for the purpose of profit or improvement." A business man is one who conducts a business. Then it naturally follows, the business farmer realizes a profit on his labor and investment and keeps constantly improving his farm. Neither the agriculturist who does not profit by his labor nor the one who constantly lowers the fertility of his farm year after year, can be said to be in business.

On nearly every farm, poultry, swine, sheep, cattle, horses and other products are raised. If the farmer has made a profit, ask him from which of these interests it came. In most cases, he will not be able to tell you. Without doubt, he has lost out in some of these lines. If he only knew which line had returned the profit, the others might be abandoned and thus his assets would be constantly growing larger each year.

The dealer or manufacturer knows from the first that he is doomed to utter destruction, unless he knows just what profit certain articles are paying him. There is no guess work about it. All is exactness and the best business man is the one who pays the most attention to the details of his work. Search the country over, in small towns and in large cities, during the last week of December and the first week of January, one would find grocers, druggists, butchers, manufacturers, all alike, taking an inventory of their goods yet unsold. On how many farms would the same scrutiny reveal the fact that the owners are taking an inventory of their property? Why not give the same business methods a good try-out on the farm if you are not already doing so? The cost of a trial will not be much, especially at this period of the year when the work is not rushing, and an annual inventory is the first step in adequate farm accounts. In your valuation for the inventory, do not rate the articles at their original market price but on their initial cost with depreciation deducted. Try and get at the approximate actual value of the farm itself and all of the personal property on it. Do not pad the inventory. It is for your own use, and its usefulness will depend upon its fairness and accuracy.

A great deal has been said on this important subject but it will bear repetition. It is pleasing to note that more farmers are each year awakening to the necessity of adopting better business methods and the foremost agricultural colleges in the United States are installing courses in farm accounting. "More power to them."

Ingham Co.

I. J. MATHEWS.

#### MAINTAINING FERTILITY WITHOUT LIVE STOCK.

I read the Michigan Farmer each week with much interest and would like to ask if the following rotation will build up my land, or will it gradually get poorer? Corn with 500 lbs. good commercial fertilizer per acre; oats with 250 to 300 lbs. per acre; wheat with 300 to 400 lbs. per acre, seeded to clover and timothy, cut one year then back to corn, etc. My soil is clay loam with clay subsoil in just a fair state of fertility. If you have an improvement to add to the rotation or the amount of fertilizer, will be glad to hear it.

Allegan Co.

V. A. K.

#### LESS THAN ONE CENT PER WEEK

It is not stated in this inquiry whether the corn and oats and hay are fed to live stock on the farm or not, and since this fact is not mentioned I take it for granted that this land is to be kept up without the addition of stable manure. In

this scheme the plant food is well provided for. The only question is that whether this one clover sod turned down once in three years will supply a sufficient amount of vegetable matter to keep the soil in good mechanical condition, and very much will depend upon how good a clover sod can be grown. Mr. K. says that the land is now only in fair condition, and I expect that probably the clover sod for the first year or two will be none too heavy. It would be a splendid thing to plow down the entire clover crop to get a start in humus and vegetable matter because you cannot get the most from the use of commercial fertilizer unless you have a good supply of vegetable matter in the soil.

I have 120 acres of land that I consider too far away from the stables so that I can profitably use stable manure. It costs too much to haul the manure. And I am practicing much the same scheme on this land that Mr. W. proposes, and I can see that my farm is not only maintaining, but actually increasing, its productive power; that is, I am growing better crops year by year, and it receives no stable manure whatever. Some people will figure out that the plant food supplied in 500 pounds of commercial fertilizer for the corn crop, 200 or 300 pounds to the oat crop, and the same amount or a little more for the wheat crop seeded to clover, will not be sufficient to supply the needs of the crop; that is, in harvesting each crop you will take more nitrogen, phosphoric acid, and potash out of the soil than you put back into it in the form of commercial fertilizer.

But we don't have to put back into the land all that we take out of it to maintain soil fertility. We can depend upon the natural yield of the land for part of the plant food, and we have a right to take the natural yield of the land. The essential elements of fertility constitute a part of the soil itself, and plants themselves have the power of utilizing a certain amount of this inert plant food; indeed, slow-growing plants like trees, can produce their natural growth without assistance from added fertilizer or manure in ordinary normal soil; that is the roots have the power to work upon the inert nitrogen, phosphoric acid, and potash in the soil and get a sufficient ration to produce normal growth. However, when we come to quick-growing plants like corn, and oats, etc., unless we have a supply of available plant food in the soil in addition to the natural or inert plant food in the soil they will not make a maximum growth, in fact, will not make a sufficient growth to produce profitable crops. This fact is well illustrated in the Rothamstead experiments in England. There, on a certain field, wheat has been grown for over 60 years without any fertilizer or any manure. For the first 30 years the average yield was 13.6 bushels of wheat per acre, and for the following 30 years the average yield was a little over 11 bushels per acre. Now in this case it is evident that the wheat plant got its plant food from the inert or natural food in the soil, which constitutes the soil itself, and this we may call the natural yield of the land. Now we have a right to this, and when we take this much from the soil we are not depleting the soil because the soil is good for the natural yield as long as the soil lasts, but this natural yield is not profitable, and so it is the duty of the farmer to supply a certain amount of available plant food to go with this natural yield of the soil to produce profitable crops, and in this case we do it with commercial fertilizer, and the amount proposed by Mr. K., in my opinion, is sufficient to not only maintain the soil fertility but also to increase the crop-producing power of the land. The clover sod that is turned down once in three years in decaying in the soil generates organic acids which act upon the inert plant food in the soil and set free more of this natural plant food, and hence from all three sources; the plant food in commercial fertilizer, the plant food made available by decaying organic matter, and the plant food which the plant itself is able to take from the soil, will furnish a sufficient amount to grow profitable crops the yield of which will increase from year to year, and the soil will be gradually built up to a higher state of fertility.

COLON C. LILLIE.

Is what The Michigan Farmer figures at with the new reduced rates. One year (52 copies), 50 cents; two years (104 copies), \$1.00; three years (156 copies), \$1.25; in five years (260 copies), \$2.00.



## Breeding Draft Horses in Michigan

At the recent live stock meeting, Mr. Wayne Densmore, secretary of the Percheron Society of America, addressed the live stock meeting on the above topic. For the purpose of bringing home his arguments more forcibly for a greater interest in horse breeding in Michigan, he first reviewed the four principal points which he desired to make in his address, as follows: First, the present position of horse breeding in Michigan; second, the status of draft horse breeding in general; third, the adaptability of Michigan to draft horse breeding, and fourth, suggestions regarding the most feasible line of procedure for those who desire to engage in the business.

### Present Position of Michigan in Horse Breeding.

Notwithstanding the fact that Michigan has a reputation of a buying instead of a selling state so far as draft horses are concerned, as revealed by investigations in the market centers of the country, Mr. Densmore called attention to the statistics regarding the value of horses in Michigan as shown by the last census. In 1910 the value of horses in Michigan was more than \$84,000,000, an amount which exceeded the combined value of all cattle, sheep and swine in the state by some \$17,000,000, or more than 25 per cent.

Speaking of the breed which he represents, Mr. Densmore stated that in 1910 Michigan breeders recorded 213 pure-bred Percherons, or two per cent of the total number recorded, which is about the proportionate value of horses in Michigan as compared to horses of the entire country.

In speaking of the particular sections of Michigan in which Percherons are more extensively bred, he stated that the counties of Allegan, Eaton, Kent and St. Clair were the leading counties, with Clinton, Ingham and St. Joseph counties following in the order named. Experience has proven that the production of pure-bred horses follow quite closely the production of market horses, hence these are the counties in which the greatest revenue is derived from this branch of farm production. Michigan as a whole does not produce many draft horses as compared with the number used in the state, yet there is an encouraging indication that Michigan will be a larger producer of draft horses in the near future. Mr. Densmore found this indication in the fact that the Michigan demand for horses in the big markets during the past year ran more largely to heavy chunks and farm mares weighing from 1,400 to 1,500 lbs.

Mr. Densmore stated as his belief that draft horse breeding had not been developed in Michigan as rapidly as in other states largely because of the fact that Michigan farmers had a prejudice against draft horses, being accustomed to the use of lighter horses for the doing of farm work, but believed that a change was rapidly taking place in the general sentiment on this point, as farmers are finding that draft horses are not only more effective for the doing of farm work, but more profitable as well as the selling price of draft colts is taken into consideration.

### Status of Draft Horse Breeding in General.

As the general status of horse breeding is revealed by market conditions, Mr. Densmore referred to the present market demand for horses. The demand for carriage horses and roadsters, he stated to be poor at the present time, due to the development of automobiles as a modern pleasure conveyance, as well as for business purposes. With draft horses and saddle horses, however, present conditions are very different. He stated that buyers in the principal horse-producing sections of the country say that there are few good draft geldings in the country of a mature market age, or four years old, while buyers have purchased many good three-year-olds to fill orders and this class is not plentiful. As to price, he stated that these are higher than for two decades previous, good draft geldings now bringing around \$300, while matched pairs have been bringing as much as from \$750 to \$800. He stated that prices are fully \$50 per head higher this fall than last spring.

In speaking of the competition of the auto truck, which many horse breeders have feared, Mr. Densmore states that this is not serious and probably will never become so since the auto truck is supplementing and not supplanting the draft horse for city use. Investigations have revealed the fact that while the auto

truck is the most profitable method of conveying heavy commodities a distance of three to five miles or further, it is not economic for small radius of operations. Also the farm use for draft horses is increasing as farmers find that the lighter horses do superficial work. The present status of agriculture calls for deep and thorough tillage and the more efficient the horse power the better results will be obtained.

### Adaptability of Michigan to Horse Breeding.

As proof that Michigan is well adapted to the business of horse breeding, Mr. Densmore referred to the fact revealed by the last census figures that while other stock in Michigan has decreased during the past ten years, the horse stock of the state has increased some eight per cent. Another reason why Michigan is well adapted to horse breeding is the fact that the season of the active farm campaign is limited to little more than half the year, and by the raising of fall colts the farm mares can be profitably employed throughout the entire season and will be in condition to do just as effective work during the summer season as though horse breeding was not made a factor in farm production.

Unquestionably the state is well adapted to horse breeding, but in order to make the industry more profitable there should be an effective mixture of brains with the industry, both with the selection of breeding stock and the feeding, care and management of the colts.

### Specific Suggestions.

In outlining his suggestions regarding the most feasible line of procedure in the business of horse breeding, Mr. Densmore took up the question as to whether pure-bred or grade draft mares should be purchased as foundation stock. For the inexperienced man he advocated good grades, which involve a much smaller investment and will be likely to bring as good results. As more experience is attained many will find it profitable to purchase pure-bred animals. He advised the purchasing of mares weighing not less than 1,400 to 1,600 pounds, and would prefer those of still heavier weight. Good grade mares of this weight can be purchased at from \$250 to \$275. From three to seven years old is the best age, as animals of this age have a long period of usefulness before them.

In addition to weight, he laid emphasis on good draft conformation and particularly upon good legs and feet. In this connection of first importance is a well set hind leg with a wide, clean hock, since these are apt to remain sound. The front legs should as well be straight and clean, the pastern moderately sloping and hoof well formed. The animal should also stand straight on its front legs and have a good square gait. Special emphasis was placed on soundness, on which the purchaser should insist, as well as upon conformation and style.

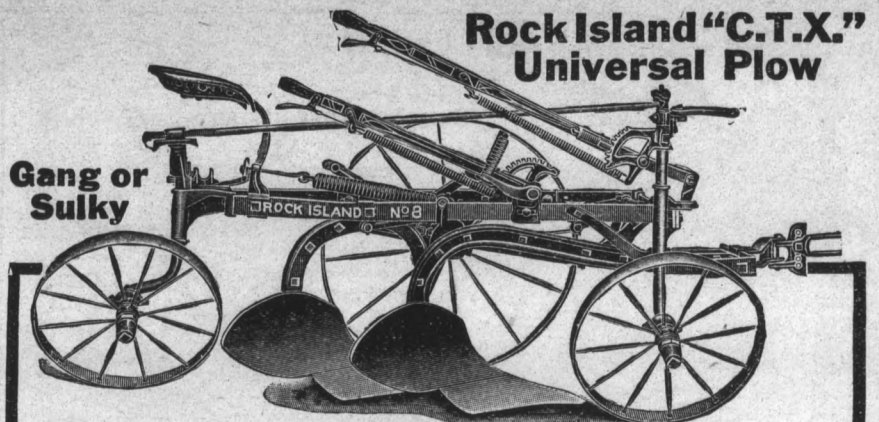
Those who were interested in the raising of pure-bred horses were told that fairly good mares could be purchased for from \$500 to \$800 each and as there are 115 breeders of pure-bred Percherons in Michigan this demand could be largely supplied within the state.

### THE RELATION OF A GOOD BULL TO A PROFITABLE BEEF HERD.

If the yearling bull has had the proper care and treatment he can be bred to a few cows, perhaps two or three, during the season, without any injury. A two-year-old bull can serve from 20 to 30 cows in one breeding season, while a mature bull should be able to serve 75 or 100 in one summer. But individual vigor is a great factor in the breeding power of a bull. One bull may be able to serve, and get with calf several more cows than another, depending on the individual vitality of each. If a bull is too young his vitality is used up and his breeding power may be injured for some length of time.

The feeding during breeding season has a great deal to do with the vigor of the bull. If he is allowed to become too fat he will become lazy and too heavy to handle himself, and also cause the breeding organs to degenerate or weaken.

It is also necessary that the bull have plenty of exercise. Activity depends, of course, somewhat on the bull himself. He should not be too lean at the beginning of the breeding season, or before the end of it he will be so weak that he cannot give good service. A medium condition of fatness during breeding season is to



## Protect Your Crops

### By Doing Away With Dangerous Air Spaces

Many a fine crop has been shortened, yes ruined, because of air spaces left between topsoil and subsoil when plowing. That's why farmers everywhere are discarding ordinary plows and using the "C.T.X." You, too, will realize the economy and advantage of using the Rock Island "C.T.X." Universal as soon as you know all about it.

### Why Air Spaces Prove Fatal

Ordinary plows leave air spaces between the topsoil and subsoil. This is because the slice, instead of being turned clear over flat and being thoroughly pulverized, is crimped up and the dirt falls back in the furrow. It isn't turned completely over.

Then, when a dry spell comes, the crop begins to burn and die, for the moisture from below is cut off completely.

If the topsoil lay flat on the subsoil and there were no air spaces, moisture would come right up from below, just as kerosene comes up the wick of your lamp. Thus, during a long siege of dry weather, when no rain falls for weeks and weeks, your crop suffers but very little, because it will draw on the moisture from below.



AIR SPACE—Ordinary



NO AIR SPACE—"C.T.X."

### How the Rock Island "C.T.X." Universal Plow Ended Air Spaces

Now, the Rock Island "C.T.X." Universal has a very peculiar bottom—corkscrew-like in shape. A perfected, patented shape that is proving a boon to the user.

Instead of throwing the dirt backward and



This Plow Carries Dirt Back Ordinary Plow Throws Dirt Forward

## FREE CATALOG

without extra cost, and also saving labor. Give us your name and address on a card and we will tell you where you can see a Rock Island "C.T.X." Universal and you can judge for yourself, for your own knowledge and experience will show you why you can't afford to use any other. Write these words on a postal: "I am interested in plows." Then sign your name and address and mail to

**ROCK ISLAND PLOW CO., 244 Second Ave., Rock Island, Ill.**

## Rock Island "C.T.X." Universal Plow

upward, this bottom sends the dirt backward and DOWNWARD. (The arrows in the pictures below show how dirt travels over an ordinary bottom and over the Rock Island Universal bottom.)

Thus, no dirt is spilled into the furrow and each slice is so thoroughly pulverized and so completely overturned, that your topsoil lies right against the subsoil. No air spaces between. All this sounds very simple, yet it has taken years of experience and study to realize what it really means and how to avoid it. It's the last big step to perfect plowing.

### A Truly Universal Plow

Nor is the solving of the air space problem all that this plow has done.

For here is a truly universal plow—the only universal plow in all the world.

You can work this plow in any field on your farm and do perfect work in *tame sod, invold stubble, in trashy cornfields, in meadows, just any place.* Makes no difference whether it's *gumbo, heavy clay, sandy loam or mixed soil.* Every slice will be turned over flat; all trash will be completely buried. Every furrow will be clean; and the dirt will be pulverized more completely than you ever thought possible, saving you at least one harrowing.

Do you wonder that the Rock Island "C.T.X." Universal quickly became such a sensation?

Do you wonder that, to keep up with the multiplying demand, it has taxed our factory and workmen to the utmost? That we have had to increase our factory output over four times?

Do you wonder that men who see this plow perform are discarding their old plows and using "C.T.X." simply from an economical standpoint? It's a fact.

### The Price Is Reasonable

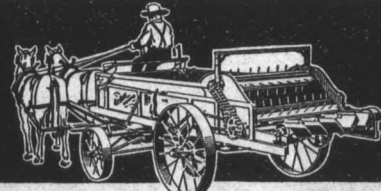
Notwithstanding the unusual demand for this plow and the fact that we own and control all patents on a plow that really has no competitor in results, we have not raised the price.

It requires greater care and is more expensive in construction, but enormous production enables us to get lowest possible factory cost so that it costs you practically no more than an ordinary plow.

Its great value to you is in the results—the increased crops—the saving in work and the far greater satisfaction and longer life.

Proper plowing is the basis of all farming. You, as a user of plows, should learn what the Rock Island "C.T.X." has done toward improving the plowing, increasing the crops you where you can see a Rock Island "C.T.X." Universal and you can judge for yourself, for your own knowledge and experience will show you why you can't afford to use any other. Write these words on a postal: "I am interested in plows." Then sign your name and address and mail to

Original and Only Low-down Spreader.



Pulverizes. Never Clogs. 3-row Spread. Solid Bottom.

Light and Strong.

### New Idea Manure Spreader

Spreads all Manures.

Not a mere unloader—does not dump in piles. The only spreader with double beaters and revolving distributing paddles, which cut the manure into shreds and spread it evenly over three full rows—5 to 7 feet. No choking. No bunching. Low-down. Easy to load. Tracks with standard wagon. Easy haul for double team. Solid bottom which never warps, breaks or wears out. No cog or bevel gears. Only perfect endless conveyor—cannot slip. All power direct from rear axle. Only two levers to operate. Strong metal wheels. Absolutely necessary for every grain and fruit farmer.

Write for New Catalog. Shows pictures and describes in detail. **New Idea Spreader Co., 116 Sycamore St., Coldwater, Ohio**

## AGRICULTURE

OUR TILE

LASTS FOREVER!

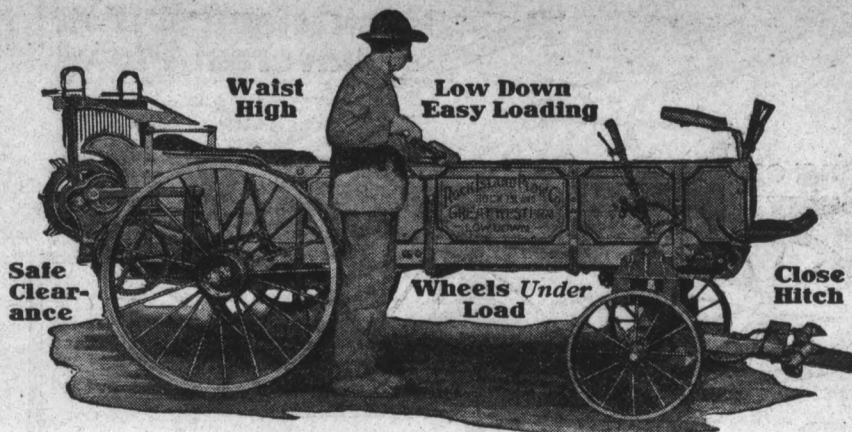
DRAIN TILE

### Are Thoroughly Hard Burnt

Made of best Clays, sold in car-load lots. Also manufacturers of Hollow Tile Silos, Building Blocks and Sewer Pipe. Write for catalogue and prices.

**NATIONAL FIREPROOFING COMPANY, Fulton Bldg., PITTSBURGH, PENNA.**





## How to Save the Most Money On Your Manure Spreader

Buy the best to begin with! That's it—the best—regardless of first price! The cheaper the spreader, the more expensive it is in the end. Get the spreader that thousands have proved, in over

twelve years' use, the biggest money-saver and money-maker. The Spreader that has stood every test is now made low down for easy loading—the kind you'll buy sooner or later. Buy it now!

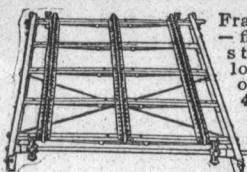
### The Proved Spreader—It's Special Features

Low Down—Waist High—Safe Clearance—Short Wheel Base—Wheels Under Load—Roller Bearings—Lightest Draft—Simplest Drive—

Avoids all Trouble of Enclosed Gears—Most Durable Beater—Trussed Steel Frame—Indestructible Front—Perfect Construction.

## LIGHT DRAFT—LOW DOWN Great Western

### Trussed Steel Frame



Frames of trussed steel—firmly braced—great strength. Weight of load, beater and force of operation all on the 4-inch steel sills. Can't sag, spring or give; 102 rollers to carry endless apron.

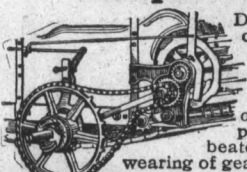
### Front Won't Pull Out

Double heavy oak bolster—16-inch fifth wheel—every part extra strong. GREAT WESTERN fronts will not pull out. They are built to stand the heaviest strains.



### Roller Bearings

### Simplest Drive



Direct chain drive—no complicated gears—everything in plain sight. The simplest, strongest, most sensible drive on any spreader. No parts in motion when beater is not in use—no wearing of gears or chains.



### You Can Top Dress Corn

GREAT WESTERN rear wheels track with the front; you can straddle two corn rows for top dressing growing crops. This you can't do with narrow front trucks. GREAT WESTERN means an easier pull—only two tracks across yards or fields.

**New Spreader Book Free** It is important that you learn all about this old reliable GREAT WESTERN in its new form. Be sure to write at once for Free Book describing it in every detail and proving why it's best for you or any man. Get it now. Shows all the detail of this old reliable GREAT WESTERN now made low down for easy loading. The cuts and details prove why it's the one perfect spreader. It's the one spreader that will just suit you in every way.

Rock Island Plow Co., 244B 2nd Ave., Rock Island, Ill.

## One Dollar

Is All It Now Costs to Have Your Seed-Grain Cleaned and Graded



Now that farmers everywhere are cleaning and grading their Seed Grain, the question is, how to get it done best, easiest and cheapest. Here's my 1913 offer:

Send me one dollar and I will ship you, FREIGHT PAID BY MYSELF, this improved 1913 model Chatham Grain Grader and Cleaner with all equipment. Clean your Seed Wheat, Oats, Flax, Barley, Peas, Beans, Corn, Grass Seed, etc. Then PLANT those fine seeds. AFTER you have harvested a bumper crop, pay me the balance of my low price. Not one penny need you pay, except the \$1, until next November. And by November YOUR CHATHAM WILL HAVE MORE THAN PAID ITS ENTIRE COST IN INCREASED CROPS. Then you'll have a "Chatham" to work FREE for you the rest of your life.

### Your Dollar Returned

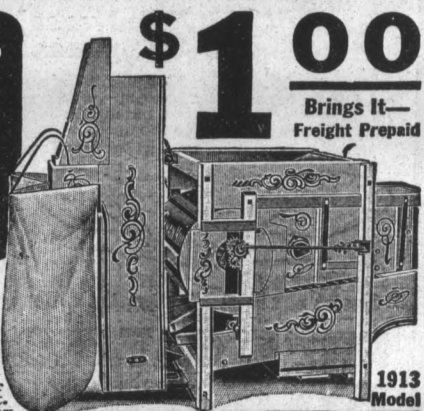
If you want it. I don't want your dollar or want you to keep my "Chatham" unless it pleases you. If, after a 30-day test, you are not satisfied, return the machine at my expense and I will send back the dollar.

### A Machine That Fits Your Farm

After 40 years' experience, I know every grain and noxious weed grown in America. I know the section where each one grows. I know every grain and weed that grows on your farm. Experience has shown that a Grain Grader and Cleaner should have special equipment for the particular farming section to which it goes. For example, I send an entirely different equipment of screens, riddles and gangs to Maine from what I send to California. In fact, there are scarcely 2 states in the U. S. to which I send the same equipment. Thus you get the exact and proper outfit to handle the grains and weed seed that grow on your farm. You don't have to pay for a lot of extras for which you have no use.

### Extra Screens and Riddles Free

In case you want more or different screens, just write me and I will send them free. Not a penny would I ask for extra screens and riddles. I also have a Free Service Department which will separate, clean and grade FREE any mixture you send in. If you've got some impurity in your



### The CHATHAM Grain Grader and Cleaner

grain that you cannot get rid of, don't get discouraged. Write me.

### Handles all Small Grain and Grass Seed

My 1913 Chatham handles over 70 seed mixtures—wheat, oats, peas, beans, corn, barley, flax, clover, timothy, etc. Takes cockle, wild oats, tame oats and smut from seed wheat; any mixture from flax; buckhorn from clover; sorts corn for drop planter. Removes foul weed seed and all sunken, cracked or sickly grains. Takes out all dust, dirt and chaff. It is also a bulky chaffer. Handles 60 bushels grain per hour. Gas power or hand power. Easiest running mill on earth.

### Special Corn-Sorting Attachment

Last year I added a Corn-Sorting Attachment, which grades corn so that a round or edge drop planter drops the right number of grains in 98 out of every 100 hills (in repeated tests at State Agricultural Colleges). Same planters, loaded with ungraded corn, make only 60 out of 100 perfect hills. In two months I shipped to Iowa farmers alone 4,000 machines with Corn-Sorting Attachments. Try my Special Corn-Sorting Attachment. It will increase your corn crop amazingly!

### Postal Brings My New Book

on Seed Selection. Every chapter is highly practical and exceedingly interesting. It shows an easy, simple way to get rid of any weed on your farm; how to separate any mixture of grain—in short, how to get perfect grain for sowing, feeding or marketing. Send postal today and receive by next mail my new Book free. Address Dept. 6.

MANSON CAMPBELL CO., Detroit, Mich., Kansas City, Mo., Minneapolis, Minn.

be desired and the amount of grain a bull should be fed varies according to the demands of the animal. It is well to feed the bull about the same ration that you would a cow during the period of gestation. Oats and bran are good feeds for breeding animals. Equal parts of corn, bran and oats, a little oil meal and plenty of clover hay, or corn silage, is an excellent ration.

In preparing the food it is advisable to grind the food, but it should never be cooked or soaked. The bull should be kept in about the same degree of fatness the year around, not too fat, but in a good healthy, thrifty condition. If the bull is allowed plenty of exercise and the proper kind of feed, intensive feeding will not hurt him. The winter ration for the bull should be about the same as for a cow. The ration should be made as economical as possible, by feeding plenty of roughage and as little grain as possible. Sanitation is an important factor affecting the health and vigor of the bull and his calves. A good clean stall should be kept in the barn for the bull, opening into a paddock large enough for him to take plenty of exercise. Exercise is an important and fundamental factor in determining the number of cows he will get with calf. As a general rule, most bulls do not get enough exercise during the winter months. There are several ways in which the bull may be forced to take exercise. Some breeders exercise their bulls by making them operate a treadmill, which is connected with a churn, separator, etc., but as a rule this is too much. Other breeders take their bulls out for a walk each day as they would a stallion. All of these methods are good, but the best plan is to let him have plenty of room to roam over and if the bull is healthy and being properly fed he will take enough exercise himself, without being forced to.

In the summer time, and especially during the hot months when the flies are so bad, the bull should be kept in a clean, dry, dark room in the barn in order that he will not have to fight the flies all the time. The bedding should be kept clean and dry for if it is not the bull is likely to get foul feet and these are to be avoided if possible. Nothing is more annoying to an animal of any kind than a fly, especially in damp, hot weather, and if the bull is compelled to fight flies all the time he is bound to waste lots of his vigor in so doing and will not be in as strong a breeding condition when fall comes as he might otherwise have been had he been better cared for.

In breeding it is best to keep the cows and bull separated, that is, not allowed to run together all the time. When you want a cow to be served turn her into the lot where the bull is and allow the bull to serve her only once and then take the cow out. In this way the bull is not allowed to serve the cow several times and in so doing worry himself and exhaust his vitality. Where the bull is allowed to serve the cow but once, he can very well serve two or three and, if he is a mature bull and in a good thrifty, healthy condition, perhaps four cows the same day. The bull lot should be surrounded by a high fence and cattle should not be allowed to be around close to the lot. Some breeders turn the bulls in with the cows and allow them to run together, and where this is done the bull should be dehorned as he may injure the cows with his horns. No stock farm should be without a pair of stocks to put the cattle in when dehorning, castrating, trimming their feet, etc.

Many other things might be said concerning the bull, such as his selection and test for tuberculosis, if he is purchased from some other breeder. But as the bull is the foundation of the herd his proper care and management must be looked to first for without a good bull we cannot have a good and profitable herd.

Indiana.

C. M. ANDERSON.

### PREPARING THE EWES FOR LAMBING.

Ewes, to be motherly, generous milkers, gentle and quiet in disposition and prolific at lambing must be maintained in a healthy vigorous physical condition during the period of pregnancy. Success with both ewes and lambs at lambing time very largely depends upon the kind of feed and care they receive throughout the previous preparatory months while growing their unborn crop. Difficult lambing, ewes downing their young, insufficient milk flow and numerous other annoying conditions at lambing time are invariably traceable to neglect, irregularity of care or improper feeding. Pregnant ewes are particularly sensitive to any form of ill-treatment and especially during the gestation period.

Sustaining normal healthy and high physical vitality and essentially important requisites in preparing ewes for lambing. Ewes confined to limited quarters and dry feed are susceptible to attacks of local ailment, such as coughing, catarrh and constipation that, while not ordinarily considered serious are a direct draft upon the physical strength of the ewes.

Flocks that are more carefully tended and housed than usual are found to be more subject to these forms of ailment than those given access to open fields and well ventilated stables. Flock owners should strive to eliminate prolific sources of disease, such as over-feeding, under-feeding, irregularity of feeding, want of plenty of pure drinking water and inadequate protection against wet, chilling storms.

The composition of the ration supplied the eyes during pregnancy has much to do with maintaining active assimilation and promoting flesh formation. A serious and many times fatal mistake made by flock owners is feeding pregnant ewes too much fat-forming food, causing them to take on loose fatty flesh which produces a sluggish, non-active condition of the entire system. The ration should be composed of such feeds as supply sufficient nourishment to all parts of the body, including the feeding of the unborn young, without impairing the function of growth and development. Feeding plentifully of some kinds of feeds does not necessarily mean that sufficient of the right kind of food is being supplied to meet the requirements of pregnant ewes. The ration should be compounded to meet the special needs above enumerated.

A variety of feed is as essential in preparing ewes for lambing as a ration possessed of the necessary ingredients. A frequent error creeps into the management of pregnant ewes in feeding constantly of the same kind of feed. Sheep naturally relish a wide range of diet and if allowed to select for themselves consume weeds, and leaves of shrubs, along with the variety of forage found in meadow pastures. Variety of feed not only insures proper nourishment, but promotes good digestion and a healthy appetite. Not all members of the flock relish equally the same kind of feed. Variety in the ration privileges those of more delicate appetite to obtain the food they need to promote active digestion.

Succulency in the ration for ewes being prepared for lambing is of vital importance and materially assists in promoting the purpose in view. Sheep are different in many respects from other domestic animals. They do not have the habit of drinking large quantities of water at one time to assist assimilation. Feeds such as roots, ensilage and cabbage, are excellent sources of supplying succulent matter in the ration for pregnant ewes during the winter months. Where the flock can have the privilege of roaming over meadow and stubble fields when the snow is not too deep for grazing, the ewe will secure a large amount of succulent food at practically no expense and this will in every way answer the desired end. Where conditions are favorable it is prudent management to allow the ewes to wander about the fields as they highly enjoy the privilege and also gain a large amount of exercise which is good for them after being confined for several days.

While they should be fed liberally, we should not allow the ewes to become over-fat. Pregnant ewes carrying a large amount of surplus flesh are very likely to drop weak lambs. Forced feeding to recruit run-down ewes is also apt to produce similar results. Best results are obtained when the ewes are kept in a uniform thrifty flesh condition throughout the gestation period. Sudden changes in the ration should be avoided. If it is necessary to make any changes in the daily feeding it should be made gradually and not suddenly. Regularity as to time of feeding is very important with pregnant ewes as it prevents worry and nervous irritation.

Shiawassee Co. LEO C. REYNOLDS.

This is a great winter for the sheep industry, and it seems a great pity that Michigan farmer-stockmen are not in the business more generally. Prices have ruled much the highest ever recorded in January, with fat little lambs and handy little yearlings on the lamb order prime favorites in the order named. The demand for feeders has kept up, and the limited offerings have brought fancy prices, although not any higher figures than were proper, comparing them with the prices realized for prime finished stock.



## FEEDERS' PROBLEMS.

## Grain Ration for Fattening Steers.

We have 19 head of steers coming three years old to fatten and we have ensilage, bean pods and clover hay for roughage, oats and corn for grain ration and would like to know if you would advise the purchase of cottonseed meal at \$30 a ton to mix with corn and oats?

Isabella Co.

SUBSCRIBER.

While it is necessary to furnish sufficient protein in the ration to make it suitably balanced to produce the most economical gains in feeding steers, experiments seem to indicate that it is more profitable to supply this protein in roughage feed, as far as possible, than in concentrates. Thus, with clover hay and bean pods as roughage, it would not be as necessary to feed a concentrate rich in protein as would be the case if the roughage portion of the ration were not made up of feeds rich in this element of nutrition. The making of corn silage an important factor in the ration for fattening steers is the subject of recent experimentation, but some rather exhaustive experiments were conducted at the Indiana experiment station last year which shed some light upon this problem.

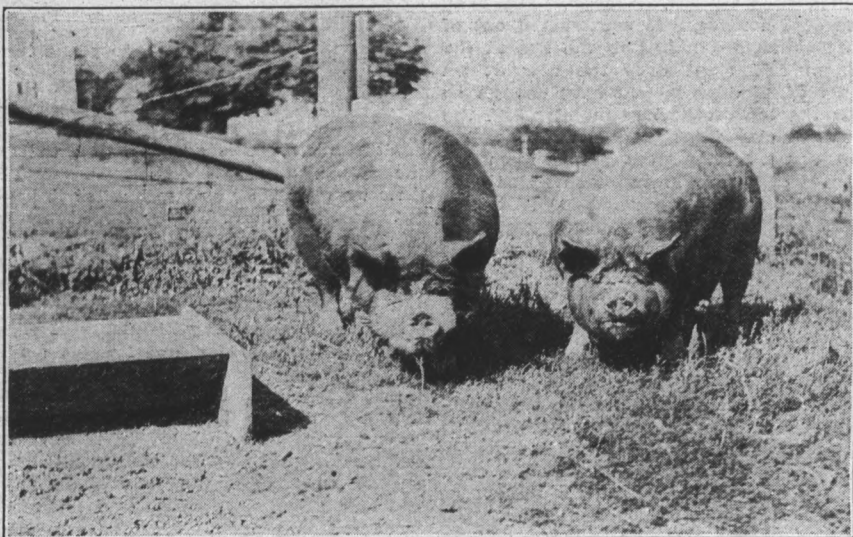
In these experiments, however, cottonseed meal was made a factor in the ration so that no results comparable with those which would be obtained with corn and oats are shown. In these experiments the lot of steers which made the most economic gains weighed in at a total of 9,637 pounds and weighed out at the close of the feeding period at 13,353 pounds. These steers consumed a total of feed as follows: Shelled corn, 21,885 pounds; cottonseed meal, 4,452.5 pounds;

about the details than are given in this inquiry. Not only the Indiana experiments, but also those conducted in Iowa, point to the larger use of ensilage as a roughage in the ration of fattening steers, which necessitates the use of some concentrate like cottonseed meal or oil meal to furnish the protein required.

## SOWS DURING PREGNANCY.

In the care of sows during pregnancy there are two facts that should be borne in mind. One is that the sow is on double duty, as she has to keep up her own bodily functions and supply material for the development of the fetal young. This last is a drain on her system, and therefore her feed should be well looked to and should consist of grains and tubers rich in protein. Guard against letting the ration become rich in carbohydrates. Do not allow the sows to become constipated.

I believe in feeding liberally but, of course, not quite so much now as after the pigs are farrowed. It is a good idea to keep the sow in fair flesh, neither fat nor lean. If I were willing to make an error either way, I had rather the animal would become fat than to become lean. I know I say this in opposition to the views of a great many of our farmers and breeders who hold to the theory that the reproductive organs are liable to become transformed into masses of fat, and that great precaution must be taken to prevent the animal from taking on any surplus flesh. But the use of the reproductive organs in either sex, creates demands of an unusual nature on the animal's organism, and these demands must



A Good Type of Foundation Stock for Both Breeder and Farmer.

clover hay, 4,071 pounds, and corn silage 39,664 pounds.

The only other lot of steers in this trial which were fed clover hay in connection with corn and cottonseed meal weighed in at 9,653 pounds, weighed out at 13,398 pounds and consumed a total of 24,645 pounds of shelled corn, 4,401 pounds of cottonseed meal, 9,298 pounds of clover hay and 25,650 pounds of corn silage. The cost of gain in this lot, estimating clover hay at \$10 per ton and corn silage at \$3.50 per ton, was 75 cents more per cwt. of gain than on the lot fed large proportions of silage and less clover hay.

The lot of steers which made still more economic gains, however, were fed on corn silage as an exclusive roughage ration with shelled corn and cottonseed meal in about the proportion as above given, as the grain ration. The cost of gains in this lot with the corn silage reckoned at the same price as above was 63 cents less per cwt. than the cheaper of the two costs of grains mentioned above.

It would thus appear that for economic results the greater the proportion of corn silage and the smaller the proportion of other roughage fed the less will be the cost of the gains. Hence if the supply of ensilage is abundant it would apparently not pay to feed sufficient clover hay and bean pods to supply the needed protein in the ration, and in this case it would undoubtedly pay to add some cottonseed meal to the ration at the price mentioned above. On the other hand, if the supply of ensilage is limited and it is necessary to feed considerable other roughage the clover hay and bean pods will supply the greater part of the needed protein and if the supply of home-grown oats is large it would probably be nearly if not quite as profitable to utilize the home-grown grain exclusively.

So many factors enter into a problem of this kind that it is impossible to give specific advice without knowing more

be met in the same manner as those of a different character, such as growth, labor, etc., by providing liberal supplies of the right kind of feed.

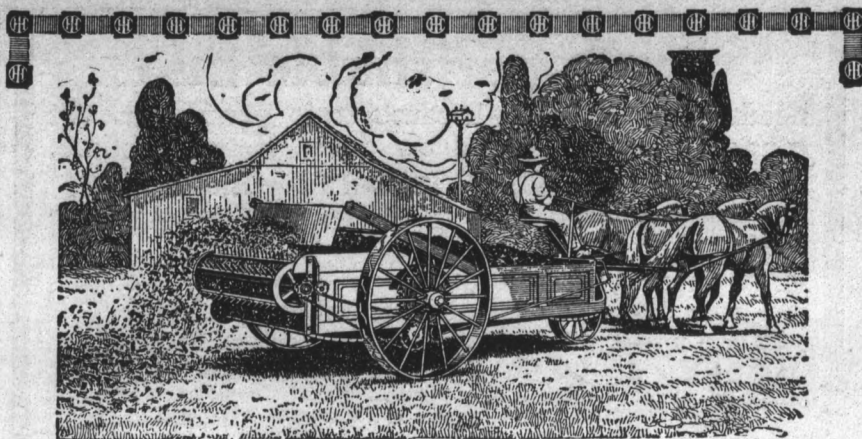
It is beyond the course of common reasoning that a sow can fast for four months and give birth to a litter of strong, healthy pigs. Do not understand me to say that a sow cannot be overfed; they can, and are very frequently so treated with not very good results. But what I wish to say is that more sows are underfed than overfed. If it is found that sows are gaining too much flesh, try them on a pasture where they will get more exercise. In winter feed them at some distance from the sleeping pen.

Again, remember that there are direct demands upon the sows for the building of tissue matter. This calls for care in the matter of choosing feed. Such feeds as bran, oil meal, beans, peas, oats and barley should be used. Clovers, alfalfa and vetches are of great value at this period.

Strive to keep the animal's system in proper condition and feed but little corn. If one is forced to use this largely in the animal's diet, then it becomes very necessary that the animal have a good deal of exercise. One can get them to exercise by having the feed at one end of a long lot and the house at the other.

Owing to there being no grass to be had during the winter months the sows need special care to keep them in good health. The system of this animal demands green food, and also there is a need for some bulk. To make up for the lack of green feed one should supply roots, such as potatoes and turnips. Some claim to experience difficulty in feeding roots on account of the loosening effect on the bowels. For this reason one should use them in moderation, and if so used there will be no bad effects.

(Continued on page 180).



## What Three Bushels More to the Acre Means

**E**IGHT years ago the farmers in a central state averaged crops that ran three bushels less to the acre than they now get.

Suppose each acre of farm land in the country were so tended that it produced an increase equal to that of this state. How much more money would you have with which to buy the luxuries of life that you earn and deserve? Your share in this prosperity depends entirely upon yourself. The first step for you to take is to fertilize your land properly with manure spread by an

## I H C Manure Spreader

Manure cannot be spread as it should be unless a machine is used. An I H C spreader covers the ground with an even coat, light or heavy as may be needed, and pulverized so that the plant food elements in the manure combine with the soil to the best advantage.

The spreader that does this work as it should be done must have many excellent mechanical features. The apron should move without jerking; the beater should meet the load at exactly the right point to pulverize the manure without too greatly increasing the draft of the machine; the speed changes of the apron should be positive whether the spreader is going up hill or down. All these features are provided for in the construction of I H C spreaders.

I H C spreaders are made in high and low styles, narrow and wide, with both reverse and endless aprons, for use under all conditions. There are machines with wood and with steel frames as may be demanded by local conditions.

The I H C local dealer carries in stock the machines best suited to your locality. See him for catalogues and full information, or write

**International Harvester Company of America**

Chicago

(Incorporated)

U S A



## As Permanent as a Roof cut out of Solid Rock

Can you imagine anything more durable than a roof cut out of solid rock! Such a roof would be practically *indestructible*. Fire couldn't burn it. Acid fumes, gases, rain, snow, sun and extreme temperatures couldn't injure it.

A roof of this description—a roof that is cut from solid rock to all intents and purposes—is

## J-M ASBESTOS ROOFING

This roofing is made by crushing solid Asbestos Rock and compressing the long fibres into a dense, homogeneous felt. Several layers of this rock felt are then permanently cemented together with nature's greatest water-proofer, Trinidad Lake Asphalt making a light-weight roofing that is virtually a *solid sheet of pliable stone*.

J-M Asbestos Roofing forever rids you from the expense of repairs. *No coating. No graveling. Everlasting* After more than a quarter-century of service J-M Asbestos Roofing shows no signs of deterioration. It is the cheapest of all roofings from the cost-per-year standpoint.

Adapted to any building and any climate. Easily and quickly applied. If your dealer can't supply you, we will ship direct.

Write our nearest branch for sample of the Asbestos Rock from which this roofing is made and Illustrated Book No. 2340

## H. W. JOHNS-MANVILLE CO.

MANUFACTURERS OF ASBESTOS AND MAGNESIA PRODUCTS

ASBESTOS

ASBESTOS ROOFINGS, PACKINGS, ELECTRICAL SUPPLIES, ETC.

Albany	Chicago	Detroit	Louisville	New York	San Francisco
Baltimore	Cincinnati	Indianapolis	Milwaukee	Omaha	Seattle
Boston	Cleveland	Kansas City	Minneapolis	Philadelphia	St. Louis
Buffalo	Dallas	Los Angeles	New Orleans	Pittsburgh	Syracuse

For Canada—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED

Toronto

Montreal

Winnipeg

Vancouver

1931



## An Imperishable Silo

needs no insurance—because it is permanent. It cannot burn; will not blow over; lasts a lifetime.

### Built of Hollow Vitrified Clay Blocks

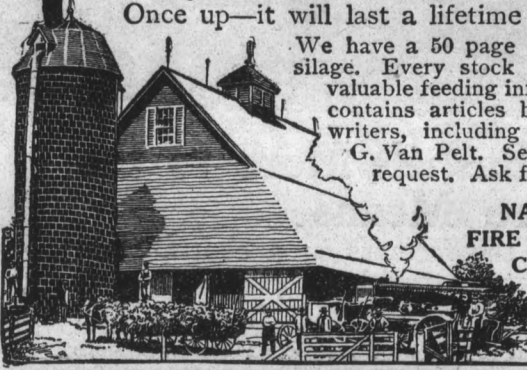
The most lasting material known. Blocks are air tight and moisture proof. They are glazed and keep silage sweet and palatable. No hoops to tighten; no staves to paint. Never swells or shrinks. Attractive in appearance—a silo that will improve the looks of your farm.

### Any Mason Can Build an Imperishable Silo

Once up—it will last a lifetime without needing repairs.

We have a 50 page illustrated book on silos and silage. Every stock owner should have it for its valuable feeding information. It contains articles by prominent writers, including Prof. Hugh G. Van Pelt. Sent FREE on request. Ask for catalog A

**NATIONAL  
FIRE PROOFING  
COMPANY**  
Huntington, Ind.



## I'll Send You This Engine—Use It Three Months FREE

Here's the most liberal offer that Galloway or anybody else ever made in the whole history of the engine business. I'll ship you a genuine Galloway engine—give you three full months' power—right on your own farm free. I'll let you test the Galloway any way you want to. Compare it point by point with the highest priced engines on the market. Then decide. If you think that there is a better engine made at any price just ship it right back to me and I'll pay all the freight both ways—you won't be out one cent.

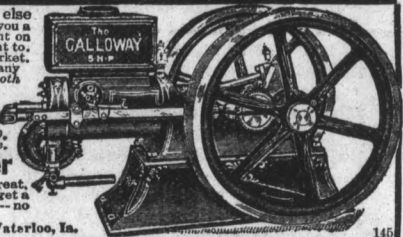
**Save Yourself \$50—\$300** If you do decide to keep the engine

after the free trial, I'll positively guarantee to save you \$50 to \$300, besides giving you the best engine in the world regardless of price.

**Write for Engine Book and 1913 Offer**

**FREE** Write me quick—get my big engine book—get my great liberal 1913 proposition—find out how you may get a Galloway partly or entirely free. No canvassing—no soliciting. Now send me a postal or letter—right away!

Wm. Galloway, Pres., WM. GALLOWAY CO., 645 Galloway St., Waterloo, Ia.



## What Do You Consider a Good Investment?

Eight per cent would be called good returns. Do you realize that owning your own scale and doing your own weighing will easily make 100% returns? Not in rare cases but frequently farmers who own

### Fairbanks Scales

find the scales pay for themselves in a single season. They will yield just as good returns for you if you sell much produce or stock.

Until you have your own scale you must always wonder if you got full weight for what you sold or paid too much for what you bought; whether your stock is gaining properly, etc.

Buying Fairbanks Scales is in the highest sense an investment because you only buy once. Scales installed over 60 years are still in service and weighing correctly.

Scales for all farm purposes are described in Catalog No. SR601

**Fairbanks, Morse & Co.** Chicago Detroit  
Oil and Gasoline, Engines, Oil Tractors, Pumps, Water Systems, Electric Light Plants, Windmills, Feed Grinders



## Only \$2 Down

One Year to Pay!

**\$24**

**Buy the New Butterfly Jr. No. 1.** Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 qts. per hour. Made also in four larger sizes up to 61-2 shown here.

**30 Days' Free Trial** Earns its own cost and more by what it saves in cream. Postal brings Free catalog folder and "direct-from-factory" offer, buy from the manufacturer and save half.

**ALBAUGH-DOVER CO.** (131)  
2269 Marshall Blvd. CHICAGO No. 6 1/2



## THREE D GRAINS

### Ideal Dairy Feed.

More Protein and Fat than Oil Meal. About same as Cotton Seed Meal. Never injurious. Ask your dealer or write for information on feeding.

**THE DEWEY BROS. CO., Box 564, Blanchester, O.**



### REASONS why the ROSS SILO is the BEST

We use Guaranteed Long Leaf Yellow Pine that will last longer than any other wood, except cypress. The highest possible grade of Oregon Fir is used.

The Ross Silo has features that are exclusive, and absolutely necessary to make a good silo.

### FULLY GUARANTEED

to be as represented. Our 63 years of manufacturing experience is valuable to you. FREE catalog explains all. Write for it today. Agents Wanted.

**The E. W. Ross Co., Box 14, Springfield, O.**

### Better Results with Less Power

### SUPERIOR DUPLEX MILL

Double grinding rings with saw tooth grooves grind twice as much as any other feed mill of same size with one-third less fuel.

Force feed; never chokes. For Gasoline or Steam Engine. Grinds corn on cobs or in shucks; shell corn, wheat, oats, Kaffir corn, alfalfa, oats, rye, wheat, barley, cotton seed. Coarse or fine. Easy to operate. Fully guaranteed. Catalog FREE. Write today.

**Superior Mfg. & Mill Co.**  
20 East Street, Springfield, O.



**15.95 AND UPWARD**

## AMERICAN SEPARATOR

**THIS OFFER IS NO CATCH.** It is a solid proposition to send, on trial, fully guaranteed, a new, well made, easy running separator for \$15.95. Skims hot or cold milk; making heavy or light cream. Designed especially for small dairies, hotels and private families. Different from this picture, which illustrates our large capacity machines. The bowl is a sanitary marvel, easily cleaned. Gears thoroughly protected. Western orders filled from Western points. Whether your dairy is large or small, write us and obtain our handsome free catalog. Address:

**AMERICAN SEPARATOR CO. BAINBRIDGE, N.Y.**



## Write Before You Buy—Get the Hinge Door Silo Book Free

Read about this most famous construction, learn how it makes big extra silo profits. Keeps silo door closed all the time—prevents silage freezing in winter and drying out in summer. Opens and closes easier than barn doors. Easy climbing ladder, 7 inch foothold. Get our book telling all about the Hinge Door

### And LANSING SILOS

Two big silo offers in one book. Get your name in to us quick. Ask for Book 15

**Woods Bros. Silo & Mfg. Co.**

General Offices: - Lincoln, Neb.  
Lansing, Mich., Maryville, Mo., Minneapolis, Minn., Cedar Rapids, Iowa, E. St. Louis, Ill., Topeka, Kan., Lexington, Ky., Denver, Col., Spokane, Wash. Write Nearest Office

SEND YOUR NAME NOW

**WANTED—Farmer Agent for Primus Swedish one-piece skimmer.** Famous easiest running, closest skimming machine in the World. Largest commission. Primus Division.  
**THE BUCKEYE CHURN CO., Sidney, Ohio.**

## Dairy.

CONDUCTED BY COLON C. LILLIE.

### THE MODEL COW STALL.

Please send me your plan of modern cow stall.  
Mecosta Co. G. W. H.

Would you kindly send me details of the modern cow stall?  
Sanilac Co. W. S. B.

The model cow stall, sometimes called Hoard's model cow stall, differs essentially from other cow stalls in two ways. First, it has two mangers, one for feeding hay and the other for feeding ensilage and grain, etc. Second, a gutter behind the cows is not an essential part of the stall and does not assist in keeping them clean. One can have a gutter in the stable if he chooses, but it simply acts as a storage for manure until the manure is hauled out. You can keep the cows just as clean without the gutter as you can with it.

The floor of this stall should be about 7½ feet for ordinary cows, from the front of the manger, that is from the edge of the feeding alley. The first two feet of this space is occupied with a cement manger for feeding ensilage, grain, etc. Then on top of this cement manger is arranged the foundation for the hay manger. About 18 inches above the cement manger we begin the bottom of the hay manger, which should be made narrow. A 2x4 is wide enough for the bottom of the manger. The front part of the manger extends up 4½ feet high. The back side of the manger is constructed out of slats which are nailed to the 2x4 at the bottom and slant over the cow at an angle of 45 degrees and long enough so that the top of the hay manger and the perpendicular front or alley side are 2½ feet apart. This gives ample room for storage of hay or straw or shredded corn fodder or in fact any roughage that it is desired to be fed. The philosophy of having this manger constructed upon a slant in this way is that when the cow eats hay she must stand farther back in her stall than she does when she eats her silage.

A partition is made between each cow by running a 2x4 from the top of the hay manger back so that the back portion of it or the end will be 7½ feet from the front of the manger. This partition is boarded up, fixing it so that the cows cannot step on each other's udders or get from one stall to the other. Of course, if the floor is cement a plan should be followed leaving bolts projecting from the cement wherever you want these partitions for the cow stalls and then have a 2x4 laid down which will extend from the side of the grain manger back the remainder of the 7½ feet and have this slip over the bolts or pieces of iron which project up. This makes the foundation of the partitions secure so that it will not move. Now the front part of the manger, or that portion of it making the walls of the feeding alley, is boarded up and down, leaving an opening about eight inches or a foot wide through which to put the corn silage and the grain, etc.

Now the real important part of the stable, so far as keeping the cow clean is concerned, all depends upon placing a 2x4 up edgewise across each stall directly in front of where the cow stands with her hind feet. When she is eating grain or ensilage out of the lower manger notice where she stands naturally. Then put the 2x4 just in front of her hind feet. Now the position of this 2x4 will vary with different length of cows. A short cow will have the 2x4 closer to the manger, and a long cow will have it a little farther back from the manger. When the cow is eating hay she has to stand back and her droppings are back out of the way. When she lies down she has got to step up and lay in this bed between the 2x4 and the manger. This should be filled with bedding. If the straw won't pack in then it should be moistened or perhaps some dirt mixed in with it so that it will pack down and make a bed four inches deep and the cow lies on this, free and above all dirt and filth. In this way she keeps perfectly clean.

Now if you change cows in these stalls then you should change these 2x4's if the cows vary in length. If this will be done carefully there will be no trouble about keeping the cows clean, with the exception of now and then one that don't seem to know enough to step up and lie

on this bed, and then they must be educated to it. If you have very much trouble in this respect you can put a piece of gas pipe from the edge of the lower manger parallel with the slats on the hay rack and have a ring over this with a chain on and tie them to the chain so that when they lie down they will have to lay farther ahead or else they will be pulled.

Another method is to place a good big stone back of the 2x4 to make the cows get far enough ahead so that they will lie in a clean place. The most of them, however, will step forward and lie in this place without any trouble on the part of the herdsman.

It will be seen that a gutter is no essential part of this stall but if you have a gutter back of this 7½ feet it is a convenient place to store the manure until it is hauled out.

### ALFALFA MEAL—GRAIN RATION FOR HEIFERS BEFORE FRESHENING.

I started in the farming business three years ago with two Holstein cows and one of them gave me a fine heifer calf and the other gave me fine twin heifers. I wintered a cow for a man who lived in town and had her milk and heifer calf as my pay. During this year I have lost one of my Holsteins and have bought a Jersey and one common cow. These, with two calves this year from the first two Holsteins, constitute my herd. I have wheat bran, buckwheat bran and middlings mixed equal parts, together with corn silage and corn fodder. Can buy alfalfa meal at from \$30 to \$35 per ton. Would it be advisable to add the meal? Should I add corn meal? Can you give me a ration from these feeds? I expect four of the heifers to come fresh during February and March. Is it advisable to feed a grain ration before freshening? What ration to a milch cow coming fresh next month? One that is milking? Please give me a treatment for the barnyard itch. Will sprinkling cut fodder and letting it lay for a few hours benefit it any? Manistee Co. K. M. J.

I do not think it would be profitable to pay \$30 to \$35 a ton for alfalfa meal. I don't think there is any use in grinding the alfalfa anyway. The cows can do their own grinding and will relish it better. I would prefer to buy clover hay in Michigan this year at the price even to buy alfalfa hay at what you would have to pay for it, delivered. I believe that you could get along with the roughage you have, if provided with plenty of corn silage and corn fodder, and I would make up the protein in a grain ration rather than to buy a bulky ration rich in protein, unless I could get the clover or alfalfa hay at a reasonable price close at hand. I would suggest that instead of putting corn meal into this ration that you buy gluten feed, which is a corn product rich in protein. As your roughage is deficient in protein this will be a move in the right direction. I would say take your buckwheat bran and middlings and mix them with wheat bran, equal parts by weight, and put in an equal part by weight of gluten feed. Then feed as many pounds of the grain per day as you produce pounds of butter-fat in a week. I think this would make a splendid ration and that your cattle would do well upon it. Feed what corn silage they will eat up clean each morning and also give them all the cornstalks they will eat up. Don't ask the cows to eat all of the cornstalks. Allow them to pick out the best portion of them. It would improve the ration if you could get a feed of clover hay at a reasonable price.

There isn't any question but what it will pay you to feed these heifers a good ration before they freshen. That is the time to feed heifers. If you ever have a chance in the world to develop the udders on heifers it is before they freshen the first time, and don't be afraid of giving them a good liberal ration. I feed them the same feed that I feed the cows after freshening, and give them a good liberal ration. You will not be sorry for it. They will do all the better when they come in.

I am not acquainted with what Mr. J. calls the barnyard itch. I know nothing about it. You had better consult a veterinarian.

Sprinkling cut fodder and allowing it to lay some little time will soften it up and undoubtedly make it a little more palatable, and I presume that you will get a little more of the corn fodder eaten in this way than you will if you feed it all dry. Whether the food value will be increased or not is another proposition. It will add nothing to it only in making it more palatable.

Regularity of milking is material with the careful dairyman. A difference of an hour in the time of milking often varies the amount of milk secreted by 10%.



## A SILO ON A SMALL FARM.

Would you please outline some of the advantages of a silo on a small farm? How large would you advise to build on a 40 to 80-acre farm? Would you advise using clover for silage or do you think it will pay better as hay? How can silage be kept from spoiling in the summer? Will cows do as well on silage as on pasture? About how many tons do you figure for each cow?

Sanilac Co.

H. G.

There are just as many advantages, and more, to have a silo on a small farm as on a large farm. By putting the corn crop into a silo you can keep much more live stock on the farm because you get the entire food value of the corn plant, none of it being wasted. I would build a silo 10 or 12 feet in diameter and start with 25 or 30 feet high. Then later on if you want to increase the silo capacity you can extend it and make it higher. You want to figure on feeding from 30 to 40 pounds of silage a day to each cow, depending on the size of the cow and the amount of other foods which you feed her. If you have a good warm barn to keep the cows in in the winter time you can get practically as good results where you have silage to feed in the winter time as you can on pasture in the summer time. Unless you have waste land that cannot be plowed for pasture, you can produce milk cheaper in the winter time than you can in the summer time. The barn must be comfortable, warm, well-lighted and well ventilated.

## BEST KIND OF WATER BOWLS FOR COW STABLE.

May I trouble you with a few questions in regard to your plan of watering cows? A few years ago I was in your barn and think, if I am not mistaken, you had your water bowls so arranged that two cows could use one bowl. Is that way satisfactory? Is the long oval bowl better where two are to use the same bowl? Can they be easily cleaned out? Should the bowl be tapped in the bottom or in the side. I don't understand how they could be flushed out if tapped in the side.

Kalkaska Co.

D. P. R.

I first tried the double, or oval, bowl, in my barn, which allows two cows to drink out of the same bowl, but I was not satisfied with them because the cows would fight over the bowls. You had to cut a hole through the partition in their stalls and when they were drinking they would quarrel, and I didn't like this and so I took out the double bowls and put in single bowls, giving each cow a bowl by herself.

It is best to have these bowls tapped on the side. Then when dirt gets into the bowl it settles in the bottom of the bowl but doesn't get into the pipe. If they are tapped at the bottom a short nipple ought to be put onto the pipe so it comes through the bottom and extends up a couple of inches into the bowl for the same reason; so that the dirt will be kept out of the pipe as much as possible. The bowls do not need to be flushed, for one can clean them out readily enough, but it is a good thing to flush the pipe once in a while, as sometimes dirt will get into the pipe, and you can flush the pipe just as well if you have them tapped in the side as you can if you have them tapped in the bottom. In fact, I would not have them tapped in the bottom unless a nipple was put on to keep out the straw and other litter that might get in the pipes and stop them up.

## RED POLLED, POLLED DURHAM, AND DEVON CATTLE.

Will you kindly tell me what is the difference between Red Polled cattle and Polled Durham? Which would be the best butter cow? What are the Devon cattle? How heavy are they? Would they be a good butter cow? I never saw the Devon advertised in The Farmer. Are there any breeders in the state?

Jackson Co.

L. C. P.

The native home of the Red Polled cattle is in the eastern part of England in the counties of Norfolk and Suffolk. The origin of this breed, like that of many of our domestic breeds of animals, is not definitely known. It is suggested that they originated from the polled breeds of Southern Europe crossed upon the native cattle of that section. Later on it developed that the Suffolk Red Polled were quite noted for their dairy quality. This breed probably has the blood of Scandinavian cattle for this section of the country was at one time settled by Scandinavians and it is quite probable that they brought with them Scandinavian cattle. In Norfolk county the cattle were bred in an early day more for beef production and a breed developed there which had quite marked beef characteristics, and then began a mingling of the blood of the cattle of these two

countries, which after a time resulted in the modern breed of Red Polled cattle. The type at first was somewhat different but gradually by careful selection the type became quite fixed and it has resulted in an easy-keeping, hornless, red colored, dual purpose animal. Animals of this breed present the dual purpose type in its truest form and good specimens yield milk liberally and fatten satisfactorily on drying off, producing a good grade of beef.

The Polled Durham is the result of uniting native mooley cows of this country with pure-bred Shorthorn bulls. In this way the horns were bred off of the Shorthorn, and finally the type became fixed and a Polled Durham herd book was established, denominating it a new breed. Later on when the custom of de-horning cattle, especially beef cattle, became popular, breeders of pure-bred Shorthorns succeeded in breeding the horns off, or producing hornless pure-bred Shorthorns. These, because of the fact that they had no horns, were eligible to registration in the Polled Durham herd book and they were also eligible to registration in the Shorthorn herd book, and so they were designated as double standard Polled Durhams, while those animals which resulted from crossing Durham bulls upon native mooley cows were called single standard. Since that time there has been a gradual weeding out of the grade Durhams in this breed until now only those containing a very large per cent of Shorthorn blood are eligible to registration. The probability is that it will only be a short time before the Polled Durhams are really pure-bred Shorthorns, the cross-breeds having all been eliminated. This breed is a distinct beef breed, and has very minor dairy qualities.

The Devon cattle are an English breed that originated in the county of Devon in the southwestern part of England. They were one of the earlier breeds of native British cattle to be improved by selection and breeding. They were brought to this country by the Pilgrim fathers and it is supposed that The Mayflower contained some of these cattle. Early in our country's history the Devon cattle were quite common, in New England and members of this breed constituted the beasts of burden and were remarkable for their hardiness and endurance. Many of the cows had good dairy qualities, and they were also good for beef. This is another dual purpose breed. Devon cows make fair dairy animals. They give rich milk, almost as rich as Jerseys and Guernseys, but they are not such persistent milkers as these special dairy breeds. Consequently they have never gained marked distinction for dairy purposes.

While Devon cattle were among the very first breeds to be introduced into this country and while as a breed they have many desirable qualities, yet they have not gained in popularity, but have gradually gone into disfavor, until now it is rare that we find Devons. No particular reason can be given for this because they are really a splendid breed of cattle. The probability is, however, the special dairy breeds on the one hand and the special beef breeds on the other have gradually crowded them out.

Red Polled are very much more common in this country today than Devons. Some Red Polled cows have made splendid records as dairy animals and the steers are good feeders and make a good quality of beef.

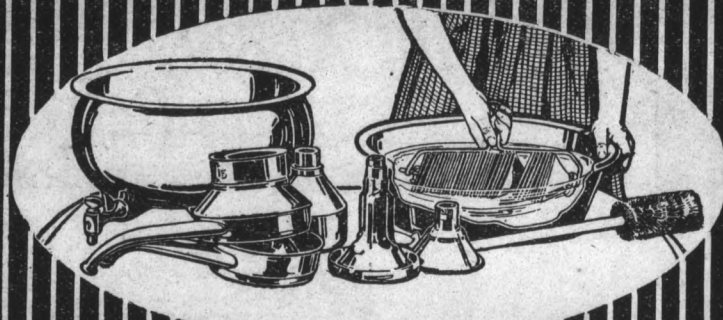
## A BALANCED RATION WITH CORN FODDER, COB MEAL, BRAN, RYE AND CARROTS.

Wish you would balance ration for my cows. Have cob meal, bran, ground rye, carrots and shredded fodder.

Oceana Co.

H. J. P.

It is impossible to make a balanced ration out of these foods because you can't get one containing the right proportion of protein to the carbohydrates to have economical digestion and assimilation. You have got to add some food that is rich in protein, and besides I do not think cows ought to have simply corn fodder for roughage. I believe it would pay to buy hay and feed them hay once a day. The carrots, of course, are excellent for a succulent food. If you have enough of them you can feed them quite liberally once a day. Otherwise, I would feed a small amount of them and have them last longer so as to have a small amount of succulency as long as possible. In addition to corn-and-cob meal, bran, and ground rye, I would purchase either cottonseed meal, oil meal, or gluten feed. I would suggest that you make



## DE LAVAL Cream Separators ARE EASIEST TO WASH

The construction of the De Laval bowl is such that it can be completely taken apart for washing.

The discs, bowl parts and tinware have no tubes, crevices, holes or corrugated surfaces such as are found in other machines and which are very hard to clean.

The De Laval discs are washed as a single piece and the whole machine can be thoroughly

## CLEANED IN FIVE MINUTES

There is no part of the De Laval bowl which cannot be easily reached and seen, so that the operator can always tell whether or not every part has been properly cleaned.

The ease with which the De Laval can be thoroughly washed and kept in a sanitary condition is one reason why creamerymen prefer De Laval to other separator cream, and is likewise one of the reasons why butter made from De Laval cream has scored highest at the National Dairy Show for over 20 years.

The new 72-page De Laval Dairy Hand Book, in which important dairy questions are ably discussed by the best authorities, is a book that every cow owner should have. Mailed free upon request if you mention this paper. New 1913 De Laval catalog also mailed upon request. Write to nearest office.

**THE DE LAVAL SEPARATOR CO.**  
NEW YORK CHICAGO SAN FRANCISCO SEATTLE



*We'll help you to keep the boys and girls on the farm*

The big reason why young people flock from the country to the cities is because farm life is so hard, the hours of labor are so long and the pleasures are so few. We have stopped the tide of emigration from 25,000 farms and we are ready to stop it from yours. The

## INDIANA SILO

cuts out the disagreeable work of carrying feed from one barn to another and enables one person to feed more animals in half an hour than two persons can feed in an hour without it. It makes the dairy business profitable all year round and fattens your steers at lowest cost. It makes the hens lay more eggs and it conditions the horses and mules. It is the best pork producer on the farm.

The Indiana Silo is never an expense or a luxury. It is always a money making investment and a necessity. It is built of uniformly perfect silo materials and lasts for years and years. The first Indiana Silo we ever built has been in use for more than ten years and will be in good condition ten years from to-day. The profits an Indiana Silo will bring you will enable you to buy the luxuries that make farm life as attractive as city life at its best.

If you want to keep your boys and girls at home, order an Indiana Silo to-day. We will build one to your order and ship it the very day you want it. The payments will take care of themselves.

## THE INDIANA SILO COMPANY

Factories:

Anderson, Ind. Des Moines, Ia. Kansas City, Mo.  
382 Union Bldg. 382 Indiana Bldg. 382 Silo Bldg.

**WRITE** today for our catalogue and a free copy of the book "Silo Profits," which is the story of the Indiana Silo as written by scores of owners of Indiana Silos. And ask us for the name of our representative in your locality.

"You buy an Indiana Silo—but it pays for itself."

## COTTONSEED MEAL

We want distributors in your section to push Owl Brand. Standard for 35 years. Popular because pure and easy to sell. Write for prices and plan.

F. W. BRODE & COMPANY, Memphis, Tenn.

## Government Farmers Wanted

Free Living Quarters. Write Osmont, 17 F. St. Louis.

## CASH FOR OLD BAGS

Turn them into money. We buy them in any quantity sound or torn, at a liberal price and pay the freight. Write for particulars. Reference: Citizens Bank. **Iroquois Bag Co., 755 Broadway, Buffalo, N. Y.**



## Talk About Simplicity!

Here are all the parts that go to make up the bowl of the

### SHARPLES TUBULAR CREAM SEPARATORS

and with these three we guarantee Tubulars to skim 50% closer and to continue to skim 50% closer than any other separator made.

#### THIS BEING THE CASE—

Why should you have to wash up seven times this many pieces—twice a day?

That is a question that is easier to ask than to answer.

There has never a claim been made for Sharples Tubulars that could not be proven;—there has never a machine left our Factory that was not guaranteed *Forever*.

Mark that—not merely a year, or two years—or even five—but *Forever*. Look into these features before exchanging your old separator, or at the time you decide that there's money in selling the cream and keeping the skimmed milk on the Farm.

Write for our interesting Catalog 152 and arrange for a *Free test right under your own roof*. The people who ask questions are the ones who buy Tubulars.

The Sharples Separator Co., West Chester, Pa.

Branches: Chicago, Ill., San Francisco, Cal., Portland, Ore., Dallas, Tex., Toronto, Can., Winnipeg, Can.

AGENCIES EVERYWHERE.



**Louden's Bird Proof Barn Door Hanger**

Never Clogs—Never Balks

**PERFECT AND PERMANENT.**  
And the only enclosed track that automatically adjusts itself to lie close to the building.

**DOUBLE FLEXIBLE** LIGHT RUNNING, roller bearing, tandem trolley hangers, operate inside of an enclosed track. Always runs easily, never binds. Can't get off the track. Can't be clogged by birds, ice or snow. Can't be broken by stock crowding through half open doors. Carries the heaviest doors. Lasts as long as your building—always on the job. *Costs no more than the ordinary makes.*

Buy them at your dealer's or write us for Free descriptive matter.

We make the famous LOUDEN Hay Tools, Sanitary Steel Cow Stalls and Stanchions, Litter and Feed Carriers—everything for the barn. Free catalog describes them all.

**FREE BARN PLANS SERVICE.** If you are going to build or remodel your barn, write for our free barn plan service.

**LOUDEN MACHINERY CO., 703 West Broadway, FAIRFIELD, IOWA.**

**Cut Your Hard, Disagreeable Barn Work in Half by using HARRIS Litter and Feed Carriers**

Our **WOOD LINED STEEL STANCHIONS** are easiest to operate and most comfortable for the cow. Write at once for large FREE catalogue. It shows you how to **PRODUCE SANITARY MILK** at one-half the expense with **HARRIS BARN EQUIPMENT**.

**HARRIS MFG. CO., 167 Harris Ave., Salem, O.**

## Is Your Cream Separator Guaranteed Not to Rust?

Every dairy utensil made of tin wears and rusts. This is the reason why a different metal—*Nickel Silver*—is used in the skimming sections of the 1913 model

### United States Cream Separator

**Nickel Silver Skimming Sections in United States Cream Separators are Positively Guaranteed Not to Rust**



Furthermore, U. S. nickel silver sections are easier to clean than tinned steel discs or other devices, because milk and dirt stick to them less tightly than to tin or steel.

Still another advantage of U. S. nickel silver sections is that they will not crack as tinned steel discs frequently do, and are, therefore, much more durable.

Back of all the exclusive time, labor and expense saving qualities of a U. S. Separator you have the separator celebrated the country over for its close skimming and holder of the **World's Record** in 50 consecutive runs extending over a period of 30 days with milk from 10 breeds of cows.

Our catalogue fully describes these and many other important features. Write for it and ask your U. S. dealer for a free demonstration at your farm.

Price as low as \$25 east of the Mountain States.

**VERMONT FARM MACHINE CO.**  
Bellows Falls, Vt. Distributing Warehouses in Every Dairy Section Chicago, Illinois

a ration by mixing corn-and-cob meal, wheat bran, ground rye and Buffalo, gluten feed, equal parts by weight, and then feed each cow as many pounds per day as she produces pounds of butter-fat in a week, and I would also suggest that you give them one feed of clover hay per day. If you can't get clover hay then use mixed hay. Cows giving milk ought to have something for roughage besides corn fodder, and it will pay to give it to them.

#### WHAT BREED OF DAIRY BULL TO BUY.

As I contemplate buying a bull to improve my herd of grade cattle to a better class of dairy cows, will some good authority please inform me of the proper breed of bull to get? Some prefer Holsteins, some Jerseys, and some Guernseys. My neighborhood boasts of a co-operative creamery to which I am a regular contributor of cream.

Kent Co.

H. R. J.

This question of course brings one squarely up against the proposition, "Which is the best dairy breed?" Frankly, I do not know of anybody that knows which is the best dairy breed. As a matter of fact, there is no best dairy breed. There are four prominent dairy breeds, the Jersey, the Guernsey, the Holstein, and the Ayrshire; also the Brown Swiss and the Dutch Belted. All of these have distinct breed characteristics, one excels in one particular, another in another, and when you take them for all in all, view them from every standpoint, take all circumstances in consideration, it is doubtful if there is any great difference in these breeds as breeds when we put them to the final test of the economical production of butter-fat and solids not fat.

Of course, if you want to compare individual Jerseys and Holsteins, the Holsteins are a very large breed of cattle and the Jerseys a smaller one, and the small Jersey cannot produce as much milk as the large Holstein. So far as size is concerned she is outclassed, but when it comes to taking the feed which the farmer grows upon his farm and making it into butter-fat and solids not fat, that is a different proposition, and figured on this basis the Jersey will give a very good account of herself, and, in fact, so will all the other breeds.

There is a great difference in individuals in each breed. There is no breed but what has poor individuals and good individuals, and there is greater difference between the individuals of the same breed than there is between the breeds as a whole, and taking everything into consideration, I think that one can select the dairy breed that he likes best, and make no mistake. Whichever one he selects he can rest assured if he has a good individual that he has got something extremely good, something that will improve his common cows and make superior dairy animals out of them.

#### CAN THE RATION BE IMPROVED?

I thought I was feeding a fairly balanced ration, when a man with lots more experience tells me he can increase the flow of milk at least one-third by changing the ration. Grade fall cows are giving 35 lbs. of milk. My ration is 45 lbs. of silage, 4½ lbs. crushed oats, 2½ lbs. cottonseed meal, and 2 lbs. oil meal per day. Clover hay and Hungarian grass is used for roughage. He would mix gluten meal, corn-and-cob meal and crushed oats, equal parts by weight, and feed one pound for each three pounds of milk. The silage has very little grain in it. If there are other feeds I should have what are your suggestions? I took your advice two years ago on "Shall a man in debt build a silo?" I have never regretted building it but I am not out of debt by any means. Would like to advise with you further in regard to paying for a quite badly run sandy farm, if I may feel free to do so.

Oakland Co.

B. D. W.

The ration which is at present being used can be criticised as containing a little bit more protein than there is need of, and since protein is the costly part of the ration it will improve it by reducing that element a little, and I think the ration recommended, of corn meal, crushed oats, and gluten feed, would probably be a little bit cheaper and furnish a sufficient amount of protein. The ration, however, that Mr. W. is now feeding is a good ration. If the cottonseed meal was cut out entirely and in its place two pounds of gluten feed was substituted I would think just as much of the ration as the proposed one, and I believe it would give equally as good results, if anything it would be even more economical.

I am glad to know that Mr. W. was progressive enough to build a silo, and I am sure if he keeps live stock that the

silo will eventually help him get out of debt. I shall be glad indeed to give my opinion with regard to the management of a farm if it will be of any service.

#### ANOTHER RATION TO BALANCE.

I have lots of good corn fodder, some clover hay, bean pods, and oat straw. I have been feeding corn and oats with a little rye and some cottonseed meal. In what proportions do you advise feeding the above?

Mich.

W. W.

All of this roughage is good where you have such a good variety. Corn fodder and oat straw fed alone is not very good but where you have hay and then feed a moderate amount of corn fodder and oat straw it makes a good ration so far as the roughage is concerned. You also have good feed for the grain ration. I would suggest if you haven't rye enough to feed as liberally as you would of the corn meal and oats that you mix the corn and oats in the proportion of 200 pounds of each with 100 pounds of rye. Then the cottonseed meal is all right if you don't feed too much of it. I wouldn't feed to exceed two pounds per day. Don't mix the cottonseed meal with the other grain because it is a concentrated food and one has to be exceedingly careful in mixing or else it will not be evenly distributed and some cows will get more cottonseed meal than they ought to have. Therefore, I would feed this separately to know just exactly how much each cow is getting, and would not exceed two pounds per day. You can feed this two pounds to one feed if you choose, either night or morning. Then feed enough of the other grain ration so that the cows will get in all as many pounds of grain per day as they produced pounds of butter-fat in a week. Feed the clover hay what they will eat up clean without wasting, but the corn fodder and the oat straw should be fed more liberally. You can't expect them to eat it all up clean. Let them pick out the best.

#### THE SILO A NATIONAL FACTOR.

The leading agricultural subject of the day is the silo, and its coming is of national importance. No subject is receiving so much attention from the experiment stations, farm papers and farmers' institutes. All the great industries depending on live stock, such as the stock yards, creameries, packing houses and transportation companies, are advocating its use. It is a conservation subject of great importance, for with it can be saved a large part of our principal crop. Nearly 40 per cent of the food elements of the corn crop of this country are now wasted. By the use of the silo this could be saved and by so doing, hundreds of millions of dollars could be added to our national wealth. The corn forage which annually goes to waste in this country is often referred to as the "Billion Dollar Waste." Is it any wonder we are complaining of the high cost of living?

In the past 11 years the great stock industry of the United States in comparison with our population, has been showing a decline. This condition has been largely brought about by the rise of price in all kinds of stock foods, thereby making a smaller profit to the producer. This in turn has driven many men out of the stock business and discouraged others from going in. With the silo the cost of producing stock and stock products can be greatly lowered. Experiments have shown that by the use of the silo in place of the old feeding methods, butter can be produced from nine to ten cents per pound cheaper and a saving made on the production of beef from \$1.50 to \$2.00 per hundred pounds. As a large part of our food comes from live stock it is plain to see the relation of the silo to our national food supply.

Silage can be made from nearly all kinds of farm forage and is a good and cheap ration for horses, cattle, sheep, swine and chickens. It requires little storage space, is a labor-saving device, doubles the value of the corn crop, triples the stock-carrying capacity of the land, restores the fertility of the soil, and returns its user annually one hundred per cent on the investment.

Nebraska.

A. L. HAECKER.

#### INCREASING USEFULNESS OF SILO.

Illinois stockmen are finding the silo of great benefit in feeding sheep, as well as cattle and hogs. A large sheep and lamb feeder says silage is a great and cheap winter feed for sheep, and he finds it especially good for lambs, the youngsters am sure if he keeps live stock that the





**Let Me Tell You How To Get Into The Champion Hatching Class**

SEND your name for my World's Championship Hatching Facts. I will tell you about the Six World's Championships won by my famous Belle City Incubator—will tell you about the folks who won the prizes, how they did it and how you can get championship hatches right from the start. My **Six-Time World's Champion Belle City**

has defeated all other incubators, many costing two to five times more than my price. Used by U. S. Government after a careful investigation. I want to tell you about the features I have embodied in the Belle City which made them the Championship Hatching Incubators of the World. I want to tell you about my famous Double-Walled Hot Water Top-Heat Brooders guaranteed to raise the chicks. I'll tell you all about my manufacturing, selling and shipping plan that makes my remarkably low price possible.

**Get My Lowest Price**  
Just say, "Send World's Championship Hatching Facts." I'll quote you my lowest price, freight prepaid—tell you how you can have 1, 2, or 3 months home test at my risk—how I protect you by my personal 10 year guarantee. I'll send you my portfolio of all these hatching facts—free, if you write me a postal. Address Jim Rohan, Free.

Belle City Incubator Co., Box 14 Racine, Wis.

## 1913-The \$Coining Year in Poultry

NOT for a long time has the opportunity been so great. Good prices are assured because of last spring's poultry and egg shortage. Farmer's 1912 bumper crops insure lower cost of feed. The market is ready—waiting—and at top prices.

The men and women poultry raisers who go in to win this year, will win—with the right knowledge and equipment. If you want the very latest practical facts, experiments and methods—if you want to know the surest, easiest road to increased poultry profits—write us today for our big and profusely illustrated

## FREE BOOK, "Profitable Poultry and Egg Production"

It is a reliable guide—right down to the minute. You'll want to read this list of chapters: Chapter I—What is possible in Poultry Meat Production. Chapter II—What Can be Done in Way of Egg Production. Chapter III—Deep-Litter Feeding Experiments of 1912. Chapter IV—Quick Maturity in General-Purpose Fowls. Chapter V—Ages and Weights of Chickens for Table Use. Chapter VI—How to establish Prolific Egg-Yield Flocks. Chapter VII—Today's Best Chance in the Poultry Business. Chapter VIII—Small Scale Poultry Keeping on a Practical Basis. Write for your copy now—today.

## CYPHERS INCUBATORS and Brooders

are the right equipment for earnest poultry raisers. For years the World's Standard poultry equipment. Non-moisture, perfect ventilating, self-regulating, fire-proof, insurable. Success of Cyphers owners is further assured by our "Free Bulletin and Personal Letter Service"—of daily benefit to our customers. You don't go wrong if you buy a Cyphers. You cannot go wrong if you follow our helpful advice. But send for the Big Free 1913 Book—244 large pages—500 pictures—a poultry library in itself. Address today.

**Cyphers Incubator Co.**  
Dept. 35, Buffalo, N. Y.  
New York City, Boston, Mass.  
Chicago, Ill. Kansas City, Mo.  
Oakland, Cal. London, Eng.



## HATCHES ON A GALLON

**RAYO Incubator**

Fill oil tank once with one gallon of oil, then light lamp—the RAYO, with automatic regulator, will complete the hatch. Cheap, easy.

**Saves big oil-money**

Lamp underneath—perfect radiation—even temperature. Turn eggs without removing tray. Clean lamp without removing tank or chimney. See eggs and thermometer through glass top. Regulator adjusts exactly. Double heating system saves heat. Automatic ventilation. Roomy nursery. Big hatches certain—fine, strong chicks. Low direct price, freight prepaid. Ask for Free Catalogue No. 10.

**Rayo Incubator Co.**  
946 South 13th Street Omaha, Neb.

**\$80 Per Month** Straight Salary and expenses, to men with rig, to introduce Poultry Remedies. We mean business. Enreka Poultry Food Co., D. 622 E. St., St. Louis, Ill.

# Poultry and Bees.

## KEEPING A RECORD OF BEES.

There are several ways of doing this, all of which have their merits and demerits. As it is really more a matter of individual preference than anything else, I will merely give a few methods without attempting to say which I think the best to use.

One, very largely used, is the book method, which necessitates the numbering of the hives. A small book is then prepared, allowing a page or part of a page, as the case may be, for each colony. Referring to the accompanying illustration, the manner of keeping the record should be plain. Take No. 49, for instance. The number 45 in parenthesis, with the date 1910 in smaller figures overhead, signifies that the queen in No. 49 was bred from No. 45 in the year 1910.

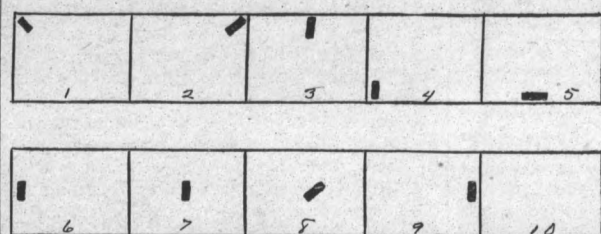


Diagram Showing how to Designate Condition of Colony by Position of Slate on Hive.

On April 3 the colony was examined and found to be of medium strength and possessed of plenty of stores. On May 6 it had six frames of brood and stores enough to run it through. The rest is very plain.

In No. 50, A5 in parenthesis signifies that this was a first swarm from No. 5 and the date 6-4 is the date they issued. One super was given the day they were hived, and so on. Many other operations are recorded on some hives but these are simply to show the general method.

I know some people who use pieces of broken sections to keep their records on. In fact, I have used them myself some times. They are very handy; the record can be written and then the piece of section thrown upon the oilcloth or inner cover of the hive. It is then the first thing you see when you open the hive, and a glance will show you just what that hive is likely to be in need of. The only difficulty with this method is that there is no very satisfactory way of keeping the record from year to year, which is very important if you wish to build up your bees.

The A. B. C. of Bee Culture gives two different methods of using a slate for keeping hive records. One of these is to

pencil will not erase so easily and can be read by turning the slate to the light.

The other method of using the slate is that of designating the condition of the colony by the position of the slate on the hive. By the use of this method one can tell the condition of the colony at a glance clear from the farther corner of the yard. Here is a sample code for telling the inside conditions, which can be varied at will to suit the time of year and various methods of work: Obliquing slate to right; queenless but have good cell; obliquing to left, queenless, ready for a cell; placing horizontally, hopelessly queenless, laying workers, or something else radically wrong; placing slate vertically, good queen, everything O. K. Strong colonies may be designated by placing slate at the top of the hive, medium colonies about midway between the top and bottom, and weak ones at the bottom of the hive. In the same manner to indicate colonies that need feeding right away put the slate to the left; on those that have enough to last a little while but will need feeding before the season ends, put the slate in the center, while on

those hives which have enough to last them through put slate to the right.

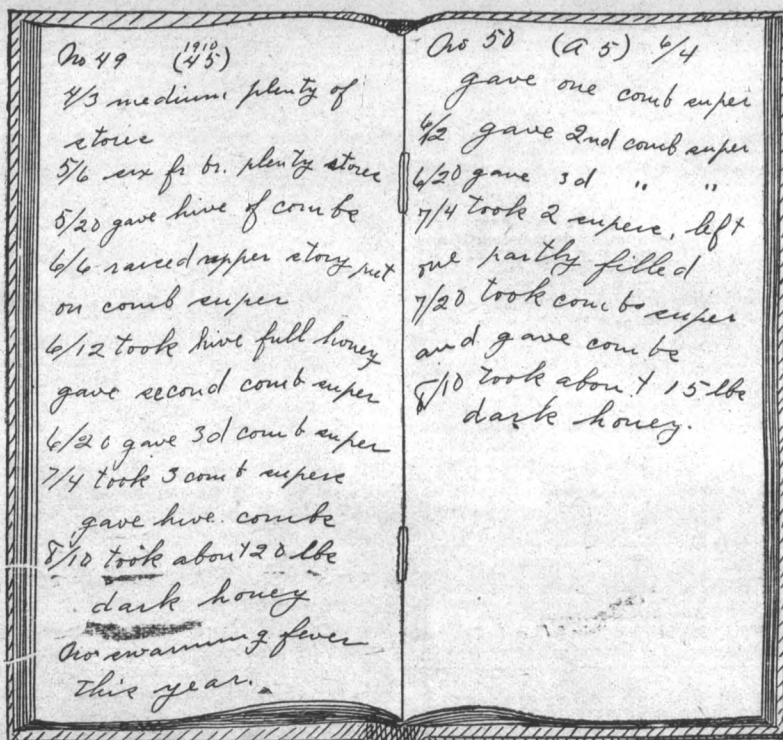
Using this code, and glancing at No. 1 in the above diagram you will immediately note that it is a strong colony but needs feeding right away; also that it is queenless and ready to accept a cell. No. 2 is also strong but has plenty of honey and has already accepted a queen cell. No. 3, strong, some honey, queen O. K., and so on. No. 10 is blank, which indicates that it is an empty hive ready for a swarm.

As I said before, any of these methods are good, and any one of them may be used successfully; but whether you use one of these or some other, be sure that you have some way of knowing just what you are doing with your bees if you wish to be successful with them.

Mecosta Co. L. C. WHEELER.

## GETTING AWAY FROM THE MON- GELS.

All ye professional chicken breeders, please skip. This article is intended solely for the busy farmer—or the farmer's busy wife—of limited time and means who, realizing that the scrub stock on the farm are not paying their feed bill, hesitates to invest in thoroughbreds be-



Sample Pages in Record Book such as kept by every Careful Apiarist. use the slate much the same as I have described the use of the pieces of section, except that the slate is hung on the outer surface of the hive, thus admitting of examination of the record without opening the hive. Slate pencils may be used but the records are likely to be erased by the rain. Records written with a lead

## COFFEE THRESHED HER

15 Long Years.

"For over fifteen years," writes a patient, hopeful little Ills. woman, "while a coffee drinker, I suffered from Spinal Irritation and Nervous trouble. I was treated by good physicians, but did not get much relief.

"I never suspected that coffee might be aggravating my condition. (Tea is just as injurious, because it contains caffeine, the same drug found in coffee). I was down-hearted and discouraged, but prayed daily that I might find something to help me.

"Several years ago, while at a friend's house, I drank a cup of Postum and thought I had never tasted anything more delicious.

"From that time on I used Postum instead of coffee and soon began to improve in health, so that now I can walk half a dozen blocks or more with ease, and do many other things that I never thought I would be able to do again in this world.

"My appetite is good, I sleep well and find life is worth living, indeed. A lady of my acquaintance said she did not like Postum, it was so weak and tasteless.

"I explained to her the difference when it is made right—boiled according to directions. She was glad to know this because coffee did not agree with her. Now her folks say they expect to use Postum the rest of their lives." Name given upon request. Read the little book, "The Road to Wellville," in pkgs. "There's a reason."

Postum now comes in concentrated, powder form, called Instant Postum. It is prepared by stirring a level teaspoonful in a cup of hot water, adding sugar to taste, and enough cream to bring the color to golden brown.

Instant Postum is convenient; there's no waste; and the flavour is always uniform. Sold by grocers—45 to 50-cup tin 30 cts., 90 to 100-cup tin 50 cts.

A 5-cup trial tin mailed for grocer's name and 2-cent stamp for postage. Postum Cereal Co., Ltd., Battle Creek, Mich.

## Now is the Time to Get Johnson's 1913 Book About the Old Trusty Incubator

Every man, woman, boy or girl who is interested in chicken raising can have a copy of the 1913 Old Trusty Book free by writing a postal for it. It's the best book ever written by the Johnsons—home made and home printed—full of real helpful facts gleaned by the Johnsons from their own practical experience and the experience of over 400,000 Old Trusty customers.

There are over 400,000 good reasons for you to read this book. They are the 400,000 Old Trusty customers who we've started to biggest poultry raising success by reading the Johnson books issued in years past.

**Send a Postal** The Old Trusty is a triple cased machine—inner case of high-grade 1/2 inch powder-dry clear California Redwood (not a knot in a mile)—then a case of highest-grade asbestos, fire proof insulation—and then the outer case, covering legs and all, of galvanized metal in hand some mottled finish. Johnson's machine is equipped with guaranteed not-to-leak cold rolled copper tank and heater—direct acting regulator. Price, still less than \$10 for 1913, freight prepaid east of Rockies and allowed that far to points beyond. Write postal now.

**JOHNSON, Incubator Man, Clay Center, Nebr.**



**Less Than \$10**

Built Exactly Alike for 30 to 90 days Biggest Average Hatch Free Trial Freight Paid E. of Rockies

**125 Egg Incubator and Brooder BOTH for \$10**  
If ordered together. Freight paid, east of Rockies. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Send for it today. Wisconsin Incubator Co., Box 126 Racine, Wis.

Please mention the Michigan Farmer when writing to advertisers.



**Pratts 160-page Poultry Book 4c by mail**

**Put the "KICK" in the Eggs**

If you want big hatches of husky chicks, the kind that live and grow. Infertile eggs and small hatches of weak chicks are the rule when the breeding stock is in poor condition, weak and run-down.

**Pratts Poultry Regulator**

will quickly correct this condition in your flock because it acts directly on the digestive and reproductive organs, strengthening them, toning them up, invigorating them. 25c, 50c, \$1; 25-lb. Pail, \$2.50; 100-lb. Bags, \$9. After the chicks are hatched you should raise them all.

**Pratts White Diarrhea Remedy**  
25c, 50c

controls bowel troubles. Use it for all broods as a preventive.

**Pratts Baby Chick Food**

makes chicks grow at an astonishing rate, with big bones, plenty of muscle and unbounded strength and vigor. You can rely upon this scientific food mixture to carry through the critical period all worth-while chicks, and give them that favorable start upon which future profits depend.

In boxes and bags, 25c up. "Your money back if it fails."

Get Pratts Profit-sharing Booklet  
Our products are sold by dealers everywhere, or

**PRATT FOOD COMPANY**  
Philadelphia  
Chicago

**\$10 Buys 165 Egg National Incubator And Brooder**

**\$9.00 Incubator and \$4.00 Brooder for \$10. FREIGHT PREPAID 165 Chick Brooder Alone \$4.00**

Strong, fireproof, metal case, High, roomy nursery, Reliable non-breakable lamp, Very sensitive thermometer, Hot water heating system, Cold-rolled copper water tank, Wide dead air space, Spacious egg chamber, Has made many 100% hatches

Brooder has safety lamp. Is roomy and easy to clean. Order direct from this advertisement. We guarantee satisfaction or you get all your money back quick. Brand new Poultry Book free. Order Now.

**EGG NATIONAL INCUBATOR COMPANY, 1316 19th St., Racine, Wis.**

**55 BREEDS** Pure-Bred Chickens, Ducks, Geese, Turkeys, also Incubators, Supplies, and Collie Dogs. Send 4c for large Poultry Book Incubator Catalog and Price List.

**H. H. MINIKER, Box 56, Mankato, Minn.**

**FOR SALE—Buff, Black and White Orpingtons.** Score 91 to 95, hens and Pullets, Cock and Cockerels reasonable. Swift Vinegar, R. 12, Grand Rapids, Mich.

**Eggaday Barred Rocks,** bred to lay. Eggs Score 91 to 95, hens and Pullets, Cock and Cockerels reasonable. Swift Vinegar, R. 12, Grand Rapids, Mich.

**MRS. FLORENCE HOWARD, Petersburg, Mich.** A few choice Rose Comb White Leghorns and White Rocks for sale. Splendid layers. Prices low.

**Barred Rock Cockerels**—Big, sturdy fellows, hatched from great layers. Prices reasonable. W. C. Coffman, R. 6, Benton Harbor, Mich.

**COLUMBIA Wyandottes, Winners at Chicago, Grand Rapids, South Bend and St. Joseph.** Stock and eggs, RICHARD SAWYER, Benton Harbor, Michigan.

**FOR SALE—Barred Plymouth Rock Cockerels,** Thompson Ringlet Strain. They are fine large birds, all young stock best we ever raised. We offer Cockerels now for sale at reasonable prices. Mrs. EARL W. BARNARD, R. No. 3, Saranac, Mich.

**BARRED ROCK COCKERELS** of the Bradley strain, at \$2 and up while they last. A. A. PATULLO, Deckerville, Mich.

**MAMMOTH Bronze Turkey toms & hens, Silver & Partridge Wyandotte cock's, Ind. Runner drakes.** Prices reasonable. E. H. & J. A. Collar, Coopersville, Mich.

**CRYSTAL WHITE ORPINGTONS**—A few choice cock Eggs after January 15th. Mating list sent. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Mich.

**Silver, Golden and white Wyandottes, a fine lot of** Brownings Wyandotte Farm, R. 30, Portland, Mich.

**White Wyandottes**—Famous Winter Laying Strain. Eggs for hatching after March 1st. A few more cockerels. L. M. Olds, Ypsilanti, Mich.

**White Wyandottes**—Noted for size, vigor and egg production. 1913 circular ready in February. A. FRANKLIN SMITH, Ann Arbor, Mich.

**White Wyandottes**—April and May hatched cockerels for sale. Send for 1912 circular. DAVID BAY, 202 Forest Ave., Ypsilanti, Michigan.

**Prize Winning Barred Rocks, R. I. Reds, Mammoth Stock for sale.** Eggs \$1.25, \$3 per set. Utility \$5 per 100. ELMWOOD FARM, R. R. No. 13, Grand Rapids, Mich.

**LILLIE FARSTEAD POULTRY**  
B. P. Rocks, R. I. Reds, and S. O. W. Leghorn eggs for sale. 15 for \$1.50; 50 for \$2.50.  
COLON C. LILLIE, Coopersville, Mich.

**DOGS.**  
**HOUNDS FOR HUNTING** Fox, Coon, Skunk and Rabbits. Send 2c stamp. W. E. LECKY, Holmesville, Ohio

**FOX AND WOLF HOUNDS**  
of the best English strains in America; 40 years experience in breeding these fine hounds for my own sport. I now offer them for sale.  
Send stamp for Catalogue.  
T. B. HUBSPETH, Sibley, Jackson Co., Mo.

**FERRETS.**  
**6000 FERRETS FOR SALE**—Price list free. Book on ferrets 5 cents. C. J. DIMICK, Rochester, Ohio.

**2,000 FERRETS** They hustle rats and rabbits. Small, medium and large. Prices and book mailed free. N. A. KNAPP, Rochester, Ohio.

**When writing to advertisers please mention the Michigan Farmer.**

**Let Neubert Save You \$5.00**  
On the Best Hatcher Ever Turned Out of Any Factory

Took me 19 years to make the Triumph perfect. Now it can't be equalled. Let me prove it. Send name for my great book. I'll tell you about features that make successful poultry raising easy for anyone. My price for the

**1913 TRIUMPH**  
saves you \$5.00. Walls made of Redwood, Basswood, air space, asbestos, 2 layers of 3-ply building felt—heavy copper heating tank with galvanized hot air attachment to save all the heat, double acting regulator—automatic ventilation. Best thermometer, strongest egg trays, roomy nursery, egg, tester—all complete, ready to run. Mail postal now for book—before you spend a cent for any incubator or brooder. Address: R. F. NEUBERT, Box 793, Mankato, Minnesota

**FARMER'S TOOL GRINDER**  
SAVES THE PRICE OF NEW TOOLS  
Pays for itself in a short time. A labor and time saver. Connects to gas-line engine. Requires little power to operate. Will last a life time. Useful in a hundred ways for grinding and general sharpening of mower knives, sickles, scythes, butcher knives and all tools.  
**SHARPENS A PLOW**  
Point in 5 Minutes  
Fitted with a general purpose wheel, can be used wet or dry. For sale by all dealers. Write us for descriptive circular.  
**CRESTLINE MFG. CO., Dept. 2 CRESTLINE, OHIO**

**OUR TRAPPER'S FRIEND AND GUIDE FREE**  
MODERN METHODS IN TRAPPING. This GUIDE is as different from any Guide you ever saw, as an AUTOMOBILE is different from the old time STAGE COACH. \$100.00 would not buy it of you if you could not get another. You never saw its equal. You get the GUIDE FREE, ordered on our blanks. Write the Old Square Deal Fur House, WEIL BROS. & CO., Box A-24 Ft. Wayne, Ind.

**YOUR HIDE**  
will be tanned right if sent to The Blissfield Robe & Tanning Co. Horse, cow and small furs made soft and pliable. Wind and Waterproof. We manufacture them the right way into men's and women's Fur Coats, Robes, Mittens, Rugs and Vests. Deer skins tanned for Buckskin. Our Catalogue and Souvenir Account Book sent free.  
The Blissfield Robe & Tanning Company, Blissfield, Michigan.

**\$10,000 Backs**  
this portable wood saw. Guaranteed 1 year—money refunded and freight paid both ways if unsatisfactory. You can easily earn \$10 a day with a  
**HERTZLER & ZOOK**  
Portable Wood Saw  
As low as \$10  
sawing all kinds of neighbors' lumber. Strictly factory prices—save jobber's profits. Operates easily. Stick sits low—saw draws it on immediately machine starts. Only \$10 saw to which ripping table can be added. Write for catalogue.  
**HERTZLER & ZOOK CO., Box 23, Belleville, Pa.**

eternal vigilance is the watchword; all chickens should be line bred." He learns the advantages of cockerel matings as against pullet matings, and vice versa. But, best of all, he learns that to produce an egg-laying strain he must invest in an egg-laying strain and, having invested, he must feed certain foods in certain quantities to compel the egg-laying hen to lay her eggs. Foods that are good for pullets are not good for cockerels, and the reverse; hence, pullets and cockerels must be separated when young to secure best results. Then there are the trap-nests, leg bands and record books to consider.

Much more he might learn but he gives up in despair. He hasn't the time for these things, "nor the woman, neither, by gum." Scrub stock will have to do.

Against her inclination, the writer kept mongrel hens until last year. She had a vague idea of what a Barred Rock rooster should look like—red comb five-pointed, stout yellow legs, yellow beak and fine symmetrical bars. Riding through the country one day she came across a flock of fowls which pretty nearly coincided with her idea of good ones.

The first week in May she purchased from the owner of that flock at a ridiculously low price—50 cents per 15, to be exact—three sittings of eggs, from which were hatched one dozen pullets and 25 cockerels. All of them lived and, thanks to liberal doses of insect powder applied to hens, were thrifty.

The flock was given to two hens and all occupied a movable wire-covered enclosure which was moved twice a week to fresh pasture. The first few weeks the chicks were fed moistened corn meal and table scraps four times a day. Afterward they got wheat and table scraps, and as they became much older oats was mixed with the wheat. With the exception of the corn meal fed them the first few weeks they never tasted corn until the last of October. Reason: We had no corn to feed.

Cockerels and pullets were fed together, receiving the same food. I forgot to mention that from the first they had a dish of skim-milk every day, also fresh water. To the skim-milk is given credit for their remarkable growth.

At Thanksgiving time, when they were six months old, the cockerels weighed eight pounds and two of the 12 pullets were laying eggs. So much for your balanced ration.

Five of the cockerels were sold for one dollar each; two were traded for two cockerels—good ones—which the writer intends to use for breeders this spring, and the rest brought 80 cents each at the market. Figure up and see if results were not satisfactory from an original investment of \$1.50 and a little time.

Do not give up—you who would like to try a hand at raising profitable poultry. If you can not afford to send away for a pen of high-priced prize winners, do as yours truly is doing—start low and build up.

Ionia Co.

F. B. VINCENT.

#### USING THE EGG TESTER.

One of the most important factors in getting good hatches, I find, is the thorough testing out of infertile eggs. Excellent egg testers, with instructions for use, are furnished with most incubators. These testers can be placed on an ordinary lamp and the eggs tested at night when the room is dark. I consider the sixth day the best time for the first test. A good strong germ has the appearance of a spider in the egg. A blood circle adhering to the shell denotes a dead germ; a perfectly clear, as well as a cloudy, egg is infertile and should be removed. These discarded eggs can be saved for cooking purposes. I boil them and feed them to the young chicks. I have found it a good plan to re-test the eggs on the fourteenth day, although some do not think this really necessary.

New York. A. E. VANDERVORT.

#### POULTRY WEEK AT M. A. C.

Next week has been designated "Poultry Week" at the Agricultural College, the Department of Poultry Husbandry having planned a week of instruction intended to meet the needs and desires of busy individuals who can devote only a few days to a course of that kind. Complete morning, afternoon and evening programs have been arranged for each day and include a course of lectures by Prof. W. R. Graham, of Ontario Agricultural College, one of the most careful poultry investigators in America. The value of the course will be enhanced by the presence of a fine collection of poultry, the

department holding its fifth annual poultry show in the college pavilion during the week.

#### GOOD RESULTS FROM AN UNUSUAL FORM OF OPEN-FRONT HOUSE.

I have been trying the open-front style of henhouse for the past two winters and like it very much. This henhouse is 10x24 with the long dimension north and south. The opening is at south end, is 2x10 ft., and is covered with a muslin curtain, stretched on a frame, only when snow or rain is in danger of blowing into the henhouse. The house, being long and narrow, no wind reaches the perches situated in the north end. The floor space is covered with litter, where the hens spend most of their time contentedly working in a healthful, light, outdoor atmosphere.

A box, 4x10 feet, and a foot high, is fastened to the west wall about 3 ft. from the floor. This is kept supplied with cleaner litter than that on the floor, and cut clover is added to it, which the hens eat with relish. This box creates more floor space and gives the hens additional exercise in jumping up and down. I get eggs every day through the winter. I had the very best success with eggs for hatching last spring when so many were complaining of poor luck. I never have rump or frozen combs to contend with, and my fowls seem much harder than when wintered in warm coops.

When the cold weather sets in and the ground is covered with snow the henhouse door is kept closed for weeks, sometimes, unless there should be very pleasant weather, and the hens do not seem to mind the confinement because they are practically living out of doors all the time.

Barry Co.

MRS. FARMER.

A fuller description of this henhouse would be interesting, inasmuch as it is built contrary to the rules generally laid down for the open-front poultry building. Few advocates of the open-front house advise a depth of more than 16 ft. from front to back; some use even less, the problem apparently being to admit strong light, preferably direct sunlight, to as much of the floor surface as possible during the day and yet not have the roosts too close to the opening. For a time a curtain directly in front of the perches was thought necessary but this has now been largely discarded even in climates as severe as that of Maine. In the house described above the depth from front to back is 24 ft. which, as the writer says, affords protection to the roosts; however, it would seem a little difficult to get an adequate amount of sunlight into this building unless there is considerable window space in the south end. Then, too, it would seem that, with the perches nearly 24 ft. from the opening, it would be possible to make the opening more than 2 ft. in width, although this would not be necessary if other provision for admitting light has been made. The style of roof and number and location of windows are therefore essential to a thorough understanding of this building. The idea of increasing the floor space by building a large scratching box 3 ft. from the floor is a new one which should be worth something to poultrymen who desire to utilize space to the best advantage.—Eds.

#### EXPERIENCE WITH GEES.

A small flock of geese may be raised each year on almost any farm at very small expense and without special preparations. They do not, as a rule, interfere with the raising of other poultry. Of course, if one wishes to make a specialty of geese, special plans should be made; however, few people in this part of the country keep geese for other than utility purposes.

Geese are easier to raise and can endure more cold than any other domestic fowl. It is the matured fowls, however, that are hardy, and it is a mistake to imagine that they need no shelter in winter. They do. If none is provided, they will sit anywhere, even out in the snow. But they don't enjoy it. During zero weather their feet suffer, as one can easily tell from the way they hobble along, stopping every few steps and drawing their feet up among their feathers for warmth.

The Toulouse and Embden breeds are both very large. The Embden is pure white while the Toulouse is usually called gray, although they have feathers of several colors, some being dark brown, some gray and others white. The Tou-



louse are more extensively raised in this section than any other variety, probably because they make less noise than other geese and are easier to raise than the Embden. The feathers of the latter, being white, bring the highest market price. The China, or Chinese, are perhaps the most beautiful of all geese, but both the Brown and the White China are small. They are excellent layers and their feathers are fine.

We keep the Toulouse. Last season we hatched 96 and raised 82. Not a gosling died of disease. Hawks took several while small and a number were killed, after they were half grown, by turtles. They are inclined to wander far away from home and, if given free range, they will sometimes go so far that they never return.

They are easily controlled, as they cannot fly over a fence that will turn cattle or sheep, but they will creep through if possible. Old geese can fly, but they seldom do. Goslings have no wings until nearly half grown. That is, they have no wing feathers. Therefore it does not take a high fence to turn them. They cannot get over an 18-inch fence. Poultry netting can be used for fencing. Yards must not be too small and goslings will not thrive when kept in small yards. There should be a house (not an ordinary coop) in each yard. Coops, such as are used for chickens, are not at all suitable for goslings. In fact, a small coop is not the proper thing for chickens or any other young poultry, for that matter. But to those who anticipate raising goslings let me say: Build the houses so they can be easily cleaned and thoroughly ventilated. They need not, necessarily, be very expensive, but they should be well built. Our gosling houses are 4 ft. high in front and only 2 ft. high at the back. They have good roofs and floors. Goslings sit on the floor at night and this must be kept dry. Cheap lumber can be used. We had our gosling houses built large enough for from 15 to 40 goslings, according to size. These houses are rat proof. They are enclosed on one side with fine-mesh poultry netting, and have curtains to be let down to protect the goslings from cold or rain.

#### Winter Care of Breeders.

It may not be amiss to give our method of feeding and caring for the old geese during the winter. They are never kept in a house with other poultry, because they are very abusive to other fowls. Besides, their food differs somewhat from that required by chickens.

Geese should not be confined to one kind of feed. We feed some whole corn, but they need ground food, such as bran or some oat chop mixed with either cut clover or vegetables. Some people use silage with good results but we have never tried it. If they will eat it when grass is not to be had, those who have silos ought to be well equipped for feeding geese. The fowls require some kind of roughage in winter to take the place of grass. When they have plenty of grass they require very little grain, unless being fattened for market. In feeding stock geese we give all they will eat (which is not much) morning, noon and night. When the weather is very cold they sometimes refuse to eat anything in the morning until they get a warm drink. We often fill a shallow trough with water heated to about 100 degrees and then scatter whole corn in the trough. They enjoy taking the corn out of the water. This may sound like "pampering," but it is not. It is not necessary to provide warm water for poultry except in very cold weather, and at such time it is not pampering; it is common sense. When a mash is used, no corn is put into water. Clover or alfalfa should always be cut in short lengths and scalded, then steamed and mixed with bran, corn meal or chop.

We usually feed vegetables, such as cabbage, beets, turnips, etc., chopped raw and mixed with bran or corn meal. A little salt is added once or twice a week. A little powdered charcoal is also added several times a week. Geese eat great quantities of grit when they have free range. They seem to prefer coal cinders or broken sandstone to oyster shell, but if no other grit is convenient they will eat the crushed oyster shell.

Geese usually begin laying very early in the season if they are properly cared for in winter. Besides keeping our geese in a comfortable house, with plenty of clean straw on the floor for bedding, we scatter some straw over the yard before they are turned out for exercise on cold days. Geese do not require animal food.

Ohio.

ANNA W. GALLIGHER.

# Cut Down Upkeep

By R. E. Olds, Designer

**I have built cars for 26 years—60,000 of them.**

**But of all I have learned, nothing else compares with these ways for cutting upkeep—shown in Reo the Fifth.**

## The Final Cost

The buyer sees just the car's first price. But the vital thing is the after cost.

That may be little or it may be much. It depends on the builder largely. And the difference to you, in the course of five years, may be \$1,000.

## How I Reduce It

One big item is tires.

In Reo the Fifth I cut this cost by using tires 34x4. They cost \$60 per set more than tires often used on a car of this weight. But they save many times that in tire bills.

I use in this car 15 roller bearings—11 Timken, 4 Hyatt. They cost five times as much as common ball bearings. But they do not break.

I use 190 drop forgings, at twice the cost of steel castings. But drop forgings don't have flaws.

## Margin of Safety

Axles and driving parts should show very large over-capacity. I build them all to stand the tests for a 45 h. p. car. That leaves enormous margin.

I have all steel made to formula. Then I analyze each lot twice.

For testing my gears I use a crushing machine of 50 tons' capacity.

I use 7-leaf springs, two inches wide. And I test them for 100,000 vibrations.

Each engine is tested for 48 hours—20 hours on blocks, 28 hours in the chassis. I employ unusual tests.

Each car in the making gets over 1,000 separate tests and inspections.

## Costly Items

I use a \$75 magneto to save ignition troubles. I doubly heat my carburetor, for low-grade gasoline. I use a centrifugal pump, not a syphon. That adds about \$10.

I use 14-inch brake drums.

I give each body 17 coats, so the finish will endure. I use the best genuine leather in upholstery. Also the best curled hair.

I am using flush electric dash lights in place of the old-style lamps.

All these things are costly. Yet I supply them, through factory economy, in a wonderfully low-priced car.

A car without them is likely to cost five times as much for upkeep. There may be costly repairs, and frequent.

I never would buy a lesser car. Therefore, I never shall build one.

# Our \$100 Control

Here is one feature worth \$100 which costs not an extra penny.

It's the Reo center control. All the gear shifting is done by moving one little handle only three inches in each of four directions. It is as simple as moving the spark lever.

The driver sits on the left hand side, as in the latest high-priced

cars. And this control lever is at his right hand.

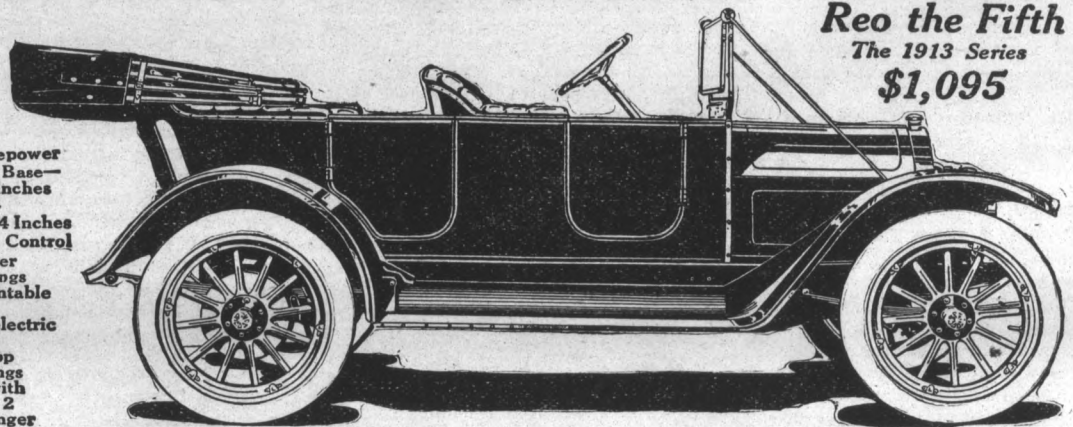
Both brakes are operated by foot pedals. There are no brake levers, so both front doors are clear.

A car in these days should have these modern features.

**Sold by 1,000 dealers. Write for our 1913 catalog and we'll tell you the nearest show-room.**

**R. M. Owen & Co., General Sales Agents for Reo Motor Car Co., Lansing, Mich.**  
Canadian Factory, St. Catharines, Ont.

30-35  
Horsepower  
Wheel Base—  
112 inches  
Tires—  
34 x 4 inches  
Center Control  
15 Roller  
Bearings  
Demountable  
Rims  
Three electric  
lights  
190 Drop  
Forgings  
Made with  
5 and 2  
Passenger  
Bodies



Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank for headlights, speedometer, self-starter, extra rim and brackets—all for \$100 extra (list price \$170).

**Reo the Fifth**  
The 1913 Series  
**\$1,095**

**PRATT "50"**  
Long Stroke Motor  
4 1/2 x 5 3/4



**FULL EQUIPMENT**  
Gray & Davis Electric Starting and Electric Lighting.  
Bosch Magneto. 11-in. Upholstery.  
Licensed under Dyer patents 657,650—885,986 and 921,963

## 1913 Pratt Cars

Five Years—Every one successful as manufacturers of automobiles.

Forty Years—Every one successful as manufacturers of standard vehicles.

**Get Catalogue** showing photographic view of all models, and giving you the standards by which to value any car. We have a business proposition for you. Our goal for 1913 is a "Pratt Car" in every locality. If there isn't one in your neighborhood—if there isn't a Pratt dealer near you it will be to your material advantage to write or wire and let us know.

**Three Distinct Models**—Pratt 50, 122-inch wheel base, electric starter and electric lighting system. Price \$2,150.00.  
Pratt 40, 120-inch wheel base, Presto-O-Starter and electric lighting system. Price \$1,850.00.  
Pratt 30, 114-inch wheel base, Prest-O-Starter and electric lighting system. Price \$1,400.00.

**ELKHART CARRIAGE & HARNESS MFG. CO.**  
ELKHART INDIANA

## Ironclad Wins In 1911 And 1912 National Incubator Contest

**140 EGG**



Mrs. C. F. Merrick, Lockney, Tex., with her 140 egg Ironclad Incubator wins in the Mo. Valley Farmer and Neb. Farm Journal Big Hatching Contest in 1912. She placed 148 eggs in the incubator and hatched 148 strong chicks. Think of that! You can now get 140 EGG INCUBATOR and 140 CHICK BROODER if ordered together for only \$10.00; freight prepaid east of the Rockies. Incubator is made of California Redwood, covered with galvanized iron and asbestos, hot water type, triple walled, copper tank and boiler, self-regulating, Tyco's thermometer, O. K. burner, egg tester, poultry, complete, set up ready to run. Brooder is large, roomy, well made with wire scratching yard. Compare material and construction with other makes; if you do you'll surely order Ironclads. Guaranteed 5 years, 30 days trial. Order direct from this ad., hundreds do, money back if not satisfied. Or write for free catalog. Ask the publishers of this paper about us.



**Both For \$10**  
Made of Best Lumber  
FREIGHT PAID

**When writing to advertisers please mention The Michigan Farmer.**



# The Michigan Farmer

Established 1843.

## The Lawrence Publishing Co.

Editors and Proprietors.

39 to 45 Congress St. West, Detroit, Michigan.  
TELEPHONE MAIN 4525.NEW YORK OFFICE—41 Park Row.  
CHICAGO OFFICE—600 First Nat'l Bank Building.  
CLEVELAND OFFICE—1011-1015 Oregon Ave., N. E.M. J. LAWRENCE.....President  
M. L. LAWRENCE.....Vice-President  
E. H. HOUGHTON.....Sec. Treas.J. R. WATERBURY.....Associate  
O. E. YOUNG.....Editors  
BURT WERMUTH.....Editors  
ALTA LAWSON LITTELL.....Editors

E. H. HOUGHTON.....Business Manager

### TERMS OF SUBSCRIPTION:

One year, 52 issues.....50 cents  
Two years, 104 issues.....\$1.00  
Three years, 156 issues.....1.25  
Five years, 260 issues.....2.00

All sent postpaid.

Canadian subscriptions \$50 a year extra for postage.  
Always send money by draft, postoffice money order, registered letter or by express. We will not be responsible for money sent in letters. Address all communications to, and make all drafts checks and postoffice orders payable to, the Lawrence Publishing Co.

### RATES OF ADVERTISING:

40 cents per line agate measurement, or \$5.60 per inch, each insertion. No ad't inserted for less than \$1.20 per insertion.

No lottery, quack doctor or swindling advertisements inserted at any price.

Entered as second class matter at the Detroit, Michigan, postoffice.

### COPYRIGHT 1913

by the Lawrence Pub. Co. All persons are warned against reprinting any portion of the contents of this issue without our written permission.

WE GUARANTEE to stop THE MICHIGAN FARMER immediately upon expiration of time subscribed for, and we will pay all expenses for defending any suit brought against any subscriber to The Michigan Farmer by the publisher of any farm paper, which has been sent after the time ordered has expired, providing due notice is sent to us, before suit is started.

Avoid further trouble by refusing to subscribe for any farm paper which does not print, in each issue, a definite guarantee to stop on expiration of subscription. The Lawrence Publishing Co., Detroit, Mich.

DETROIT, FEB. 8, 1913.

### CURRENT COMMENT.

In the magazine section of this issue appears the second article on "The Country and the People of the Philippines." The article previously published dealt principally with the country while this one is descriptive of the people and their characteristics.

This series of articles was secured for publication in the magazine section of the Michigan Farmer at this time because of the fact that leaders of the dominant party in national affairs have frequently advocated a different policy with regard to the Philippines than that pursued in the past by the national government. That serious consideration will be given to this proposition by the coming administration seems to be assured by the announcement that President-elect Wilson will visit the Philippines for the purpose of getting first-hand information with regard to the country and its people.

It was with a view of furnishing the most reliable information possible upon this subject that these articles were secured for publication in the Michigan Farmer. They are written by a man formerly connected with the Department of Agriculture who spent many years in the Philippines and had an unusual opportunity to become intimately acquainted with both the country and its people. We bespeak for this article a careful reading by every member of the Michigan Farmer family who would increase his knowledge with regard to this important insular possession of the United States.

Some statistics recently made public by the crop reporting board of the Bureau of Statistics of the United States Department of Agriculture are interesting in their relation to the future of the live stock industry of the country. The estimated live stock population of the country, with the single exception of horses and mules, has decreased in all departments as compared with last year, while the number of animals on the farms on January 1 of last year was less by a considerable percentage than the number reported in 1911.

In milch cows, for instance, the decrease in the number during the past calendar year amounts to 202,000, or one per cent. Other cattle have decreased 1,230,000, or 3.3 per cent; sheep have decreased 880,000, or 1.7 per cent, and swine have decreased 4,232,000, or 6.5 per cent. As above noted, horses and mules have made a small numerical increase amounting to 0.3 per cent in the former and 0.6 per cent in the latter.

In the total value of all live stock there has been an increase in every department due to an advance in price on account of the scarcity as compared with the demand. With this falling off in the live

stock of the country, notwithstanding the constant growth of the population, the future would seem to promise well for live stock production along any of the lines in which it is now carried on in Michigan farms.

In the "Farmers' Club Community Co-operation." Department of this issue will be found the report of an organization by the enterprising farmers of Cheboygan county to promote the betterment of the agriculture of that section, particularly along co-operative lines. As stated in the report the first aim of the organization will be to promote the growing of better crops, fruit and live stock on the farms of the members and in the community generally, to promote more profitable marketing of the products of the farms and to co-operate with all other farmers' organizations as opportunity presents.

Undoubtedly there is opportunity for good work ahead of this organization and room for many more like it in the state. Experience has proven that community production offers the best basis for successful co-operation among farmers at the present time, hence excellent results may be expected from community co-operation of this kind.

How Improve the subscriber states that, Dog Law? like hundreds of other farmers in the state, he has been driven out of the sheep business by the dog nuisance. Like many others who have had experience with it he declares the present law to be inadequate, and asks that we take the subject up in the Michigan Farmer with a view to securing the passage of a law by the present legislature which will afford the sheep owner some protection. Unfortunately he advances no specific suggestions in this connection. This is one of the vexed questions of legislation which it is difficult to settle to the satisfaction of all interests and which, as a consequence, is generally made the subject of compromise when legislation is attempted. It is, however, an important problem in many sections, and a general discussion of the proposition might be productive of good suggestions. What suggestions have the sheep breeders of the state to make?

An organized campaign is being conducted by public spirited citizens of the country to secure a national law which will afford more adequate protection to our useful birds, particularly the migratory species. Prominent among Michigan men who have interested themselves in this matter is Mr. Henry Ford, of Detroit, through whose good offices our attention has been directed to the following joint appeal recently made to the school children of America by John Burroughs and Ernest Thompson Seton, the world's most widely known naturalists:

"An urgent appeal we make to you in behalf of our native birds, many species of which are in danger of extermination. To you is now given the opportunity to render substantial help toward their preservation. A measure is now before Congress, the purpose of which is to place all migratory birds under the protection of the federal government. Such a law is greatly needed. If it is not passed our birds will continue to decrease—to the great and everlasting disadvantage and shame of the American people. The destruction of bird life is costing American farmers millions of dollars annually through the constantly increasing devastations of harmful insects upon which the birds feed. But a greater loss their slaughter is bringing to all who love God's great out-of-doors.

"The measure now before Congress is non-partisan and non-political. It should have the hearty endorsement of all patriotic and nature-loving Americans. But it is in danger of being lost in the great mass of less important legislation now pending in Congress.

"We, therefore, appeal to the school children of America to help in this vitally important matter. We ask you to get your parents, teachers and friends to write or telegraph to the congressman of your district and the two senators of your state, now in Washington, urging immediate action upon the pending bird protection bill—that they may understand how deep is the interest in it and how great is the need for it. If you will today get two or three such messages written and sent (they need not be long messages—a simple signed request will do), you will have the satisfaction of knowing that you have rendered substantial help in this great and good cause. Why not make this your task for today—and tomorrow? Your teacher or your newspaper will give you the names of your senators and congressman. The messages should be sent at once.

"And this appeal is big enough and important enough to extend to all the grown-up children who are out in the greater school of life—men and women who would help conserve one of the

country's most valuable and interesting resources. To such we appeal for immediate co-operation. A message—to Washington—sent today—from you—will help to save our birds from destruction. Surely, you'll send it!"

There is a most encouraging prospect that a national law for the more adequate protection of our useful birds will be enacted by Congress at the present session. Certainly this desirable result will follow if a concerted interest is manifested by the people of the country, and the school children of America, who are naturally bird lovers, can wield a great influence in this direction. May the attention of the children of every farm family in Michigan be directed to the above appeal!

Every farmer in the state should also be interested in this proposition for economic reasons as well as from the standpoint of sentiment. A great many of them are actively interested, as will appear from the letter from one of them which appears in another column in this issue. Now is the opportune time for the general exhibition of such interest in relation to both national and state legislation.

Certain publications in the agricultural field have taken occasion to criticize the reduction in the subscription price of the Michigan Farmer from \$1 to 50 cents a year as an "unprofessional" act and have intimated that a lowering of the quality of reading matter and of advertising patronage would be the result. In addition the direct charge has been made that such a move shifts practically the entire cost of the publication upon the advertisers, thus placing them in a position to dictate to a greater degree the editorial policy of the publication. In view of these criticisms we deem it proper to analyze the situation and determine if possible "where the shoe pinches."

As stated in the announcement of a 50 per cent reduction in subscription price, the publishers of the Michigan Farmer decided to give the subscribers the benefit of this reduction instead of continuing to devote large sums to the securing of subscribers through the questionable influence of premium offers, salaried solicitors, etc., thus affording our subscribers a cash saving of over \$40,000 a year, and at the same time insuring our advertisers an increased list of satisfied farmer readers. In this connection we reaffirm, without fear of successful contradiction from competing publishers who maintain a subscription price of \$1 per year, and who pay large commissions, offer free premiums, with their attendant expense, or hire professional solicitors, that such methods of securing subscribers ordinarily involve the expenditure of the entire subscription price, and often more, in order to maintain their list, or as an alternative they are obliged to continue the paper after the time subscribed for to the dissatisfaction and disgust of the subscriber.

We also maintain that by reducing the subscription price and discontinuing the use of free premiums and the other attendant expenses above mentioned, we not only save our subscribers the handsome sum above mentioned, but obtain a larger net revenue from the subscriptions than does the publisher who charges the subscriber \$1.00 per year, after deducting the expenses incurred by the methods above described.

From the standpoint of the subscriber we believed that there could be no question as to his preference between these two methods. A 50 per cent saving in cost is always appreciated in any article by any purchaser, so long as the quality of the article is maintained. Results have shown that this is no exception to the general rule.

From the standpoint of the advertiser, so long as the subscriber pays for his paper in advance and solely upon its merits, we believed that it made no difference whether the price was \$1 or half that sum, the quality of the paper being equal, or if there was a difference that the advertiser would prefer the smaller subscription price owing to the greater possibility of a constantly increasing subscription list, and results also seem to have justified this opinion.

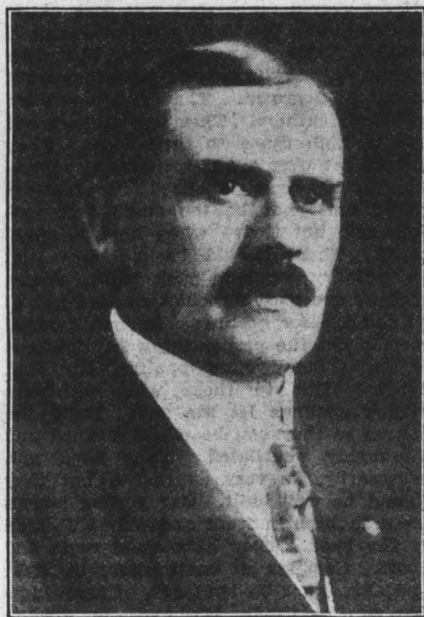
So far as the quality or quantity of the reading matter or of the advertisements published in the Michigan Farmer is concerned, these speak for themselves. The insinuation that the reduction in subscription price will make our editorial columns subject to the undue influence of advertisers is a base one, and every well informed publisher and advertiser knows

that no word of unjustified editorial influence in the Michigan Farmer can be purchased at any price.

Apparently, "where the shoe pinches" such of our competitors as have criticised us for giving our patrons the benefit of a "square deal" is in the knowledge that they get less real revenue from a dollar subscription with the customary attendant expense in securing the same, than the Michigan Farmer gets from a 50 cent subscription which comes to us direct.

### NEW MANAGER FOR STATE FAIR.

Mr. Dickinson was chosen General Superintendent and General Manager of the State Fair at the recent mid-winter meeting of the Michigan State Agricultural Society. Mr. Dickinson's business and



George W. Dickinson.

administrative experience have admirably fitted him for this office to which he was called upon the expiration of his term as a member of the State Railroad Commission. He has formerly served the State Fair as superintendent of transportation.

### HAPPENINGS OF THE WEEK.

#### National.

The action of the Wyoming legislature in approving the sixteenth amendment to the national constitution providing that Congress may levy an income tax for purposes of national revenue, without apportionment among the states or regard to the sources of income, virtually places those provisions in the constitution, this making 36 states which have given their approval. This is an important amendment, the first to be adopted since the reconstruction. By its provisions the form of the law is left entirely to Congress and it is predicted that this will be a source of legislation during the coming special session of the next Congress.

At a meeting of organized milk producers held in Chicago on Monday of this week, it was determined to increase the price of milk to distributors to \$1.50 per cwt. during the summer season from April 1. The old schedule was \$1.25 per cwt. More than 1,000 members of the association from Illinois, Indiana, Wisconsin and Michigan were present at the meeting.

Pursuant to a resolution adopted by the legislature during the past week a committee has been appointed to investigate the Pere Marquette railroad and determine, if possible, the cause or causes which have contributed to its present financial condition.

A destructive fire visited Aiken, S. C., last Sunday morning, when the Park-in-the-Pines hotel was burned, the loss being over \$250,000.

A burning film in a picture theatre at New York caused a panic among the audience and two persons were killed and many others hurt in the rush for the exits.

An apartment house fire in Sacramento, Cal., resulted in four persons being killed and 11 others injured, one fatally.

Wharves and warehouses in Savannah, Ga., were destroyed by fire last Sunday, causing a loss of \$1,500,000.

A garage adjoining the Great Northern hotel in New York city took fire on Sunday and destroyed property estimated to be worth \$200,000.

There were 14 fires reported in Detroit last Sunday, causing a total estimated damage of \$62,000. The heaviest loss was the destruction of the publishing plant of Detroit Saturday Night, entailing a loss of \$20,000.

An order was issued by the President of Texas State Agricultural College at Austin, Texas, expelling 466 students for insubordination. The legislature of that state will investigate the trouble.

Postmaster General Hitchcock, in his annual report just made public, shows that the post office department is in a good financial condition. The expenses of the department in spite of the extraordinary amount of franked matter mailed during the last political campaign are

(Continued on page 171).



# Magazine Section

LITERATURE  
POETRY  
HISTORY and  
INFORMATION

**MICHIGAN FARMER**  
AND *LIVE STOCK* JOURNAL  
PUBLISHED WEEKLY.  
ESTABLISHED 1843.

The FARM BOY  
and GIRL  
SCIENTIFIC and  
MECHANICAL

This Magazine Section forms a part of our paper twice a month. Every article is written especially for it, and does not appear elsewhere

## The Country and the People of the Philippines.

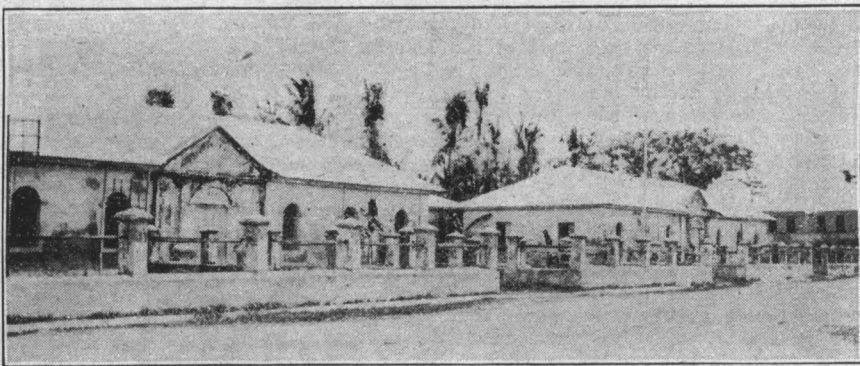
By E. A. Coddington.

**S**CARCELY a more interesting study of a simple and humble, yet spirited, people can be found than that of the people of the Philippines today. If we were going to speak or write about our own people we certainly would not begin with a description of the American Indians who are still scattered over our own country; neither would we point to the colonies of foreigners in our large cities or on our great western prairies; yet a very similar policy has been followed in speaking and writing of the Filipinos. We would point to our Puritan or Pilgrim forefathers, or our English or Dutch ancestors in New York, Pennsylvania or Virginia. As the Chinaman has become known to our people by the Chinese laundryman of this country, so the Filipinos have become known to us by the Igorot, Bagobo and other wild tribes which, under protest of the educated Filipinos, have been placed on exhibit at the St. Louis, Seattle and other expositions in this country. The Filipinos, like the Chinese, doubtless represent a race which is older than our own. Manila and Cebu are older than Boston, New York or Philadelphia. Previous to Spanish occupation Manila was a Mohammedan city founded by the Arabs. Like us, the Filipinos owe the discovery of their country by Europeans to the Spaniards. Shortly after Columbus discovered America (1492) and about the time Cortez accomplished the conquest of Mexico and Pizarro the conquest of Peru, Magellan discovered the real route to the East Indies by way of the strait which bears his name, arriving in the Philippines on Saturday, March 16, 1521. The Filipinos enjoyed the influence of European civilization and guidance by the Spaniards from 1565 to 1898—it is safe to say before any of the ancestors of our present generation reached this continent.

### The Filipinos.

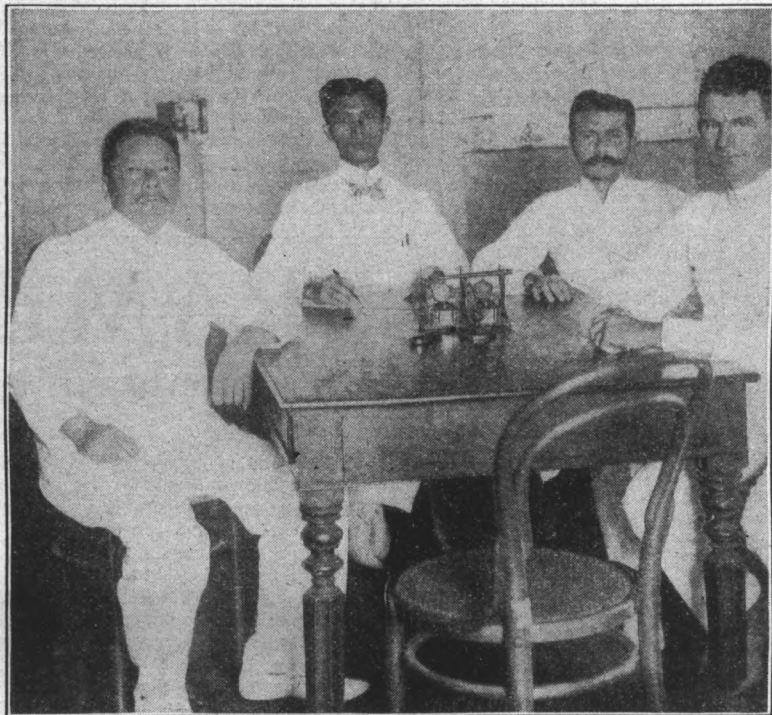
The negritos (little negroes) were the aborigines of the Philippines but they no more represent the Filipinos than the American Indian represents the typical American. Today the negritos are scattered in the mountains and isolated spots on the Islands, in the heart of the Malay Peninsula and the Andaman Islands. They are a little people; the men are under five feet in height and have short curly hair, while the women are still smaller. The Filipinos are one of the families of the Malay race which is believed to have originated in southeastern Asia and spread into the Malay Peninsula and over the neighboring islands of the East Indian Archipelago. The ancestors of the Filipinos of today, it is believed, were a people of greater culture and intelligence than the first settlers, and that they came from Java or the Malay Peninsula at a time considerably later, and quickly took possession of the low country and the coasts of the principal islands. They apparently settled in the same places in the Islands in which the Spaniards found them, when they were known by the same local tribal names as today, and each tribe spoke a different dialect of a common language. Hindu, Mohammedan and Chinese Influence.

There is unquestioned evidence that the early Filipinos felt the influence of the spread of Hinduism into Burma, Siam, and Java about 500 A. D. Many words in Tagalog are of Sanskrit origin, and the system of writing which the Spaniards found in use by the Filipinos had unquestionably been developed from the alphabet used by the Hindus in Java. The presence of Mohammedanism is further evidence of the early origin of the Filipinos. Some of the Malays are known to have been converted to Mohammedanism as early as 1250 A. D., and the powerful Mohammedan settlement in Borneo to date back to 1400 A. D. From Borneo,



Public Schools of Capiz—Buildings Typical of those Constructed under Spanish Rule.

On left is boys' school, in center may be seen corner of teachers' building, and at right is girls' school. In March, 1905, this province enrolled nearly 24,000 children in its public schools.



The Provincial Board of Capiz—Governing Body of the Province.

Board is composed of Governor, at the left, Secretary, at his left, Treasurer, on the right, his Interpreter, and the Division Superintendent of Schools who was taking the picture. The Governor, a Chinese mestizo, was educated in Madrid; the Treasurer is a graduate of Yale and he Superintendent of Schools of the University of Michigan; the Secretary and Interpreter are Filipinos.



A Typical Illustrado House and Court in Malate, Manila.

The principal residence districts, Malate, San Miguel and Santa Ana, are famous for their palatial homes overlooking the Pasig River and Manila Bay.

Mohammedanism spread to Jolo and Mindanao, its present strongholds in the Philippines, and the relations between the Sultans of Borneo and Jolo are maintained to this day. Chinese records show that for at least 300 years before the arrival of Magellan, Chinese trading vessels had regularly visited several of the islands. Antonio Pigafetta, the chronicler of Magellan's party, states that Cebu was a large town, that the Cebuanos were familiar with the surrounding countries of China and the Moluccas, that they understood trading well, had scales, weights and measures, and were fair dealers. He also records that a trading junk from Siam was in the harbor of Cebu when Magellan's boats arrived. He says the natives lived in houses made of bamboo, built on posts, and thatched with palms; that they kept dogs, cats, hogs, goats, and fowls; that they cultivated rice, corn, and breadfruit, and used coconuts, bananas, oranges, citron, and ginger for food. These conditions correspond closely to the manner of living of the masses of poor and ignorant people in the country today.

### The Families.

The Filipinos, when the Spaniards found them, were divided into seven principal groups or families. The Bisaya (Bis-i-ya) occupy the central islands of Panay, Negros, northern Mindanao, Leyte, Samar and Marinduque; the Bicol (Be-col) the southern extremity of Luzon; the Tagalog (Ta-gal-og) central Luzon, including Manila; the Pampango and Pangasinan the central plain north of Manila, including the river valleys of the same names; the Ilocano (E-lo-can-o) northwestern Luzon, and the Cagayan (Cag-a-yan-es) the Cagayan River Valley in northeastern Luzon. There is probably no statement that the Filipinos resent more keenly than that their ancestors were the wild or non-Christian tribes in the mountains. It will be seen that this discrimination between the wild tribes and the people of the low lands, who have cultivated the soil and traded for centuries with China, Siam, Java and other islands of the East Indies, dates back fully 400 years—before the first settlements were made in the United States. The census taken by the Philippine government in 1903 showed a population of 7,635,426; of this number only 647,740—less than ten per cent—are classed as non-Christian or wild tribes. The census gives the number of Filipinos and non-Christians as follows:

### Filipinos.

Bisaya	3,219,030
Tagalog	1,460,695
Ilocano	803,942
Bicol	566,365
Pangasinan	343,686
Pampangan	280,984
Cagayan	159,648

### Non-Christian Tribes.

Moro (Mohammedan Malays)	277,547
Igorot	211,520
Bukidnon	56,189
Negrito	23,511
Manobo	20,635
Subano	25,768
Bagobo	12,149

The civilized population is given as 6,931,548 Filipinos, 41,035 Chinese, 8,135 Americans (United States), 3,888 Spaniards. These data show something of the relative importance of the wild tribes in the solution of the Philippine problem.

### Characteristics.

Now that we know who the Filipinos are and the number in each race family it would doubtless be interesting to know more of their characteristics and progress. Physically the Filipinos are smaller in stature than most Americans, although a few of them are larger than the average American; they are light brown in color; few of them are rugged or robust appearing, but as compared with other orientals they are remarkable for their personal cleanliness; they are very imitative and excel in manual arts such as



writing, copying, carving, etc.; while their ancestors and the Moros are still famous as sea pirates and fighters, one would not judge them to be a race destined to become famous for great physical prowess or achievements. In temperament they are care free, stoical, spirited and passionate; they are born musicians and lovers of music; many of them play several different instruments; every church has its organ and choir, and sometimes an orchestra; almost every municipality has its town band, and not a few Filipino musicians play the overtures from numbers of the great operas from memory.

The people are divided into two distinct classes: gente ilustrada (hente il-lus-trada) or educated people who are very ambitious, and the gente baja (hente ba-ha) or common people; the common people are ignorant, credulous and easily led; few of them show any inclination to a particular occupation, turning their hands readily from one thing to another with considerable adaptability; many of them are improvident, given to gambling and cockfighting, and not a few of the men are as much attached to their gamecocks as an Arab to his horse. Living in the tropics where the necessities of life are obtained with little effort, where nature shelters them with the palm and fans them with sea breezes, they are naturally lovers of ease and luxury. A prominent writer says: "He works when obliged to and rests whenever he can get an opportunity." The common people have little conception of the value of time; monana (mun-ya-na) tomorrow is always as good if not a better time to do anything than today. It has been called the monana country. How delightful! Nevertheless many Filipinos are models of industry. The oriental believes in telling you what he thinks you want to hear, and in this respect the Filipinos are no exception; they readily deceive those who do not understand their mental attitude; they often make lavish promises which they have no serious intention of fulfilling; sometimes they tell such unconscionable falsehoods that one wonders whether they regard this sort of fiction as an art.

The Filipinos are generally good fathers and mothers, at least the ilustradas, and the children, especially of the better families, are exceptionally well bred and better behaved than American children; muchachos (mu-cha-chos) servants, often called "boys" like ignorant servants in all lands are given more or less to stealing. The Filipinos are famous for their politeness, charm of manner, and never-failing hospitality in which they excel both Europeans and Americans. They are equally famous for their good nature, and they love to dance, sing and make merry; the number of fiestas (fe-es-tas) or holidays which they celebrate during the year is almost incredible, and they are always ready to add another to their calendar of joy days. Having lived hundreds of years on their native heaths their lives are stored with myths, legends and folklore. Up the Pasig, the Pam-panga or the Cagayan, like the Rhine, the Danube, and the Po, the people of each section have their own folklore and songs. As a people they are inclined to education and the children learn with ease.

#### Christianity.

The first thing that strikes the average American as he becomes acquainted with the Filipinos is that, although they have en masse accepted Christianity and are enrolled as communicants of the Catholic church, they still practice cockfighting (a pastime which Magellan witnessed on the island of Palawan) and many of them are given to gambling. While the padres (fathers) priests, and the friars bound the Filipinos to the church, they not only permitted lax standards of living but on occasions indulged with the people in gambling, drinking and cockfighting. For nearly 350 years Spain and catholicism dominated the Philippines and the Filipinos; the Filipinos were not the choosers and therefore can not be held to account for the faults in Filipino life of today as measured by either European or American standards. When one remembers that but few of the priests were Spaniards, that the mass of them were then, and are today, Filipinos who know very little of European standards, the changes which they wrought in the country and the people, and that these changes were accomplished in the land of the Buddhist, the Mohammedan, and Confucianist, that the Filipinos are the only native Christian people in the Orient, one is less inclined to criticize and more inclined to be thankful for the ardent and self-sacrificing spirit of many of

the Christian priests whose names and good works will never be forgotten.

#### Organized Government.

The Spaniards have given much to the Filipinos besides Christianity. Before the American administration the parish records, or birth and baptismal rolls of the churches, furnished the only census of the people. The church is everywhere present, scarcely a town or even a barrio can be found without its church or chapel, the former usually of stone. The Spaniards gave the Filipinos European standards of living, ideas of dress, of society, of modern cities and towns, and trade. Before the time of the Spaniards most of the Filipinos lived in small groups or villages called barangays (bar-an-guys). The Spaniards renamed these barangays barrios, or wards, and united them into pueblos or municipalities, and the old tribal divisions, sometimes divided by rivers or mountain ranges, became provinces; this organization was accepted by the United States and is in force today. The Filipino town corresponds to our township and takes the name of its principal village or barrio, but all of the barrios share in its government the same as the wards of a city; the towns taken together make the province which corresponds in a measure to our county; the province is usually larger than our counties and quite like a small state, having a governor and other like officers. Next in importance to the churches come the tribunals or municipal buildings, which were usually substantial, and then El Gobierno or Palacio, the provincial government building. There are now about 700 organized towns and 35 provinces.

#### Schools and Education.

The Spaniards also gave the Filipinos European ideas of schools, colleges and universities. A report prepared in 1892 shows that there were 640 school buildings and 61 buildings for teachers; 1,087 boys' primary schools, and 1,050 girls' primary schools. Secondary instruction was furnished by the College of San Juan de Letran, founded 1640, the Municipal Athenaeum of Manila, the College of Medicine and Pharmacy of San Jose, founded 1601, the Academy of Drawing and Painting, the Nautical School, the girls' colleges of Santa Isabel, Santa Rosa, founded 1750, Santa Catalina, founded 1696, La Concordia and the Asylum of St. Vincent de Paul in Manila, a Normal School for male teachers established in 1863, and schools of Arts and Trades in Manila and Iloilo which were established in 1890. Superior education was furnished by the University of Santo Tomas in Manila, which was founded as a college by Fray Miguel de Benavides, second Archbishop of Manila, in 1619 and created a university in 1645. The University was at the head of all of the schools of the Islands and under royal authority directed their work; its courses included law, theology, medicine and pharmacy. From 1645 to 1820 it conferred degrees upon 97 as doctors of philosophy, theology, canonical and civil law, 957 as bachelors, and 132 as licentiates. For the school year 1886-1887 there were 1,982 students enrolled.

General primary instruction was provided for in 1863, the same year in which the Normal School was established. Instruction was obligatory and free to the poor; the law fixed the school age from seven to 12 years, fixed the requirements for teachers, prohibited certain persons from serving as teachers, fixed salaries, provided for inspections and reports, the pensioning of teachers when disabled, for their retirement on half salary after 20 years and on four-fifths salary after 35 years of service. The small salaries paid to teachers, the lack of play grounds and sanitary provisions, but principally the opposition of the religious orders and corporations in whose hands the carrying out of the law was placed, defeated the good intentions of the Spanish government.

There are many libraries in connection with the colleges and the University, and in the monasteries of the different religious orders are many old and valuable manuscripts, canticles and records. There are the hospitals of San Juan de Dios and San Lasero (Leper hospital) in Manila, an infirmary at Cavite for mariners and shipbuilders, a hospital at Los Banos on the east shore of Laguna de Bay, and one at Nueva Caceres northwest of Mayon volcano, besides various mineral springs and baths in different parts of the country.

#### Luna and Rizal.

In justice to the many institutions of learning in the Philippines a word should be said regarding their graduates. Many of the leading men in business and professional life in Manila are graduates of

her colleges or her university. Having a European educational system, naturally many of the first families sent their sons to Madrid, Paris and Berlin. Numbers of the leaders of Manila society speak not only Castilian but French and German fluently. Of these intellectual leaders San Juan Luna y Novicio was a graduate of the Academy of Drawing and Painting; later he studied in Madrid, Paris and Rome. His paintings, the "Death of Cleopatra," "Battle of Lepanto," and "People and Kings," are found in some of the great galleries of Europe. He is doubtless the greatest Philippine artist. While there are many writings by friars and priests regarding the country and the people, the place of first importance is given to a Filipino, Dr. Jose Rizal y Mercado, who was born in Calamba, near Taal volcano, educated in the Ateneo Municipal of Manila and later studied in Madrid and traveled and studied in France, Germany and England. He was a strong advocate of progress for the Philippines, wrote several books and contributed largely to a Filipino paper published in Madrid.

#### Philippine Exposition.

The Spaniards also did much for the Filipinos in developing their resources and trade, but we should remember that their ideals were Spanish not American, and we must look to Spain for the model to which the Philippines should conform. The official Guide of the Philippines for 1898 states that active commerce was carried on with China, Japan, Coromandel, Moluccas and extreme parts of the Orient. Manila, Iloilo, Cebu and Jolo were open ports; the exports for the year amounted to about \$14,000,000 and the imports to about \$12,000,000; the principal exports were hemp, sugar, tobacco, cigars, dyewoods and indigo, while the principal imports were dry goods, foods, preserves, oils, wines and machinery. The Philippine Exposition which was held in 1887, well demonstrated the progress made by Philippine industries; it marked the organization in the Islands of great commercial houses and mercantile societies. The Exposition was so successful, according to the official report, that everyone believed that the commerce of the Philippines would compare favorably with

#### HARBOR LIGHTS.

BY ALONZO RICE.

Ah, many mariners go down to the sea in mighty ships,  
And many a sailor tempts the tide alone;  
Their hearts' expectancy at last is quenched in death's eclipse,  
They sink 'unknelt, uncoffined and unknown."  
And many a vigil still is kept and bitter tears are shed  
By patient eyes that scan the sunset foam;  
For those, with softer accents let the funeral rites be read,  
Who sink in sight of harbor lights and home.

The spirit of Leander cries from out the yeasty surge  
Of fearful waves that throng the Hellespont;  
Her lighted torch fair Hero waves along the beetling verge,  
In welcome to love's rose-embowered haunt;  
Our hearts' expected pleasure lies around the bend of the road,  
And ever turns the roadway as we roam;  
So we keep for those returning to their former loved abode,  
Who sink in sight of harbor lights and home.

Though sad is he who sails away to seek a sunny isle  
That basking lies in deep-empurpled seas,  
And never gains the port he sought, and buffeted meanwhile  
By adverse tides and long-delaying breeze;  
The ones to whom my sympathy goes out all unrestrained  
Are those who mark at eve the city's dome  
Rise from the world of waters, and the haven almost gained,  
Go down in sight of harbor lights and home.

the foremost creations of the world before the close of the nineteenth century.

Prominent Englishmen declare that the Filipinos are superior to the other Malays of the Far East. A writer of the highest authority who has lived in the Islands says: "They are glad to be educated, glad to study some language other than their own, and glad to follow European and American ideals." Another writer says: "The fact that they themselves rejected Spain as an unsatisfactory mentor in Occidental civilization is an indication of their fitness for further progress in that direction."

## BRAMBLE HILL

By ROBERT CARLTON BROWN.

(Book Rights Reserved by the Author.)

"Yes, Doodle or some other rooster," continued the Rhesus-faced, in his most sprightly manner. "Hermann got the telegram early this afternoon and he had it over to the store. I got the story. Ol' Stimpson saw it—but I think the fellow mentioned in the telegram was Jim—Jim somebody, it was signed."

"Jim Rogers?"

"There! That's it!" Lafe Turner plumed himself like a monkey looking in a hand glass. "He says he's comin' down to help yeh fight the railroad comin' through your land. Ha, ha! Jes' 'sif there was any fightin' ter be done. Ha, ha!" Lafe Turner often had recourse to the capricious chuckle of the laughing hyena.

Sid was glowing with the news. His spirits were instantly tuned to a better pitch by the hope of a visit from Jimmie. "When'd the telegram come? You're sure it was signed 'Jim Rogers?'" he queried.

"Ol' Stimpson seen it, I tell you. Don't go doubtin' the word of your elders, young feller." The distinction of being news-bearer to the principal in the affair had quite turned Lafe Turner's head. "I s'pose when this here city feller does come you an' him'll think yeh own th' town. But don't try none of your rah-rahin' around here. Ol' Stimpson says so, too, an I want ter warn yeh right now—"

"Not to read other people's telegrams?" suggested Sid.

Lafe Turner's jaw dropped and finally hung slack as his ardent flow of words ceased. The rebuke had registered. He was accustomed to being humbled. His ascensions were only spectacular in the way he always hit the ground. So the Rhesus-faced slapped his mouth shut with an effort, ceased emulating his masterful model, sid a shifty glance in Sid's direction and without further formality hurried off directly, as though he had just learned that his dog had eaten poisoned meat prepared for a neighbor's pup.

When Sid reached home he asked for the telegram. It hadn't arrived. News traveled fast in Turtle Creek, but unsealed messages met many delays. Half an hour later, however, Hermann, bandaged and breathless, rushed up the Edgeworth porch, beet-faced, as though bearing the Message to Garcia, and delivered the following wire:

"Sidney Edgeworth,

Turtle Creek, Illinois.

Get out the band. Am on my way down to solve that traction problem for you. Put on your red tie and borrow an automobile to meet me with.

Jim Rogers."

Sid's face spread into a wide smile as he read the message. "Good old Jimmie," he grinned. But as his expression gradually cooled, the yellow slip fluttered to the floor and the smile finally settled down to an uncertain quivering at the corners of his mouth. "Poor old deluded Jimmie," he sighed. "Wonder if he thinks he can stop that gluttonous railroad from gobbling up my choicest land. 'My land?' It is to laugh, as Lafe Turner might. The land isn't any more mine than the moon is, and it never will be. 'Solve that traction problem!' Poor Jimmie! He has the optimism of ignorance. Stop the railroad from going through this land when they've already laid a quarter of a mile of track right through the best of it. Fine chance! I guess Lafe Turner was right in spilling out that merry ha ha of his on my chances."

#### Chapter XIII.—The Impetus.

"Now!" exclaimed Jim. "Explain to me just how things stand between you and this railroad, old Sideral."

"I've been telling you ever since you landed this morning that you've come on a fruitless crusade. In fact, there is no crusade. I am already conquered, vanquished, extinguished," objected Sid.

"Never mind that. I came all the way from New York to relieve your despair. There is a remedy for everything—"

"Except love, pink-eye and railroad rights of way."

(Continued on page 162).



## THE STORY OF DANDY.

BY MRS. JEFF DAVIS.

Harry had never been in the country for long at a time, until he and his mother went to visit his uncle, who lived on a farm a long way off. It was dark when they reached the farm, and Harry was very, very tired. Most of the day they had traveled on the train, but the last part of the journey had been ridden behind two horses along a winding country road.

Harry found the farm quite different from his city home. When he looked out of his window, instead of tall houses he saw high mountains and dark green woods.

There were so many things to interest Harry, and all so new and strange to him. There were the handsome horses,

ber, for a young squirrel has some sharp teeth."

It was not long until the squirrel would take milk from a pan, and eat bits of bread and vegetables. Harry always fed him, so he looked upon the little boy as his best friend and followed him all around the place.

At first Lion, the dog, did not like the new pet, but they soon became good friends, and Harry had great fun playing with them. He liked to put the squirrel on the dog's back and watch him walk off, unconscious of his burden. But when the squirrel would dig his claws into Lion's back, the dog would shake himself and look around, the same as to say, "What is that pinching me, anyway?"

When the time came for Harry to say goodbye to the farm he took Dandy to the city with him. He often entertains his little friends by telling where Dandy was found, how he was first given food, and by having his pet perform several amusing tricks that he has been taught.

Harry says that the country is a great place, and that he and Dandy are going to spend their next vacation on the farm.

## STUDYING THE WINTER BIRDS.—IV.

BY ORIN E. CROOKER.

There are some birds which apparently never think of migrating. When winter comes they make the best of a bad situation, and while many people may not suspect their presence it is not difficult for the student who goes afield to come across plenty of evidences of their being in the vicinity. A walk through the leafless woods or across the snow-swept fields will reveal the presence of many an individual of the feathered tribe.

Take, for instance, the common bobwhite or quail. In the fall these beautiful birds frequent grain fields and glean a good living from the remnants of the harvest. As winter approaches they draw in toward the thickets and heavy wooded bottom lands. With the snow heavy on the ground it is not so difficult to come across evidence of them as it is in other seasons of the year when per-

haps they hang close to cover and are only flushed by a dog. Here in the snow, under a dense thicket of pine, is the tell-tale mark of their last bivouac. Not everyone knows that quail roost on the ground—a whole bevy in close companionship, tail to tail with heads pointing outward.

The matter of a winter food supply does not seem to bother them in the least, although after exceptional snows they will often work in toward the farm yard and frequently come close to the house if they are not disturbed or unduly

Up along the Canadian border the writer has frequently found holes in the snow that the grouse burrows out for purposes of shelter from the elements. In these holes a grouse will spend the night and such part of the day as he may choose to retire for rest. Some of them are a foot or more in depth and when the snow has a crust they quite suggest cave-like retreats. Mr. (or Mrs.) Grouse must be snug and warm when tucked away in one of these snow holes out of the wind and weather.

Several varieties of owls are always



A Filipino Milk Peddler.

There are no dairies in Manila and only a few dairy cows; most of the milk and butter used by Americans and Europeans is imported from Australia or the United States. In the country, carabao or goat's milk is used and every morning these peddlers may be seen in the market or going from house to house.

sleek Jersey cows, pigs, and chickens, besides two cats, and a big yellow dog named Lion.

At first Harry thought he never would get tired of playing with Lion and the cats. But after a time he grew a little lonely and began to wish there was a little boy to play with, or that he had a pet of his very own. And one day his wish was realized, for his uncle brought him a little baby squirrel.

"I wonder if we can raise this little fellow?" he said to Harry. "I found him in the hollow stump of an old tree that we had to cut down today. There was another little squirrel in the nest, but in some way he was killed by a limb."

"Oh, Uncle Joe, did you bring him to me?" asked Harry.

"Yes; you may have him if you will take good care of him."

"I'll do the best I can, uncle, but how can I feed him, and what will he eat?"

"He must be fed on milk, for he is too young to eat. Let's see if he can drink the milk," said Uncle Joe.

But when the milk was placed before the squirrel he did not understand that it was for him to drink. Harry even put the little fellow's mouth into the milk, but that seemed to frighten and strangle him.

"We'll have to try a new plan," said Uncle Joe. "I remember reading where a medicine dropper was used to feed milk to a little animal. Now I have a large dropper that I use to put ink into my fountain pen, and we will see what can be done with that."

So they took the dropper, which is a long glass tube with a rubber bulb at one end, and washed it thoroughly with warm water and soap. Then it was filled with warm fresh milk; the end of the tube was placed in the squirrel's mouth and the milk was gently forced in by pressing the rubber bulb. The experiment proved a success. The little fellow drank greedily, and the tube had to be filled several times before he was satisfied.

"The advantage of this is," said Uncle Joe to Harry, "the squirrel can't bite off the glass, as he might if it was of rub-

Come right down, Foxy-Junior!  
Quit purring that little tune.  
You needn't sit and watch the clock  
'Cause it isn't nearly noon.  
You have just heaps of tasks to do:  
It is time to run a race,  
And all this blessed morning, sir,  
You haven't washed your face.

Blue-Ball, under the sofa,  
Is waiting for you, now,  
To play "Puss-Wants-a-Corner;"  
And there's a splendid row

A-going on the back porch—  
I hear Frisk growl and bark—  
Can't you help Scampy lick him,  
That would be a lively lark?

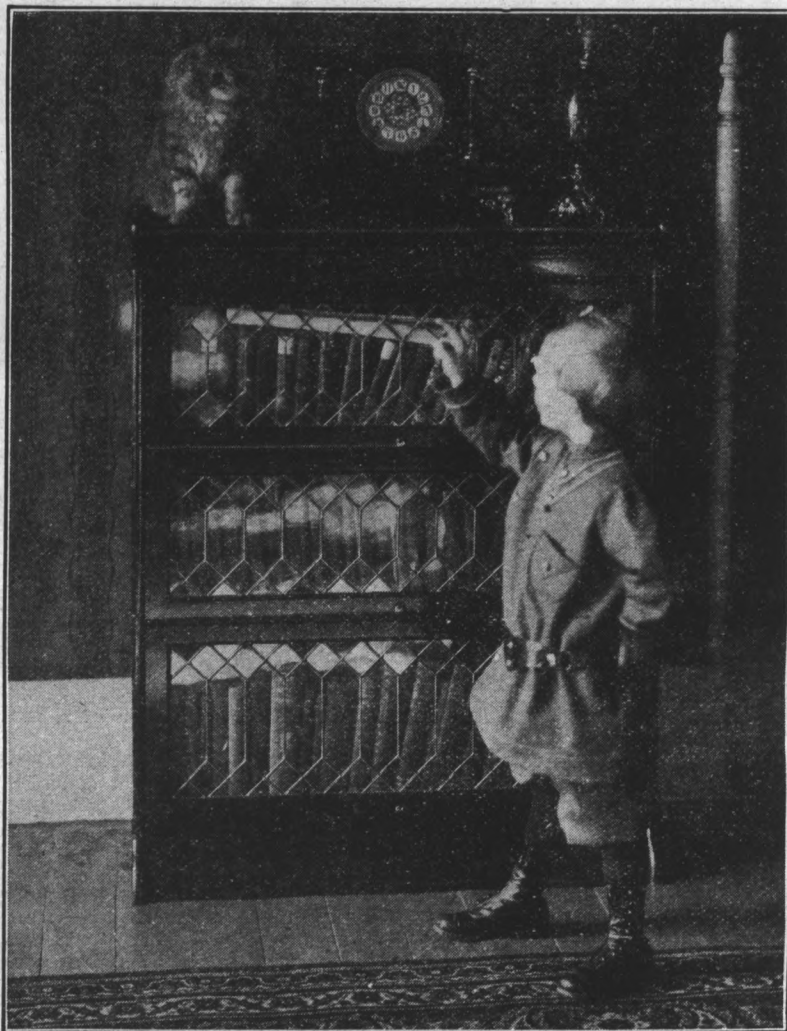
You need not think because you are  
A blooded Persian cat  
That all you have to do is eat,  
And sleep upon the mat,  
I smell the dinner cooking,  
And my Papa's coming soon;  
If you don't come and play, sir  
You won't get a single bone.



Birthplace of Dr. Jose Rizal y Mercado, Filipino author, patriot and martyr, who was shot Dec. 30, 1896, by order of the Spanish Government.

## Foxy-Junior Watching The Clock.

By Dora H. Stockman.



frightened. It is possible by feeding them in certain definite places to keep them around the premises all winter. Another bird that seems to make the best of a long cold winter without complaint is the ruffed grouse or partridge. In winter nature even provides him with "snow shoes"—a curious fringe of strong, horny points on his feet which certainly appear to serve this purpose.

present in the timbered portions of the country in winter. Their presence is detected by the discarded "pellets" of bones and skin that their stomachs have rejected as indigestible. Not all of us can escape an attack of indigestion so easily! In as much as the bird student will probably not be fortunate enough to see many of these nocturnal birds it is useless to enter into any description of them. He will easily recognize the little screech owl from his plaintive warble, as it has been called, and the larger horned owl by his deep-toned "whooo-hoo; whoo-hoo."

Very occasionally in winter—the writer has had the good fortune but once—one may chance upon a snowy owl, a real arctic bird that pays the northern middle states a brief visit now and then. The snowy owl goes about in daytime quite as much as at night. He is one of the largest of the owl and his snowy white plumage—which on closer inspection shows some greyish brown markings—distinguishes him from all other winter visitors. He is a magnificent bird, and the bird lover who chances to see him in the open country, and not in a stuffed condition reposing in state under a glass case, is truly fortunate.

Crows are too common to need any description. Some people, however, may not know that crows sometimes migrate in large flocks. In Vermont some years ago the writer witnessed one of these flights. For an hour or so a straggling line of crows seemed to follow a certain definite path in the air overhead. There must have been thousands of them all told. It happened in November, and was the forerunner of a severe winter. Crows, however, do not go very far south. Even in our northern states they keep pretty well up above the cold weather line and, of course, in some localities remain all winter.

It seems to be similar with the blue jay. In southern Wisconsin and Michigan he appears to remain throughout the winter, although there will perhaps be a week or two at a time when he is not seen or heard. In severe weather they probably keep pretty close to the heavy thickets. When the writer was a boy he was of the opinion that the presence of the blue jay in the open country and around houses in the winter was a sign of warmer and more pleasant weather soon to come. This may not be true, but the writer has seen nothing in later years to cause him to change his opinion.

Another inhabitant of the far north that occasionally pays the northern states a winter visit is the evening grosbeak. This bird lives in the interior of Canada from Manitoba northward. So far as we now recall he is the only winter bird that carries any great amount of yellow in his plumage. He is some smaller than a robin and can be easily recognized by his thick heavy bill.

The evening grosbeak travels in flocks—not unlike the cedar waxwing—the





## Small Fields Too

Tractors aren't meant for big farms and large fields only—a



will plow fenced fields of 8 to 10 acres profitably. Some farmers use the Oil Pull on three-acre patches.

It's all in laying out the land and planning the work.

Our Plow Data-Book, No. 338, has all the information you need for laying out fields and caring for them.

What can be done with a tractor is explained in our Oil Pull Data-Book, No. 352. Write for both books.



Ask for the name of our nearest dealer.

**RUMELY PRODUCTS CO.**  
(Incorporated)  
Power-Farming Machinery  
Battle Creek, Mich.  
Home Office: LaPorte, Ind. 489



Would you hire a lazy man? No, you want a worker.

**PATENTED COLUMBIA BATTERIES**

are honest, hard workers. Don't accept any other. You deserve COLUMBIAS and will get them if you insist.

Cost No More;  
Last Longer

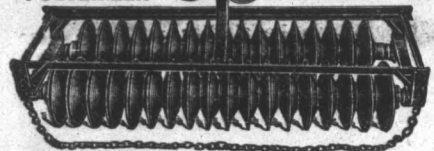
For sale by all good dealers

**National Carbon Co.**

Cleveland, Ohio  
Factories in U. S. and Canada  
Famestock Connections without extra charge.

**IMPERIAL PULVERIZER**

**CLOD CRUSHER and Roller**  
Leads them all!



SEND FOR CIRCULARS The Peterson Mfg. Co. 146 River St. KENT, OHIO.

**SCIENTIFIC SWEEP MILL**

Double Action. Triple Geared

This No. 5 is one of our leading Feed Mills. Particularly adapted for grinding ear corn and small grain for stock feed. A medium priced mill that

Gives Satisfaction

Strong, durable and easy running. Mounted on a heavy hard-wood box. Fully guaranteed. Write for free catalog. Over 20 styles and sizes.

THE BAUER BROS. CO., Box 409 Springfield, Ohio

Mfg. of

Well Covers

Cistern Covers

Cesspool Covers

and Cistern Filters.

**HUNTING WELL COVER CO., Rockford, Mich.**

Please mention the Michigan Farmer when writing to advertisers.

How to build your own

**CESSPOOL**

and Best.

Detailed specifications; how to build and what you need. furnished on receipt of \$1.

number varying from half a dozen to fifty or sixty. By his tameness he shows his ignorance of man and human kind. During the winter and spring of 1890 there was an extraordinary number of these birds in our northern states. The writer recalls having seen a dozen or so in the center of town that were so tame it was almost literally possible to "put salt on their tails." They are beautiful birds. One wishes they might visit us with greater regularity.

### LITTLE FARM FABLES.

BY AUNT QUILLIA.

#### Tall Living and Short Thinking.

As Father Bruin stood at the entrance of his dwelling that bright October morning he was a most imposing figure. Erect, with ample jaws uplifted, broad front expanded to the crisp air, and handsome coat buttoned to the chin, his, indeed, was a commanding presence.

After listening intently for a few moments he seemed to abandon all thought of dogs and, turning, re-entered his doorway saying, "They are for those wild turkeys I saw in the brush yesterday, and as I am not likely to be molested I am free to visit the pioneer pig-pens again. Of all settlers Farmer Foreman is most prosperous. When I want a good fat shoat or tender calf I know where to go. The cubbies are hungry and I myself must fill up once more before going to bed for the winter. Old Graybeard, I suppose, would suggest that I leave the shoat till spring. Of all squirrels, he is called longest headed and most provident, but eat while you have the eatables has always been my theory and practice. The time to go without is when you have none. The years are telling on me. I shall roam this forest but once, and 'Live while you live' is my motto." And so that night Farmer Foreman's sty was robbed of its choicest inmate, and, while Daddy Bruin and his youngsters licked their chops over its juicy carcass they said, "And now for our nap. A full stomach for a long fast."

The winter was long and severe, and not until late spring did Bruin drag himself outside for a whiff of fresh air. Age and the prolonged fast had weakened his frame. Scarcely had he reached the sunlight before a strange sinking at the heart warned him that his hour had come. Lying upon the chilled earth he was not conscious of an attendant until Graybeard's bushy tail brushed his brow. "You need a little broth, neighbor," said his kindly visitor. "Let me make you a bit of that young beef you last brought home. It is still sweet, I am sure."

"There is none. We ate of it freely until all was gone. I was too short sighted."

"Then a slice of that young shoat. Nicely broiled, it might do."

"All gone. It was so delicious that not a morsel was left. I didn't think it was coming to this."

"How about the beechnuts? There was a large yield."

"But our appetites were larger and I didn't look ahead."

"And the honey? The summer was so bloomy, you know."

"Yes, but we were all fond of high living. My cupboard dripped with sweetness and I set a royal table. I didn't think of the end."

And as Bruin breathed his last Graybeard exclaimed, "Alas, the cubs! I can't carry them to my tree and they must starve where they are. All this reminds me of what I heard a woodsman say concerning a friend who had been a high liver but had left a sorry penny for his heirs:

"A fat kitchen makes a lean will."

### BRAMBLE HILL.

(Continued from page 160).

"Give me a chance! Present your case. Let me concentrate my thirty-two-candle-power vision on the facts and exert my sixty-horse-power intellect in an effort to save you, from the mangling jaws of this conscienceless corporation."

Sid shrugged his shoulders. "Well, it's like this," he yawned languidly. "I've got it rather clearly in mind because I explained part of the tangle to Jerusha Wattles last night when I went over to tell her you were coming."

"That stunning girl with the jet black eyes and Maude Adams manner you introduced me to this morning?"

"Exactly. Now listen if you must have it," drawled Sid, stretching out his whole length on the porch and propping himself up on an elbow. "The commissioners,

who, as I understand it, are a bunch of Rubes from around here who don't appreciate my many talents and seem to fear and favor the railroad, have agreed that the right of way through this old baronial estate is worth only twelve thousand dollars."

"Whew!" whistled Jim. "Seems to me that's pretty low for more than a mile stretch, right in town, too."

"They say it isn't in town," answered Sid. "But that doesn't matter. It may have been partly because the commissioners thought I ought to be disappointed. You see, Sam Dunlap was one of them, and Aloisious Stimpson another. They both love me for my boyish grace and youthful vigor, not to mention my sprightly and entertaining manner, but they think I'm pretty short on intellect—and I don't know if you can blame them. Well, anyway, they've formed a sort of court and awarded the price for the property. I claim it's worth a good deal more than twelve thousand. Jerusha says it's worth a hundred thousand to them."

"If you could only get that, eh?" whistled Jim. "But I think myself they ought to be willing to pay at least half that. Why don't you take the thing to the railroad commission for adjustment?"

"There doesn't seem to be any now," answered Sid. "Hornbill suggested that at first, but when he looked into the matter he found the commission fixed or owned by the railroad, or something like that. There's no chance there."

"Can't you restrain the railroad with an injunction against cutting through your property?"

"Seems not. The court won't grant me an injunction on that because the law says the railroad, being a public service proposition, has a right to cut through my land, cut off my front door-step, or pantry, or leg, if it wants to. There's nothing irregular about it. They've condemned the land and assessed a valuation of twelve thousand dollars in broad daylight. Everything is ship-shape and equitable, as far as the railroad and the courts are concerned. I read a little law last winter, you know, in some musty old books—I found 'em more interesting than the hymnals, and that's all there was in the library."

"But the appraisers must have been crooked. There should be some redress for you. With that strip of land gone your chances to make good on that will be absolutely spoiled, aren't they? With that gone it won't do you any good to stay here?"

"Well, I'll be about as handy and useful as a postage stamp with the mucilage licked off, after that. Most of what is left is rocky and hilly and full of limestone. You couldn't till it with dynamite."

"It certainly sounds bad for you, old Sideral. Maybe after all you'll have to come back to New York and accept that job as time-keeper at twenty a week."

"Looks that way. I've given up. But I hate to think of going back to New York. It's cleaner out here, Jimmie, and at this time of night, with that mist softly welling up through the—"

"You're getting sentimental. Back to business. The railroad has simply got to pay you more for the franchise right through this farm. How does their franchise read?"

"Good till October first. They have to finish the job by then or forfeit the franchise and a bunch of money, I think. It pushes them pretty hard," replied Sid. "They've a good distance to go after they get through here, you know."

"And how far along are they on your land?"

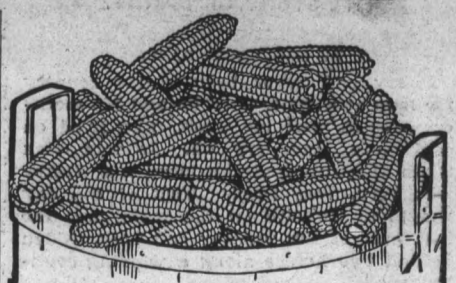
"They've laid a quarter of a mile of track already."

Jim pursed his lips thoughtfully and tapped his pencil on a pad of paper before him. "Let's see! This is the last of May," he said slowly. "They've got to go some to finish on time, haven't they?"

"Yes, but they're making good progress. They ran in three construction train loads of supplies today. They'll get through this farm in short time; the ground's pretty level and there won't be much blasting to do. After they get the rails down there won't be any chance for redress. It's no use, Jimmie. The rails are down now; they've got me pinned flat beneath that track. They've run over me. I've tried to figure out some means of escape. I polished up my trig and calculus and algebra and everything, but there isn't a theorem to fit. It's the Brutus-blow for this Caesar."

"Not so fast. Let me get this thing on paper," said Jim, itching to have a

(Continued on page 164).



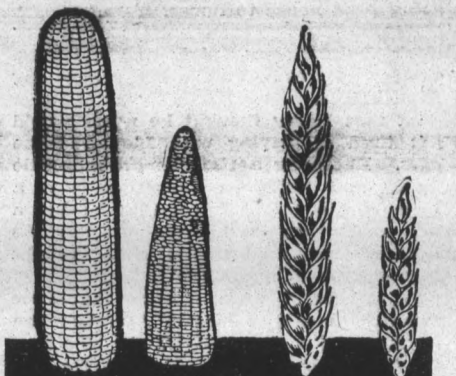
**80 to 100 Bushels per Acre with**

**Fish Brand Fertilizers**

Drilled 200 to 400 lbs. to the acre, Fish Brand Fertilizer will make your Corn Crop surer and bigger.

Write for copy of "Six Mighty Good Reasons Why You Should Use Fish Brand Fertilizer." Free for the asking. THE JARECKI CHEMICAL CO. Sandusky and Cincinnati, O.

Agents Wanted—Write for Proposition



**Are you Getting Only Half a crop?**

If your land is capable of producing double the yield you are now getting, the difference represents a loss of hundreds of dollars every year to you!

Why should you suffer such a loss, when for the same expense of seeding, working and harvesting, you can bank greatly increased profits.

**Valuable Information Free**

I have made a life study of the subject of restoring fertility to all kinds of soil.

I have learned just what natural elements are necessary to produce large yields of certain crops on certain soils. I know the exact proportions of these elements to employ in each individual case.

Tell me what you want to grow, and the nature and condition of your soil. Fill out question blank I send you—and I will tell you just what your needs are to get best results with the crop you want to grow.

**Write for Free Question Blank**

I will forward it by return mail. Answer the questions and I will tell you, free of charge, just what you should do with your land to reap biggest profits. Write me a postal NOW, so you will have time for careful consideration. You can do as you please about adopting my suggestions when you receive them. Tear out this advertisement now as your reminder to write me at once.

**B. H. SMITH, Crop Expert**  
Chicago Fertilizer & Chemical Works  
3936 Emerald Ave., Union Stock Yards, Chicago, Ill.



# Whose Word will you take?

## A Car to Keep

You are going to buy a car to keep, if you're going to buy economically. And a car, on your roads, needs a sturdy foundation to carry its power and load for years, needs more than mere specifications and "looks."

Trained engineers can't tell by appearance what a car will do. They can't pre-judge materials any better than you, for the cheaper steels look the same as the costlier. They must analyze every piece of metal in a laboratory to know what that metal is, and will do.

A car seldom tells its story inside of a year. Then it fails or it lasts, according to what the maker puts into it.

You must buy your car on the material basis—on the unseen values—if you are to get a car to keep.

And you must take somebody's word for this quality until you have proved it out on the road.

The thousands of customers we deal with regularly know you can take our word.

## For Seventy Years

For seventy years the J. I. Case Company—a \$40,000,000 concern—has manufactured the finest machinery in its line. For 70 years men have been trying it and finding out its worth. Some of our customers have dealt with us steadily for more than 50 years. For seventy years the business has been operated on a close-margin policy. You know Case Products. You know how they last. You know, by results (you do or your friends do) the grade of materials we use.

Case Cars are made by the same company that has made this machinery for so long. They are made on the same close margin of profit. Don't you think, selling to the same people who use our machinery, we would use the best materials for the purpose throughout in these cars?

## What We Don't Save

A car to be good today must be good for a lifetime if the buyer wants to keep it. City cars that run but a few thousand miles won't do on American roads.

We could make large savings on the cost of our motors by using cheaper materials.

We could save on our clutches, transmissions, drive shafts, wheels and other vital parts.

We could make large savings on axles if we used other than complete Timkens.

We use the same radiator that \$5,000 cars employ.

We could cut our assembling cost in two and this cost is one of the greatest.

## Extra Values Everywhere

No expense is too great, no method too irksome, to perfect every part in fit and in quality. For Case Automobiles, like all Case Machinery, must operate perfectly, and must last like a tractor with one-tenth of a tractor's weight.

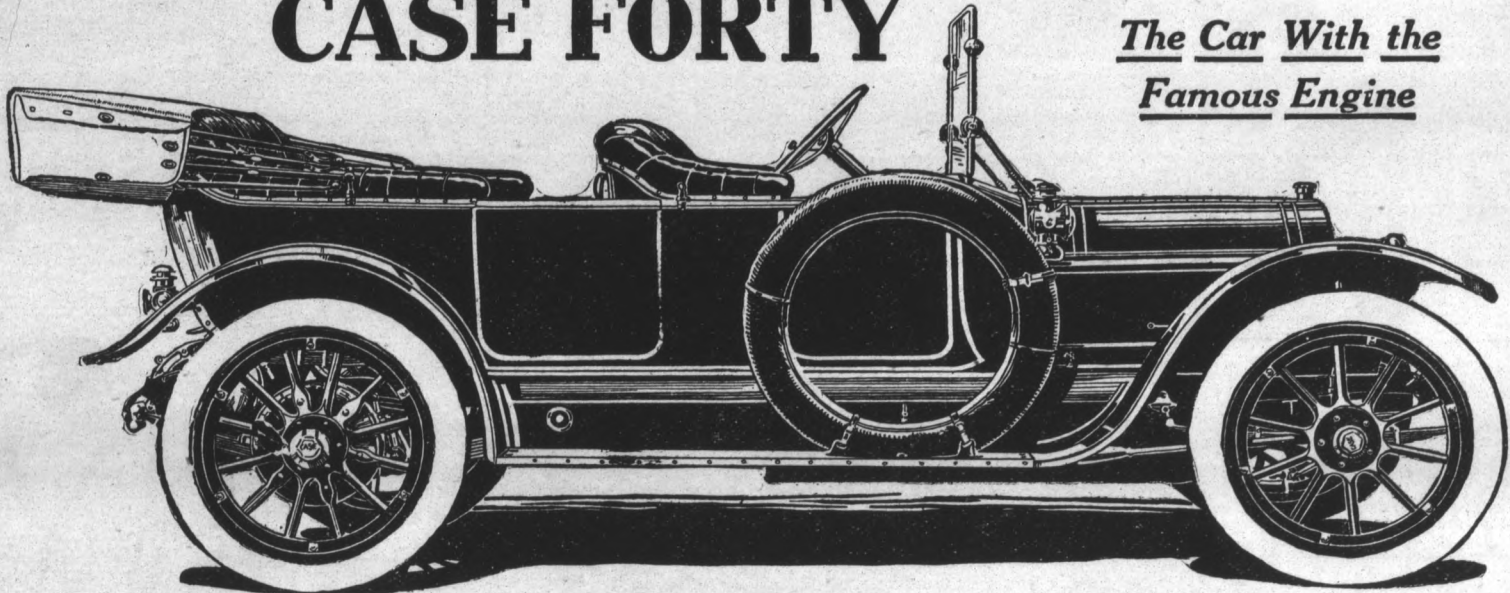
One must use the finest steels in existence to get both strength and lightness.

So we use this care and these better materials throughout the entire car.

No other car that we know, selling at anywhere near our price, uses such care and materials. No other can.

# CASE FORTY

*The Car With the  
Famous Engine*



## 5-Passenger Touring, Fully Equipped, \$2,200

Westinghouse Electric Starter and Electric Lighting Outfit for all Lamps; Side and Tail Lamps, Combination Oil and Electric; Warner Autometer; Electric Horn; Rain Vision Ventilating Wind Shield; Mohair Top, Side Curtains and Cover; 37x4½-inch Tires; Firestone Demountable Rims; 124-inch Wheel Base; Three-Quarter Elliptic Springs; 4½x5¼-inch Cylinders; Brown-Lipe Transmission; Timken Full Floating Axle; Rayfield Carburetor with Dash Adjustment; Bosch Magneto, Dual System Single Point Ignition. The usual Tools, Tire Repair Kit, Jack, etc. And in addition Extra Tire and Tube on Rim, Extra Tube separate, Tire Chains, Tire Cover and Handy Work Light on long wire.

## The Reason

No maker of automobiles alone could effect our manufacturing savings, for we didn't have to create a new business.

We added practically nothing to our selling expense. We had all our agents before a car was turned out. We added no salaries for officers, sales manager, advertising department, office rent or other overhead charges.

We need only reasonable profits. Our system, built up through seventy years, permits us to pare them down to the minimum, to effect great factory economies.



This Emblem on an automobile has the same significance as the Sterling mark on silver.

It allows us to put all this into the car, to put better things in a Forty than ever went into a Forty before.

You get the benefit of these savings.

They pay us no money, save that which "goodwill" brings to a firm that obtains it.

They pay you, through better materials, in upkeep, repair bills, and in the cost of new cars every year.

Don't you think them worth while?

Go to a Case Branch or one of our 10,000 dealers and see this new Forty. Ask to ride in it. See how it runs. Note its style and equipment. See also the Case Thirty at \$1,500.

Send the coupon for letters from owners that tell their experiences, and the

Case Catalog describing the Case Forty and the Case Thirty in detail.

No other cars in the world are so ideally built for years of service on American roads.

**J. I. Case T. M. Co., Inc.**

641 State Street, Racine, Wis.

Please send complete information about Case "40" and "30."

Name \_\_\_\_\_

Town \_\_\_\_\_

State \_\_\_\_\_

**J. I. CASE T. M. COMPANY, Inc., RACINE, WIS.**

Case Cars are sold through 10,000 Agents and 65 Branch Houses.

Factory Branches at Madison, Wis. Lansing, Mich. Fergus Falls, Mankato, Minneapolis and Duluth, Minn. Chicago and Peoria, Ill. Indianapolis, Ind.





### You insure against fire— Why not against decay?

There is a small chance that your buildings will be burned, but there is an absolute certainty that they will decay if you neglect to keep them well protected by good paint.

Protection depends upon the character of the paint you use. Some paint permits moisture to go through to the wood, which starts decay and soon ruins the building. The paint that gives complete protection is

## Low Brothers High Standard LIQUID PAINT

It adheres tightly and sets in a tough, durable coat that resists moisture and wears for years. It is the one paint that years of outdoor tests have proved will insure greatest protection of your buildings.

Ask your local "High Standard" dealer-agent to give you Paint Information and color combinations for exteriors, interior walls, floors, woodwork, etc.

### Valuable Books FREE

Have the best looking house in your neighborhood. Our booklets will tell you how—"Homes Attract From Gate to Garret," and "Guide to Farm Painting." Sent free to readers of this magazine. Write today.

**The Lowe Brothers Company**  
499 E. Third St., Dayton, Ohio  
Boston New York Chicago Kansas City  
Lowe Bros. Ltd., Toronto, Canada



**BIRD BOOK FREE**

**Stuff Birds And Animals** Learn at home to mount birds, animals, game heads, fish; tan skins; make beautiful rugs and robes. Decorate your home with your own trophies. Make big money mounting for others. Learn quickly during spare time. We guarantee success. Charges low. Write today for FREE illustrated book explaining taxidermy and showing beautiful mounted birds and animals. **Monarch School of Taxidermy** 51 Monarch Bldg., Omaha, Neb.

**AGENTS Something New**

Selling the newly patented **BRANDT Cigar Lighter**. Is operated with one hand—gives an instantaneous light every time the button is pressed. No electricity, no battery, no wires, non-explosive. Strikes a light without the aid of matches. Lights your pipe, cigar, cigarette, gas jet, whenever and wherever it is wanted. Works with one hand and never fails. Something new. Big demand. Everyone wants one. Write quick for wholesale terms and prices. **G. B. BRANDT LIGHTER CO.**, 42 Hudson Street, New York City.

**WANTED FOR U. S. ARMY**—Able-bodied, unmarried men, between ages of 18 and 35; citizens of United States, of good character and temperate habits, who can speak, read and write the English language. For information apply to Recruiting Officer, 212 Griswold Street, Detroit, Mich., or at Saginaw, Mich., 1st and Saginaw Streets, Flint, Mich., 144 West Main Street, Jackson, Mich., Huron & Quay Streets, Port Huron, Michigan.

**WANTED**—Railway Mail Clerks. Many needed for Parcels Post. Entrance salary now \$75 rapid promotions. Write **OZMENT**, 17 E. St. Louis

**GOVERNMENT** positions pay big money. Get prepared for "exams" by former U. S. Civil Service Secretary-Examiner. Free Booklet 67, Patterson Civil Service School, Rochester, N. Y.

**Farmers Sons Wanted** with knowledge of farm stock and fair education to work in an office; \$30 a month with advancement, steady employment, must be honest and reliable. Branch offices of the association are being established in each state. Apply at once, giving full particulars. The Veterinary Science Association, Dept. 22, London, Canada.

**LEARN AUCTIONEERING** and become independent. Write today for free catalog of World's Greatest School. **JONES NAT'L SCHOOL OF AUCTIONEERING**, 2874 Washington Blvd., Chicago, Ill. Carey M. Jones, Pres.

**WANTED—TO WORK ON FARM.** One married man and one single man. Address **F. G. HACKER**, Mt. Clemens, Mich.

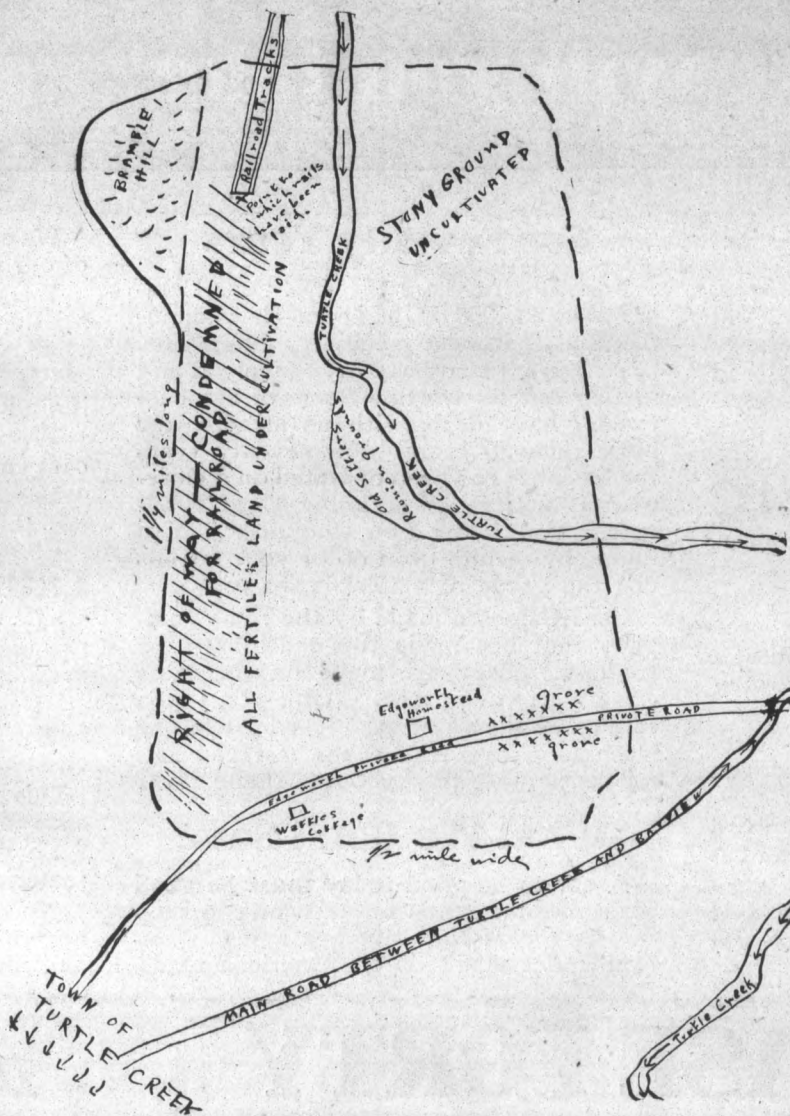
**SEND POSTAL** for one of remaining free copies of "When Farming is Foolish." Sells Information Bureau, 909 Fort Dearborn Bldg., Chicago.

**Mention the Michigan Farmer when writing to advertisers.**

### BRAMBLE HILL.

(Continued from page 162).

blue-print of the thing before him. He had learned to work with lines and figures. So, with Sid's help, he finally completed the following rough diagram of the farm, jotting down his facts, in an effort to find a solution:



Jim's Hastily Drawn Map of Edgeworth Farm.

A week later Sidney Edgeworth strode up the path to the Watts cottage and rapped on the open door.

"I just came over to say good-bye," he exclaimed, thrusting out his hand to Jerusha, who answered his knock.

"Good-bye? What do you mean?"

He smiled too broadly. His voice sounded unnatural from the very force he exerted to make it seem the same as always. "I'm going back to New York with Jimmie," he said, certain that Jerusha could have no idea that his throat was dry, and that there seemed to be an obstruction in it.

He entered the little living-room which Jerusha had transformed in the short time she had been home. "Where's Watts?" he asked, looking around. "I hate to say good-bye to him most of all."

"He hasn't come home from town yet. But, Sidney, what has decided you upon going back to New York? Has anything come up that I haven't heard of? Is it the railroad? I've been so busy in the house ever since I came back I'm afraid you'll think I haven't been the friend you expected, but I owe so much to Watts, you know."

"I know," answered Sid, his tone husky, his smile nervous. "I've just lost out in Turtle Creek. That's all. It's easy to say now, I've repeated it a hundred times a day to myself during the past month. I'm used to it now. I've been here about two years. The first half of my football game with that will has been played. The railroad has called time, and I'm so badly beaten I'm not going back to the field."

"Not a very sportsmanlike viewpoint," she suggested, with an anxious frown.

"I don't know," answered Sid slowly. "I've never played football, but I've been on the side-lines a good deal and it seems to me that sometimes if the beaten team were withdrawn after the first disastrous half it would be the most humane, if not sportsmanlike, thing that could be done."

"But you're not as badly beaten as that?"

"Yes, even worse. I'm the standing joke of the county already, and while I don't think they'd tar and feather me and ride me out of town on a rail, I know they'd make it as disagreeable as possible. My standing is already so uncer-

tain that even Lafe Turner feels licensed to criticise my actions. Anyway, I don't care to stay and be looked upon as a mere fortune hunter. Nothing more nor less. That's what I would be anyway, now."

"But something may turn up. I wouldn't go back to New York if I were



It is a mistaken notion to suppose that you must paint your house white if you use white lead.

You can have any tint, any shade, and it lasts if you use **DUTCH BOY WHITE LEAD** and **Dutch Boy Linseed Oil**.

Dutch Boy White Lead in steel kegs, 12½, 25, 50 and 100 lbs. Dutch Boy Linseed Oil, 1 and 5 gallon sealed cans. Ask your paint dealer. Let us send you "Painting Packet 53," full of facts every house owner should know about painting. Also Handy Book on Painting full of information for the man on the farm. We will include our catalogue of 100 beautiful stencils for walls.

### NATIONAL LEAD COMPANY

New York Boston Buffalo  
Chicago Cincinnati Cleveland  
San Francisco St. Louis  
(John T. Lewis & Bros. Co., Philadelphia)  
(National Lead & Oil Co., Pittsburgh)



### Shirley President Suspenders

Guarantee on each pair

### They're so Comfortable

JUST the suspenders you've been wanting—because

**Shirley President Suspenders** move freely—won't pull on your shoulders—and don't strain. Millions of men have proved it—why don't you?

Wear a pair for a month. If you don't like them, we will buy them back at price you paid. Made in Light and Medium Weights. Extra lengths for tall men. Each pair guaranteed.

Price 50 cents everywhere

**The C. A. Edgarton Mfg. Co.**

Shirley Guaranteed Suspenders  
501 Main Street Shirley, Mass.

### Veterinary Course at Home




**\$1500 A YEAR** and upwards can be made by taking our Veterinary course at home during spare time. Taught in simplest English. Diploma granted. Graduates assisted in getting locations or positions. Cost within reach of all. Satisfaction guaranteed.

**Dr. E. H. Baldwin** writes: "I took the course for my own benefit on the farm, but the success I had started me in practice and now I am going night and day. Your course has been worth thousands to me, and will be to any man."

WRITE FOR PARTICULARS  
**The London Veterinary Correspondence School**  
London, Ontario, Canada



**PEERLESS**



**SELF-RAISING GATES**

swing over the snow banks or other obstructions, no shoveling or digging when your time is worth more for something else. Every part of the Peerless is

**Heavily Galvanized**

A rust-proof coat, no paint to wash and wear off, leaving the steel red, rusty and unsightly.

Built to stand hard usage—big, massive frames; all No. 9 wire filling and a double safety latch.

Ask your dealers to show you a sample or send for our 74 page Fence and Gate catalogue.

**Peerless Wire Fence Co.**

213 Mich St.  
Adrian, Mich.

**THE GATE LIFT**

WITH A LIFT

**KITSELMAN FENCE**

Get It From the Factory Direct



We make you the same price we would make the Dealer or Jobber. That is why we can save you money. Look at these very low prices.

**14 CENTS A ROD**

for 26-in. hog fence.  
23¢ a rod for 49-in. farm fence.  
25¢ a rod for 60-in. poultry fence.  
\$1.55 for 80 rod spool of Ideal

Barbed Wire. Large free Catalog showing 100 styles of Farm, Poultry and Lawn Fence.

**KITSELMAN BROS. Box 278 Muniole, Ind.**

**Galvanized Steel GATE**

Free Trial Use



Try this galvanized adjustable farm gate 60 days before buying it. No deposit, no payment until you say you want to buy the gate. Send for our Free Use Order Card and Big Farm Gate Book. Address **IOWA GATE CO., 57th St. Cedar Falls, Iowa**

**Brown Fence**

Strongest, most durable made. Basic open hearth wire. Double galvanized. Compare our quality and prices with others.

**BARGAIN PRICES—DIRECT FROM FACTORY**

150 STYLES—13 CENTS PER ROD UP

We pay freight anywhere. Write now for free fence book and sample to test.

**THE BROWN FENCE & WIRE CO.**  
Dept. 30 Cleveland, Ohio

**BOOK FREE** **WRITE NOW**

**National Wrapper and Splicer For Farmers—Fence Builders—Linemen.**

**A WONDER**



A machine made tool consisting of three distinct machined parts, accurately fitted. SEE CUT. Can be used in close spacing on poultry fence where no other tool can be used at all. A revolving ratchet head, simply pump up and down with handle and head revolves and makes the wrap or splice. Works anywhere and in any place. Send 75¢ money order and we will send you one, parcel post. A big proposition for agents. Write today.

**NATIONAL IMPORTING COMPANY,**  
Dept. D., Jackson, Michigan.

**STRONGEST FENCE MADE**

FROM FACTORY DIRECT TO FARM

26-inch Hog Fence, 14¢.  
41-inch Farm Fence, 21¢.  
48-inch Poultry Fence, 22¢.  
80-rod spool Barb Wire, \$1.55

Many styles and heights. Our large Free Catalog contains fence information you should have.

**COILED SPRING FENCE CO. Box 21 Winchester, Ind.**

**CEDAR FENCE POSTS**

Delivered your station in car lots. Write **W. H. STARK, Rose City, Mich.**

**WANTED** A man or woman, all or spare time, to secure information for us. Experience not necessary. Nothing to sell. GOOD PAY. Send stamp for particulars. Address **M. S. I. A., Indianapolis, Indiana**

alone all the time. That's why I'm going with him. I want to be back with Jim and Doodle and the other fellows. I want to chum around with Doodle and—"

"Oh," Jerusha cried, "I don't think Doodle would do you any good; he's too lazy. What you need is a spur, someone to force you on, to give you impetus. You will manage about the rest of it if someone will only give you a shove to get you started. Doodle wouldn't be at all good for you."

"Yes, you're right," cried Sid. "You talk almost as if you knew Doodle yourself."

"I know his type. I've met many like him in New York," she hastily tried to cover her traces. "Yet Doodle is different from them."

"Why, you're talking again just as if you knew him."

Jerusha bit her lip and flushed slightly. She had been too much in earnest. "I do. You have talked so much about him, I'm sure I should know him if I met him anywhere," she answered lightly, smiling to herself at the exactness with which the truth fitted her need.

"Oh, you'd like Doodle. He isn't half bad. He's—"

"That's just the trouble. I do like him," she cried. "But I don't think he'd be a good influence for you. Come, now, tell me all about this railroad business. I've thought about it some myself."

"Wait! I'll show you; my explanations always seem to be so hazy. A practical demonstration is always best. Will you walk to the scene of devastation and see with your own eyes the fertile fields laid waste by the enemy? Watts won't be back before we return."

"All right," she answered, skipping through the door at his suggestion and waiting for him on the stoop without.

"Say, you're horribly rapid about doing things," remarked Sid, as he pushed open the door for himself fully half a minute later and joined her. "I don't see where you get all your impetus."

As they sauntered through the Edgeworth estate Sid pointed out the fertile valley, bounded by Bramble Hill on the one side and rocky limestone steep on the other, past Turtle Creek. Half of the entire valley would be sacrificed to the railroad. It was all land under cultivation; even the season's crops, and therefore the season's rents, would be lost. They walked the mile to where the construction gang was laying track, following a path which ran between Turtle Creek and the right of way. Rich, loamy fields lay on both sides; beyond the creek was stony, and therefore useless, ground.

"You can see for yourself what the loss will mean," said Sid. "It's half the tillable land we have; the strip is about a mile and a half long. The farm won't pay over a thousand dollars a year now, and that will hardly cover expenses."

Jerusha seemed strangely thoughtful. She did not answer him but nodded her head occasionally in an absent manner as he presented some new detail of the difficult situation. She suddenly crossed to Bramble Hill, climbed to a jut of rock where a good view of the valley was to be had, with Turtle Creek winding through at the outer edge and running off into the grove behind the Edgeworth house. She seemed to be sizing up the situation critically.

"What are you thinking of?" asked Sid, perplexed, as Jerusha inhaled a quick breath and looked sharply up Turtle Creek to where it ran almost parallel with and only a hundred yards from the railroad track that had already been laid into the farm.

She didn't answer. "You look like the Sphinx. All wisdom and no speech," Sid went on, watching her nervously. "A penny for your thoughts."

"I hope they'll be worth a trifle more than that," she cried, jumping down from where she had been sitting on the crag. Her eyes were snapping. She caught Sid's arm in the old fraternal way of the days before she had left Turtle Creek.

"Go and get your friend Jim. Bring him here! I want to talk with him," she commanded in a breath.

"He's at the house. We'll stop and see him as we stroll back."

"No!" she cried. "Go now! And don't stroll. You'll find me near here when you come back. Hurry!"

(Continued next week.)

Mother—"Tommy, if you're pretending to be an automobile, I wish you'd run over to the store and get me some butter."

Tommy—"I'm awful sorry, mother, but I'm all out of gasoline."

## Would a Sure and Steady Income Interest You?

Would you be willing to work hard for a few years to have it?

You have read of the splendid apple crops of the Pecos Valley of New Mexico and Texas. You have seen reports of the large profits. You know the results that can be secured by intelligent effort. You know these things, but have you ever sat down to analyze the advantages offered by the Pecos Valley?

Do you realize that most of the apples used in Texas come from this valley? Do you know that there are 4,000,000 people in Texas, all apple-hungry and willing to pay well for good fruit? Do you know that the Pecos has the nearest apple orchards?

Do you know that the Pecos Valley has a particularly favorable climate and soil for apple-growing? It is the nearest apple-growing country, and other apple sections are practically shut out of Texas by the long hauls and expense of transportation.

Do you know that the Pecos Valley has numerous irrigation projects, also artesian wells and abundant underground water, easily available by pumps?

The rich soil of the Pecos Valley responds generously and quickly to irrigation. The splendid climate and abundant sunshine put color and flavor into all crops.

You are not dependent on apples, alone; sweet potatoes, cantaloupes, pears and peaches are good money-makers, and truck farming pays well, too, but next after apples comes alfalfa. The bright, pea-green alfalfa of the Pecos Valley is in special demand and is an easy and profitable crop to grow while the orchard is developing.

Do you know that splendid land, ready for the plow, with water developed, can be bought for \$75 an acre and up, on long time, with low interest?

Are you willing to let this opportunity slip by you? Is there any good reason for

not using the little foresight, energy and hard work that will ultimately make you the possessor of an irrigated apple orchard in the Pecos Valley and all the prosperity that means?

You will find there now—good schools, good roads and many thriving little cities more enterprising and better consumers than larger communities in older sections. You'll get a hearty welcome and won't be lonesome, because orchard homes make close neighbors and the resulting social activity due to common interests.

Write for Pecos Valley folder—it's free—and get the whole story.

C. L. Seagraves, General Colonization Agent,  
Atchison, Topeka & Santa Fe Railway,  
2295 Railway Exchange, Chicago

**N. B.—Homeseekers' Excursions are run twice a month. I will be glad to tell you about the trains and fares.**

## ALL the Corn—ALL the Profit

You are not getting ALL the profit from your cornfield unless you have a corn binder.

And the binder you should have—for perfect work on bottom, hill and level; the machine that gets ALL the corn—is

### The Johnston Corn Binder

The Corn Binder that HAS NO PACKERS to knock off ears. Light draft, strong as steel, convenient and adjustable. That's why owners say:

**"Certainly! Buy a Johnston"**



Fully described and illustrated in the JOHNSTON 1913 CATALOG—now ready. Every farmer should send for a copy—full of valuable implement information. FREE.

**THE JOHNSTON HARVESTER CO.**

Box 165-C  
Batavia New York

**"Cant-Sag" Gates Save You BIG MONEY**

Cost only one-third as much as ordinary iron, wire or gas pipe gates, but last twice as long. Neat in appearance—best and strongest gate made—light, easy to handle, opens both ways. Boards are double bolted between eight angle steel uprights and double cross braces, guaranteed never to sag.

Cost Less Than All Wood Gates—Last 5 Times as Long

Cant-Sag Gates are furnished complete, ready to hang, or just the Gate Steels which include everything except the boards. Patent self-locking hinge feature—reinforced two piece malleable hinges. Six Triangular Truss Braces make gates extra strong.

Improved Elevating Attachment permits the gate to be raised full length from 5 to 30 inches, so small stock can pass under, and to swing over snow.

**20 Days Free Trial and 5 Year Guarantee**

Catalog shows both complete Gates and just the Steels at prices you can't afford to miss. Send for my new catalog with free 30 days' trial and freight prepaid offer.

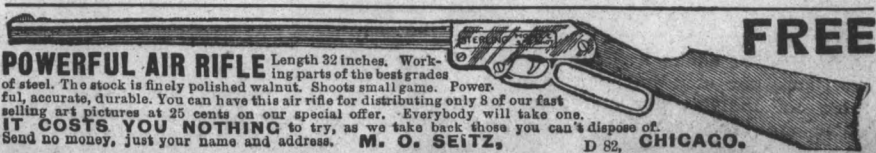
**Alvin V. Rowe, Pres.**  
**ROWE MANUFACTURING CO.**  
665 Adams St., Galesburg, Ill.



**"Cant-Sag" Gates & Steels**

**POWERFUL AIR RIFLE** Length 32 inches. Working parts of the best grades of steel. The stock is finely polished walnut. Shoots small game. Powerful, accurate, durable. You can have this air rifle for distributing only 8 of our fast selling art pictures at 25 cents on our special offer. Everybody will take one.

**IT COSTS YOU NOTHING TO TRY**, as we take back those you can't dispose of. Send no money, just your name and address. **M. O. SEITZ,** D 82, CHICAGO.



**FREE**





# Woman and Her Needs

## At Home and Elsewhere



### The Old Is Not Always Bad.

ARE we so much wiser than our fathers and mothers? To read the numerous articles published nowadays attacking the schools we attended and the methods our parents used in bringing us up we can only arrive at the conclusion that we are all improperly trained, warped mentally, physically and morally and only awaiting the right temptation to shove us into the criminal class. The educational system that did for the past generation, this generation of instructors and savants, tell us, is about the worst ever, and calculated to ruin all but the very strongest of our boys and girls. Our parents, too, knew nothing about Froebel and Montessori and the other child culturists. They made no study of children's idiosyncrasies, individuality I believe it is called, but stubbornly insisted on obedience. If we follow those methods we will crush our children's individuality and hinder them from becoming desirable citizens. Our parents' methods were bad, not to say criminal, and if carried out can only produce dire results.

Yet when we look about us we see a large number of sane, normal, clean-minded, law-abiding citizens all reared under the methods which are now condemned. They seem to have fairly good educations, received under that school system we now learn is so lame and one-sided that the average child gets absolutely nothing out of it. They seem to have a fair share of individuality, too, and strangest of all, they do not hate the parents who flogged them when they needed it, and otherwise kept them in the straight and narrow path even when it conflicted with their notions of expressing their own individuality. The old ways did produce good citizens, in spite of modern traducers.

It always seems strange to me that good men and good women are so ready to condemn utterly the methods which were used to train them up in the way they should go. Granted there were some flaws in the old system, it couldn't have been entirely bad or it would not have produced so many really fine men and women. To hear many of the modernists talk you would think they were in the position of Elijah, "I, even I, alone am left," they succeeded in growing up good in spite of the bad system only because of direct intervention of Providence.

Admitted that the schools of a quarter of a century ago had their faults. The children at least could spell and do simple sums when they finished. We hadn't an easy time of it, I'll admit, but we learned some things that stayed by us. I remember one bright, sunny day of writing 500 times on the blackboard, "7x7=49," because I missed that when the grim-faced Scotchman who taught us ordered me to say "my sevens." It wasn't pleasant, I'll admit, but if I were in a delirium and you asked me how much 7x7 equaled I could tell you. Today my niece of 12 summers looks me sweetly in the face and tells me there are six threes in 12 and that 9x2 equals 14, and when I say things about modern schools she tells me that they don't learn the multiplication table any more, it isn't necessary.

My neighbor's seven-year-old daughter who started to school in September could read whole pages from "her book" in eight weeks. But show her the same words in another book and she wasn't acquainted with them. It took us a year or so to learn to read, but we knew the words when we finally could read, and whenever we saw them they were old friends.

I remember, too, that our mothers weren't strictly up to date about allowing us freedom of choice and the privilege of exercising our own judgment and developing our individuality and other things which are now essential to the perfect

development of the child. They did not always sit down and tell us "why" every time we asked it. There may have been some excuse for them, usually there were five or six children and the mothers had most of the work to do alone, so they sort of acquired the habit of laying down laws and seeing that they were obeyed, and of saying yes or no to requests without bothering to explain. This, we are told, was all wrong and a crime against the child. But our mothers succeeded in some ways where we modern mothers fail. They taught us obedience, respect for our elders and reverence for religion, and in these things the modern child is sadly lacking. Perhaps it was fear which kept us good, and fear, we are told, must be banished from our child's vocabulary. But it seems to me it is better to have well-behaved children, even if it is fear that makes them so, than to afflict the neighborhood with disrespectful savages who have been brought under with the self-governing idea.

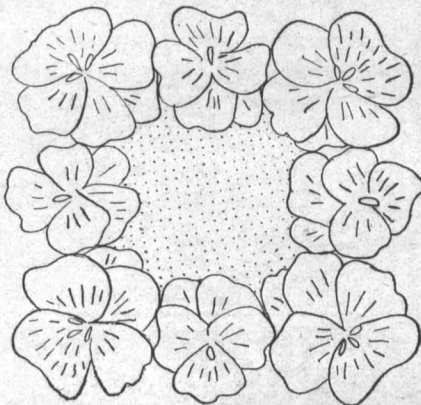
Undoubtedly there was much that was bad in the old ways, no system is perfect. But before we condemn it utterly, let us see if there are not a few good things about it, which we wise mothers of 1913 would do well to copy.

DEBORAH.

#### PIN CUSHION IN PUNCHED EMBROIDERY.

BY MAE Y. MAHAFFY.

PUNCHED work has come to the fore so rapidly among embroiderers that everyone who attempts fancy needlework is endeavoring to master its details if they have not already done so. And this is by no means difficult, for the work really consists in simply separately the fabric threads with an extra large needle, and then binding them in this position with fine thread, as compared with the threads of the material and the size of the little blocks. It greatly resembles a square-meshed drawn work, but no threads are withdrawn. It is used for the design itself, if it is sufficiently large, but more often for background work merely. For small pieces, such as the pin cushion shown, the entire background is worked in the punched embroidery, but for large pieces where this



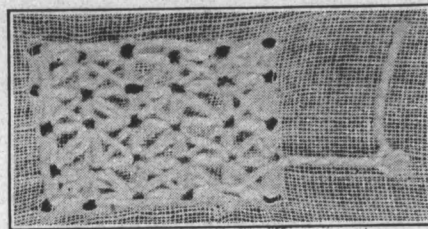
Pansy Design in Punched Work.

is considered too great an undertaking medallion-like figures of the punched work serve as backgrounds for smaller floral designs in solid or other embroidery. Or, bands, regular or irregular, are used to give the light, lacy touch of the punched work to the heavier looking solid embroidery.

The background fabric should be open-meshed, or loosely woven, like voile, scrim, etc., to attain results in the most satisfactory manner. The thread used to bind the material may be a fine cotton, but as it will receive considerable wear in drawing it snugly to insure the open spaces, it really is best to use a fine linen for this part of the work. Whatever other embroidery is combined with

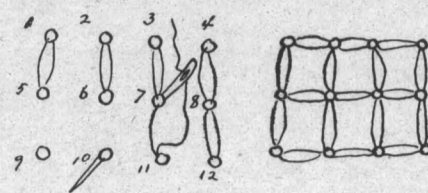
the punched work may be done in the usual soft cotton flosses.

A small sample of the finished work is illustrated, as well as drawings showing the mode of procedure. The material is stamped with small dots at regular intervals, usually about a quarter of an inch apart unless the material is very coarse, when the distance may be somewhat greater. The binding thread is fastened on the wrong side with an ordinary needle, and then threaded into a very



coarse one, preferably a sailmaker's needle, with which the threads are separated. Some workers prefer to carry the thread in the ordinary sized needle, and use an extra one for punching the holes, but a majority can accomplish results more speedily by using the large one for all the work.

Bring the needle up at the edge of the second row of dots, marked 5 in the small cut, crowding the fabric threads well apart, but being careful to break none. Insert the needle at 1, drawing the thread snugly but not puckering the goods. The method of work very naturally causes a shrinkage, so that this point must be carefully watched. Now bring the needle up again at 5 and put it down again at 1; then bring it up at 6, put it down at 2, and repeat, proceeding to 7 and 3, etc. Thus the material is bound twice between



every pair of dots, the dots being converted into holes. After the binding has been carried across the material in parallel rows in one direction throughout, the work is turned and the same process followed at right angles, so that the entire background is converted into small squares with a hole for each corner and the double binding forming the sides. (See the other small cut, as well as the finished sampler). When completed the work should be laid face down on flannel and ironed well under a dampened cloth.

It is not necessary to always work the remainder of designs in solid embroidery. The edges touching the punched work may be outlined heavily, either in outline stitch or rows of solid work, while central features, such as mid-ribs, veins, hearts, etc., may be outlined less heavily. In the pansy design shown, if it is desired to cut the linen away around the pansies they should be buttonholed in long and short stitch, but if material is to be left for hemming or fringing, heavy outlining will answer. In either case the centers should be worked solid and the markings outlined. All white, or colors may be used.

#### FARM LIVERY.

BY HILDA RICHMOND.

TO exercise the idle horses on his father's farm, to make some money during the dull season of the year and also to get a start in business, a young man less than 20 years old successfully started a sort of farm livery stable some years ago. A real estate man in the town four or five miles away was getting too old to take prospective purchasers about the country in cold weather, so he hired the young man as his assistant at \$5.00 per day for a horse and conveyance. However, he did not

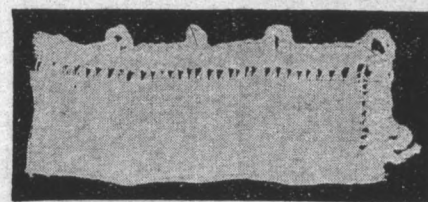
pay that amount simply for the horse and vehicle, but required that the young fellow post himself thoroughly on rents, taxes, land values, crops, cost of labor, seed, fertilizer and all the other items of interest to his patrons. While the farm livery furnished the basis of the business, brains were also a large item in the success, for the old gentleman could have hired a mere driver for less.

As he was not occupied every day in the real estate business the young man solicited patronage in other directions during the winter and spring months. With the family driving mare, sure and steady, he took timid old ladies to funerals and parties and on shopping expeditions, but with the spirited young animals of the farm he did livery service for sleighing parties and hunting expeditions. It was a little hard sometimes to sit out in the cold all day or tramp over snowy fields showing off farms, and in the evening with another team to drive ten or twelve miles in the cold, but protected with furs and well wrapped against the cold, he put in a very successful winter and his health was never better. It did not often happen that he was out all day and half the night, for there were stormy days and days too cold to go out at all, but on the whole he missed few days that winter. The horses wintered better than they ever had in idleness and really the winter was more profitable than the summer. With the coming of spring the activities in the real estate business ceased very suddenly, and after a brief breathing spell horses and driver were at work in the fields.

Aside from the money he made by driving, the young man and his father also picked up many bargains in live stock during that winter, the profits of which were shared equally. Being out every day the young man had a chance to find many animals that could easily be fed up and cared for until they could be sold for much more than their present value, so in every way the farm livery was successful. Even where there are no real estate men needing assistants there are always elderly people afraid to drive who are eager to hire a safe driver. There is little expense in keeping the horses above the ordinary winter feed, and the exercise is good for them, so there ought to be a great many more young men in this business all over the land in winter time.

#### HOME QUERIES.

Household Editor:—Having read your paper for several years and noticed lately that you had different crochet patterns, I thought I would send you a pattern of an edge crochet around a handkerchief which is very simple and neat and still requires but little work compared with hemstitching or embroidering.



Take linen the size you wish, usually 12x12 in., draw two threads about a quarter inch from edge and crochet six to eight short stitches, then three chains and so on. A soft cotton is taken, and some make them in different colors. Lavender is used quite frequently. The tie crocheted in Irish, with velvet pulled through, published some weeks ago, I have made quite a number of them. I also have a Dutch collar and cuff set with novelty braid crocheted in, several doilies, and a jabot with it and a rose crocheted in each circle of braid, and the Irish crochet hand bags, but do not know how to describe them so you would understand. I would enjoy seeing different



crochet patterns from others.—M. C. S., Saginaw, W. S.

Household Editor:—Will some of the readers tell me how to remove finger marks from furniture? Also give some suggestions for papering a living-room which is 14x12 ft., height to the ceiling 8 ft. The woodwork is painted a deep lilac. I thought of using two kinds of paper, a dark brown for the lower part and something lighter in color for the upper part of the side wall. How would a light paper with a faint tint of pink do for upper part of side wall and would the ceiling need to be different or could it be the same as the light paper on side wall? Would there need to be a border?—Mrs. J. D. M., Hastings, Mich.

The best way to remove finger marks from furniture is to wipe the furniture carefully with a clean chamois skin wrung out of warm water. This method is used by leading piano houses, and gives better satisfaction than furniture polish. As your ceilings are so low I would not use two colors on the side wall. Run the paper clear to the ceiling without border, and if the picture molding is not at the ceiling have it moved up. Dividing the wall space takes off from the effect of height. I do not believe you would like dark brown with deep lilac. Take a lesson from nature, who uses a light green with lilac. A light green and cream or white striped paper would be better with the woodwork, I believe, and the stripes would further add to the height of the room. I would use a white or cream moire paper on the ceiling.

#### WINTER EVENING PASTIMES.

BY HELEN H. CROOKER.

The hostess who plans a social evening for a group of friends is always confronted with the necessity of providing entertainment for them. Usually it is more difficult to think of something unique and novel of this kind than it is to plan a dainty and attractive menu. Most of us recall the "guessing contests" of various kinds which unresourceful hostesses resort to. Thus when it comes our turn to entertain we resolve that our guests shall have occasion to remember the evening with pleasure because of its being "something different" from the usual social gathering.

For an evening's entertainment where most of those present are "grown ups" nothing is productive of more amusement than the following: Everyone who attends is given a card bearing the name of some well-known species of apple, such as Baldwin, Ben Davis, Northern Spy, Russet, etc. Let there be half a dozen cards bearing the same name, and on one card of each set place the word "Leader." After the company has assembled, the first thing to be done is for each leader to seek out the rest of his party and make them acquainted with one another. This will cause those present to congregate in groups, after which they are informed that each group must compose a poem of not less than four lines exploiting the good points of their particular apple. Allow plenty of time for this and when finished give all the poems into the hands of a committee of judges, which will award first, second and third prizes.

Before the prizes are announced one of the judges should read all the poems that do not receive a prize. The winner of the first prize should then be announced and the group responsible for the winning poem made to stand in a line before the judges. After the poem has been read, the members of the group standing before the judges should be solemnly sworn and asked individually whether they are guilty of such an effort. Sentence is then passed upon them. This consists of eating a very large apple while standing before the assembled company. The pie is divided equally among the members of the group. The awarding of second and third prize should be made in the same way, with the exception that the second prize pie should be very much smaller and the third prize should consist of crust only—and no fruit. Then should follow refreshments for everyone, in which the "apple idea" may be carried out in some way or other.

For an evening's entertainment of young people the game of parlor marbles will prove both unique and interesting. The hostess will provide 18 small marbles and a "receiving bag" for every four guests, also tally cards for first and second couples in "Group I," "Group II," etc. The receiving bags can be made at home. They are best constructed of white cloth just large enough to easily admit one's hand (say five inches across and four inches deep), and are mounted

on a ring of heavy telephone wire, which in turn should be fastened to a short piece of broom stick.

After the guests have drawn their tally cards and have arranged their chairs in groups of four, distribute the bags, one to each group, making sure that each bag contains 18 marbles. In playing the game, one person takes the receiving bag while the 18 marbles are divided equally among the other three members of the group. The person with the bag shuts his eyes while each of the other three divide the six marbles in their possession between their two hands in any way that they choose. They may put them all in one hand or two in one hand and four in the other, or make any other arrangement desired. Then with each of the three holding both their hands in front of them, tightly closed and backs upward, the one who has the bag holds it by turn under one hand of each of the three. These must let drop into the bag the marbles in that particular hand. The total number of marbles in the bag when this is done constitutes the score of this individual and his partner opposite. The marbles held in the hands of the other three comprise the score of his opponents. The bag is passed twice around the circle and the total scores determine which couple has won the game. Winning couples move to the next table and change partners.

If prizes are given it is well that they should be simple and appropriate. A large glass marble fastened in a close network of baby ribbon so that it may be hung on the wall with other souvenirs makes a good prize for the winner. A little cloth marble bag labelled "To the loser belongs the bag," and containing a solitary "commey," makes a suitable prize for the one who makes the smallest score.

Another pleasant winter evening entertainment is a mid-winter picnic—to which the guests are invited to come wearing straw hats and summer clothes. If possible a hammock should be hung in one of the rooms. A grate fire with plenty of pine knots may serve as a camp fire—the guests sitting around it on the floor. All other lights should be turned out while camp stories are told. If it is desired earlier in the evening to have a few games, have several tables arranged with fish ponds, indoor base ball, etc. When serving refreshments give each young woman a small basket filled with picnic lunch. Place a number on the handle of each basket and distribute similar numbers to the young men present. Let them find their partners and then spread the tablecloth on the floor, unpack the lunch baskets and serve "picnic style." Paper plates and napkins should be supplied, and in every way possible the idea of a mid-summer picnic lunch should be carried out.

#### A TWENTY-CENT FIRELESS COOKER.

BY H. C. KEGLEY.

There are many women who want a fireless cooker, but who cannot afford to buy it. However, if they knew how easily they could make a fireless cooker they would not be without one. As the fireless cooker works upon the principle of the conservation of heat, and anyone who can conserve heat economically can own a fireless cooker.

Take a candy bucket, line it with asbestos tacked fast to the wood. Fill the bottom of the bucket with a five-inch thickness of wet excelsior, packed down as hard as you can pack it. Smooth the top side of the pack with a flat piece of wood. Then take a flat-bottomed kettle or a big step pan, place it upon the excelsior, and pack wet excelsior solidly all around it. Pack the excelsior around the container until it reaches up to the top of it. Then set the candy pail out in the sun and let the excelsior dry thoroughly.

When the excelsior has dried you can then remove the vessel from the center of the bucket, and you will find that it had moulded a neat little nest there. Take a flour sack, stuff it with wet excelsior, and shape it to fill the top of the pail, leaving room for the lid. Then let the top packing dry thoroughly. When you have finished your work you will have a very serviceable fireless cooker. Start a dish of food to cooking, then remove it to the excelsior affair and let it finish cooking by shutting in all of the heat it holds when you take it from the stove. A very good fireless cooker can be made for about 20 cents.

If you want a bigger fireless cooker make one from a butter firkin or the half of a rain-barrel. Or use two butter firkins if you need them.



#### Use Big Ben All Day Long

Big Ben not only gets you up on time every morning, but he serves the whole family all day long as a reliable clock to tell the right time by.

He's really two good clocks in one—a crackerjack of a time-keeper—a crackerjack of an alarm.

He can ring you up in the morning just when you want, and either way you want—five straight minutes or every other half minute for all of ten minutes.

If you're a light sleeper, turn on the half minute taps before you go to bed. If you sleep heavily, set the five-minute call and you can slumber then without the get-up worry on your mind.

Then when you're up and doing, carry Big Ben downstairs into the living room so that the whole family

can use him to tell the right time by. He stands seven inches tall and his great big open face can be seen distinctly across the largest room.

Big Ben is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves. He rings five minutes steadily or ten intermittently. If he is oiled every other year, there is no telling how long he will last.

He's sold by 18,000 watchmakers. His price is \$2.50 anywhere in the States, \$3 anywhere in Canada. If you can't find him at your jeweler's, a money order mailed to Westclox, La Salle, Illinois, will send him anywhere you say, express charges prepaid.



## Land Values Increased 200 Percent

in Mississippi and Louisiana. It is the land of opportunity today. And you are not compelled to accept anyone's word for it.

Statistics show that in ten years the corn crop has increased from 49 millions to 124 million bushels. In the same period the money on deposit in the banks in these states increased from 51 millions to 145 million dollars.

## Go South, Young Man

They raise 2 to 4 crops a year down there. You can work out of doors the year 'round, and land will never be as cheap as it is today.

Write for booklet giving full and complete information about conditions and opportunities.

J. C. CLAIR, Immigration Commissioner, I. C. R. R.

Room 616 Central Station, Illinois Central R. R.

CHICAGO, ILL.

When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.





## Allcock's PLASTERS

For Coughs and Colds put one on chest and another between shoulder blades. It breaks up the congestion (the cause of colds) before it can reach the lungs.

## Allcock's Lotion

—Rubs right in.

Something new and good. For rubbing where it is inconvenient to put a plaster. Wonderful in cases of croup, whooping cough and all local pains. Guaranteed to be an A-1 Liniment. Price 50c. a bottle.

Send 5 two cent stamps for sample bottle. ALLCOCK MFG CO., 274 Canal St., N. Y.

Constipation, Biliousness, Indigestion, etc.

## Brandreth's Pills

Entirely Vegetable.



## A Kalamazoo Direct to You

Kalamazoo ranges make happy housewives—get the big Kalamazoo catalogue that proves Kalamazoo convenience—economy—handsome appearance. Latest features—oven thermometer, glass oven doors, etc. Astonishingly liberal offer. Kalamazoo stoves and ranges are

## Easy to Try—Easy to Buy

We give you 30 Days' Free Trial—\$60 Days' Approval Test. You get the absolute factory price. You save from \$5 to \$40. It's all the same to us whether you send all cash or make small payments. We ship the day your order comes. We pay freight right to your station. Get our big illustrated book of 400 styles and sizes of stoves. Read the \$100,000 Bank Bond Guarantee. Ask for Catalogue No. 118 today. KALAMAZOO STOVE CO., Mfrs., Kalamazoo, Mich. We also make Furnaces and Gas Stoves. Special Catalogue on request.



**"RANGER" BICYCLES**  
Have imported roller chains, sprockets and pedals; New DePuyr Coaster-Brakes and Hubs; Puncture Proof Tires; highest grade equipment; and many advanced features possessed by no other wheels. Guaranteed for 6 years.  
**FACTORY PRICES** direct to you are less than others ask for cheap wheels. Other reliable models from \$12 up. A few good second-hand machines \$3 to \$8.  
**10 DAYS' FREE TRIAL** We ship on approval, freight prepaid, anywhere in U. S. without a cent in advance. DO NOT BUY a bicycle or a pair of tires from anyone at any price until you get our big new catalog and special prices and a marvelous new offer. A postal brings everything. Write it now. **TIRES** Coaster-Brake Rear Wheels, lamps, parts and sundries half usual prices. Rider Agents everywhere are coining money selling our bicycles, tires and sundries. Write today.  
**MEAD CYCLE CO. DEPT. R77 CHICAGO**

## DON'T PAY TWO PRICES



## TRAVELING MAIL BOX

For those who have from 300 ft. to 1 1/2 miles to go for their mail. Easily placed on telephone poles or 2 x 4's fastened to fence posts. The **OAKWOOD MAIL CARRIER** Made entirely of metal. Ball-bearing pulleys. Sold on thirty days' trial. Write for book "Getting the Mail." Oakwood Mfg. Co. 33 Stanton Ave. Springfield, Ohio.

## THE BREAD MIXER AND KNEADER.

BY M. C. B.

Bread must be made in the farm home at least once a week. Why does the busy housewife do this work by hand when the price of a few dozen eggs will buy a machine that will knead the bread just as thoroughly and in a fraction of the time that a pair of hands can? No farmer's wife would think of getting along without a sewing machine. That would not be economy for it would waste too much time. But most women mix and knead their bread by hand, thinking it less trouble than to operate the machine.

For six years we have used one of these little machines and never paid out one cent for repairs. We paid two dollars plus the express, on our machine. We never spent two dollars that paid such a big dividend in the saving of time and labor. We have known competent housewives to make a failure with these machines because they didn't use them right. In the first place, it is imperative to have a wrench, for the machine can not be securely fastened to a shelf or table by hand, neither can the "arm" be fastened in the machine firmly enough without a wrench. The table or shelf must be as firm as a rock. One woman discarded her machine because it was pulling her kitchen cabinet to pieces.

Bread is usually made by guess—but guess work won't do when using a machine and this is the real reason of failure. If too much flour is added it is very difficult to add liquid to make the bread just right, but when this must be done sprinkle the dough just a little and then operate the machine a few times and sprinkle again. If all the liquid is added at once the dough slips around in the machine for a time before it can be made to knead again.

And it is nearly as difficult to add flour when too much liquid is put in at first.

"Well begun is half done," is a true saying when making bread with the machine. We always put the flour in our machine first and then add the liquid.

Our mixer kneads the bread by compression, that is, it folds the dough over and incorporates air just as hand kneading does. To weigh the ingredients for making bread is the most accurate method. Having no scales when we purchased our machine we have always just measured the flour and liquid. For convenience in measuring we purchased two quart measures with the pint and half-pint marked on them. One is always used in the flour while the other measures the liquid.

This rule came with our machine and we have found it a very good one. "Take three parts flour to one of liquid, counting all ingredients (potatoes, salt, sugar and lard), liquid except the flour. We have found there is a difference in flour, some kinds take a little less than three parts while more will be required by another brand. It is only the habit of making bread by guesswork that makes measuring seem drudgery. In reality it takes only a few minutes longer when sifting flour to measure it.

Another advantage of the machine is that any child of ten years can turn it and make just as good bread as mother. If the baby cries or the telephone rings one is saved the inconvenience of hastily washing one's hands. Bread made with a mixer is usually baked earlier in the day. As it requires such a few minutes to mix the break it can be attended to the first thing in the morning—and is often ready to be made into loaves by the time the busy mother could mix it by hand. To say that the machine always makes good bread is exaggeration. But it supplies one factor when given a fair chance, of good bread and that is thorough kneading.

Temperature plays an important part in the making of good bread. Cold flour and chilled yeast will make dark bread. In the winter flour should always be warmed and care must be exercised that it does not become chilled during the process of raising. There is no method of making good bread out of stale yeast. Fresh yeast is essential. If one has no ice and lives several miles from town it is almost impossible to keep compressed yeast in good condition. Dried yeast is usually the mainstay of the farmer's wife. Fine bread is made of beer yeast, although many housewives have great difficulty in keeping it in good condition.

If in doubt about the strength of dry yeast soak in warm water in which a teaspoon of sugar is placed and if the water is covered with minute bubbles in the course of an hour you may be sure

the yeast will make light bread. But if no bubbles, discard the yeast. Sugar is the natural food of the yeast germ and when using yeast that is not fresh, a little more sugar may be added with good results. Salt slightly retards the action of yeast.

Didn't our grandmothers think there was some witchery about yeast? And have we gotten this theory thoroughly out of our minds? We will have better success with our bread when we think of yeast as a plant, for that is just what it is. We know if we put hot water on a plant it will surely kill it—and yeast is often killed just that way. And we know that a plant does not grow when it is cold. Remembering that yeast is a plant we see it must have suitable temperature, soil, moisture, and air. When we start bread we stir the batter hard to incorporate air that the yeast germs may breathe and live. The science as well as the art of bread making must be studied to insure the perfect article.

The department of agriculture issues bulletins on bread and bread making which will be sent free upon request. These bulletins will help any farmer's wife who is willing to study them. She who can make a perfect loaf of bread may well be proud for it is as great an accomplishment as to play the "Maiden's Prayer" on the piano. The woman who has more work than a pair of hands can do, will find labor-saving devices her only hope. And a bread mixer is an ever ready and willing servant.

## DIET.—No. 8.

### Eating Between Meals.

When the human race is sufficiently educated to know that there is as much sin in overeating as in drunkenness, we may hope to see a reform which the temperance advocates of our day are not able to bring about. For sins in eating are as often as not responsible for the formation of the habit of drinking alcoholic beverages. The stomach is overloaded, constantly, the system excited with strong tea and coffee and spices, the nervous system deranged by vicious habits of eating. The stomach is upset and the victim finds himself constantly craving something to quiet for a time. As often as not this something is beer or wine and before the person realizes it the habit of drinking is acquired. Even if he does not take to drink he acquires habits in eating which are almost as bad so far as his health is concerned. For, while he may not acquire fatty heart and hob-nailed liver from wrong methods of eating, he can very easily acquire tuberculosis, Bright's disease, diabetes, "palpitation of the heart," and lay himself open to attacks of apoplexy which will take him off as expeditiously as delirium tremens.

Besides, the person who is wrongly fed is never up to par, any more than the one who drinks. Undigested food decomposes in the body and causes poisons which give headaches and dull, sleepy feelings, beclouding the brain and keeping the nerves on edge. If the schools could be forced to teach the ill effects of wrong feeding, as they are now forced to teach the sin of indulging in tobacco and alcohol, nine-tenths of the suffering of the human race would be saved the next generation, and infant mortality would show a great decrease. For more babies die because they are wrongly fed than die of disease, and half the suffering attributed to a dispensation of Providence or awakened conscience is really due to our American habit of taking more food than the body can take care of.

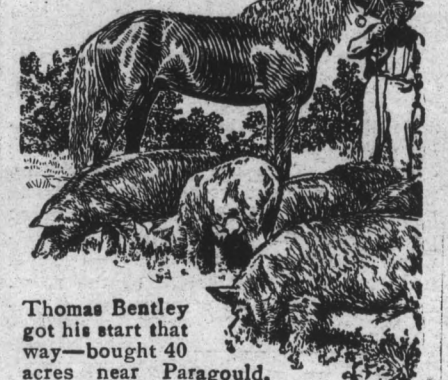
Eating between meals is one of the cardinal sins, especially of women and children. While young children should not be required to live on three meals a day, there should be as much regularity about their lunches as about the family meals. Promptly at 10 in the morning the child should be given his lunch at the table, and again at 3:30 o'clock in the afternoon. And the mother should see that he sits still until he eats his meal. The habit of letting children trail about the house dripping bread crumbs and molasses, or cake and cookie crumbs as it may be, is bad for many reasons. It develops untidy habits in the little one, makes unnecessary work for the mother in cleaning up the crumbs and leads the child to think he can eat anywhere and at any time, instead of growing up to think he must eat only at meal time and at the table.

So many mothers have the habit of giving their children food whenever they ask for it. The child nibbles a bit of the lunch, throws away the rest and in an hour or less is back for more, which

## You can produce pork at 1 1/2c per lb.

in Arkansas and Texas; and with pork bringing 8¢ to 9¢, there's a big margin for money-making; especially when you realize that land which makes big yields of pork-producing crops—corn, peanuts, alfalfa, etc.—can be had in these sections now at \$12 to \$25 an acre.

[Some stock, Fore's farm, Rison, Ark.]



Thomas Bentley got his start that way—bought 40 acres near Paragould, for only \$400 and is making good money from his hogs and cows. His place is worth more than \$3000 today. T. B. Fore of Rison, Ark., has lifted a mortgage off a fine 157-acre farm through his profits from hogs, cattle and horses. Mr. Fore raises all his own feedstuffs. All along the

## Cotton Belt Route in Arkansas and Texas

you'll find many a man who is getting more profit every year than his land cost him. Gus Palmer, who lives just below the Arkansas line, near Shreveport, La., sold \$2100 of alfalfa from 30 acres—a profit of \$70 per acre. J. E. Gandy paid \$3000 for an improved farm near Mt. Vernon, Texas; and the local people thought he'd paid too much. Since then he's refused offers of \$7500 for his place.

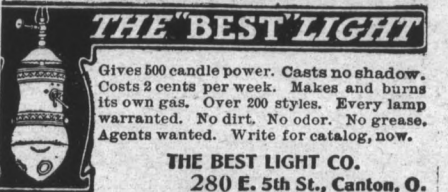
These lands won't stay cheap always. They have already doubled in value since 1905; but even this year you can buy at \$12 to \$25 per acre, as good land there as you are farming now. And you'd have every advantage of schools, churches, close neighbors, good local markets, phones, rural free delivery, etc. This proposition deserves serious thought.

On the 1st and 3rd Tuesdays of each month there are low round trip excursions to Arkansas and Texas via Cotton Belt Route, allowing 25 days' time and free stopovers. Go on the next one.

## Get our free books!

Written by a farm man who knows farming from A to Z. He traveled over thousands of miles in these sections to learn where the real farm opportunities were—the kind he knew you would grasp if you saw them. He tells you, in plain words, all about them. 100 pages and farm pictures. Send a postal today for your free copies.

E. W. LEBEAUME  
General Passenger Agent  
1473 Pierce Bldg., St. Louis



## THE "BEST" LIGHT

Gives 500 candle power. Casts no shadow. Costs 2 cents per week. Makes and burns its own gas. Over 200 styles. Every lamp warranted. No dirt. No odor. No grease. Agents wanted. Write for catalog, now.

THE BEST LIGHT CO.  
280 E. 5th St., Canton, O.



## Hygienic Wool Batting

For Comforters; Made in one piece 72x84 inches, 2 1/2 3 lb. weights, strictly pure wool, a 3 lb. comforter is warmer than 6 lbs. of cotton, especially adapted to open air sleeping. Custom work done, send us your wool, will make it into batts for you, write for booklet.  
MONROE WOOLEN MILLS,  
Monroe, Michigan.



## SEND US YOUR HIDES

To be tanned and manufactured into coats, robes, gloves, and mittens. We are dressers of all kinds of furs. Write for free catalogue and samples telling all about our business.

Fur Coats and Robes For Sale  
THE SYLVANIA TANNING CO.  
Sylvania, Ohio.



## FREE

A Pair of Fur Mittens with every Cattle hide or Horse hide lined robe we custom tan.

We Custom Tan and Dress Fur Skins from the trapper to the wearer. Taxidermist work on Deer, Moose, Elk, and Floor Rugs, from Raw Skins under all conditions. Catalog rushed to your request.

W. W. WEAVER,  
Reading, Michigan.



# "Just as it Looked in the Book"



Have you ever experienced that moment of rapture, when having eagerly waited for the thing you wanted so much—you have it come to you just as thoroughly good and attractive as it had been represented?

Everything from Montgomery Ward & Co.'s Catalogue arrives "Just as it looked in the book."

It was this feature of our great Catalogue that James Montgomery Flagg, one of America's foremost artists, has shown in this message to you. In graphic pen strokes Mr. Flagg tells the whole story as millions know it.

From the picture and description you can rely on getting every article

you need; clothing and adornment, household necessities, food, furniture or luxuries, just as you expect to find them.

One thousand pages, abounding in rare bargains and unique offerings make up the Montgomery Ward & Co.'s Catalogue for 1913.

You need a copy in your home for economy and convenience. You cannot buy a book like it at any price, but we send it free for the asking.

Why not write a note today saying you would like to have one.

**MONTGOMERY WARD & COMPANY** DEPT. 0-11  
Chicago Kansas City Ft. Worth, Texas

**SHORES-MUELLER CO.**  
**Wanted**  
**Farmer or Farmer's Son**  
with rig in every County to introduce and sell Family and Veterinary Remedies, Extracts and Spices. Fine pay. One man made \$90 one week. We mean business and want a man in your County. Write us. Shores-Mueller Co., Dept. 53, Cedar Rapids, Iowa

**BONDS SECURING POSTAL SAVINGS FUNDS**  
**BONDS YIELDING 4%-5% PAYABLE SEMI-YEARLY**  
BACKED BY CERTIFICATES FROM UNITED STATES TREASURY  
CERTIFYING THEY PROTECT POSTAL SAVINGS BANK FUNDS  
AVAIL YOURSELF OF THIS PROTECTION  
SEND FOR OUR BOOKLET "BONDS OF OUR COUNTRY"  
BONDS SENT TO ANY BANK OR EXPRESS  
COMPANY SUBJECT TO EXAMINATION  
**THE NEW FIRST NATIONAL BANK COLUMBUS, OHIO.**



## WE WILL MAKE YOU PROSPEROUS

If you are honest and ambitious write us today. No matter where you live or what your occupation, we will teach you the Real Estate business by mail; appoint you Special Representative of our Company in your town; start you in a profitable business of your own, and help you make big money at once. Can arrange for spare time only if desired.

Unusual opportunity for men without capital to become independent for life. Valuable Book and full particulars Free. Write today. NATIONAL CO-OPERATIVE REALTY CO. J-162 Marden Building, Washington, D. C.



## What Time Is It —by this Watch?

Is it five minutes fast or five minutes slow, or exactly correct? Can you rely on it? Does it remind you of the watch you now carry?

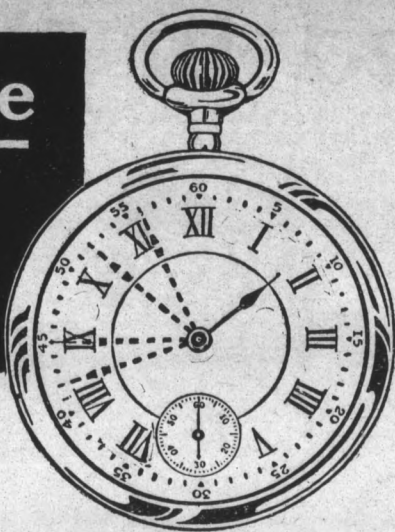
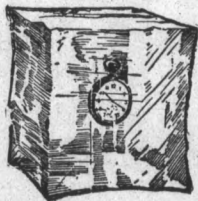
Now see if you think you could rely on a watch that is made like this—

The South Bend Watch is six months in the making, the cutting, finishing and assembling of the parts. 411 inspections are given these operations. More than 60 men work on each watch.

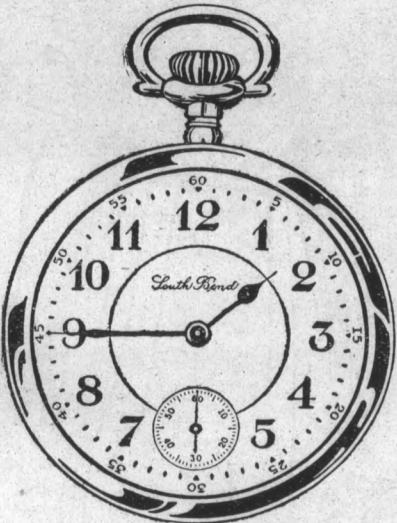
When the watch is assembled it is run in a test of 700 hours. We keep a watch sometimes six months longer than it spends in the making to make it attain our standard. Some "South Bends" stay a year in the factory. But when they come out they are right.

That's why "South Bend" jewelers can so easily regulate South Bend Watches to your personality. It is this personal regulation that makes good watches keep perfect time. It's the lack of it that prevents others, even good watches, from doing it.

Buy a watch of one of these men. Let him "fit" you with a South Bend Watch. You'll have a watch to rely on, a watch that will keep correct time for years.



And then by this—



### Write for Free Book

Our book, "How Good Watches Are Made," tells all about watches—things you should know. Just say on a postcard, "Send me your book."

THE SOUTH BEND WATCH COMPANY  
2 Market Street, South Bend, Indiana

**"The South Bend"**  
Watch

(126)

## FREE \$1,000,000 Worth of Elegant Silverware

This magnificent silverware is of warranted quality and made by the celebrated house of Wm. Rogers & Co. You can get anything you want in silver, absolutely without cost. Write quick for illustrated circular from which to make your selection.

From Forest to Factory  
Direct to You



\$6.75

Our business has reached the enormous size where we own and operate our own forests, lumber mills, railways, factories, warehouses. Our manufacturing cost is the lowest on record. You get the direct and entire benefit. Not one middle-man gets a profit. You buy of us at

Prices Lower Than Dealer's or  
Mail Order Houses Can Buy For

### FREE to YOU

If You Answer This Advertisement

Drop us a line right now for our Bargain Book and circular from which to choose your free silverware. Don't give yourself a chance to forget!

30 Days' FREE Trial—

\$2.69 C. O. D. if Desired—Every-

order of this great house must absolutely satisfy. We guarantee satisfaction. Send cash with order or one-fourth with order, balance C. O. D. Keep the goods 30 days. Use them, enjoy them, test them. If you aren't fully pleased, return and we'll refund all your money and transportation charges both ways. Already we have 1,000,000 satisfied customers. You'll like the Lincoln, Leonard prices, merchandise and silver. Send us your name today. Write us right now.

LINCOLN, LEONARD & COMPANY

Largest exclusive distributors of Home Furnishings in the world



1058 37th St. (24)  
CHICAGO, ILL.

## Do Better Work—Easier

YOU don't go barefoot—how about your hands? Times are too busy—work too important for you to neglect your hands. And nothing will help them like the right pair of Hansen's Gloves or Mittens—the glove or mitten that makes you forget you're wearing it. Secure, easy, perfect fitting and protects from injury. There is a special style lined or unlined built for every special purpose. Shows your kind for your work. Send coupon or postal for it now—Free Try-on offer.

O. C. Hansen Mfg. Co., 296 Milwaukee St. Milwaukee, Wis.

O. C. Hansen Mfg. Co., 296 Milwaukee St., Milwaukee, Wis.

Send me, postpaid, Free book showing Hansen's Gloves

Mention above what kind of work, driving or sport.

Name.....

Town.....

R. F. D. .... State.....



HANSEN'S PROTECTOR

When Writing to Advertisers please  
mention the Michigan Farmer.

he invariably gets with a sharp reprimand. His little stomach is constantly at work, with the result that nothing is properly digested. He is fretful, anaemic, pimply, constipated, or has diarrhoea, and the mother lays the trouble to teething or the Lord, never stopping to think that her own carelessness in feeding is making all the trouble.

School children should be given a lunch as soon as they get home, especially in winter when, in the case of farm children, they take a cold lunch. Have ready good hot cocoa or hot soup, with plenty of bread and butter, white or graham, and let them sit down and eat enough to take the sharp edge off their hunger, but not to blunt their appetite for supper. They are cold and tired when they get home, and need the substantial warm food to warm and revivify them. But do not let them nibble constantly till supper time, and then come to the table without any appetite for supper. Of course, many children have so far to walk it is supper time when they get home, and in this case the problem is solved.

Women who do their own work are veritable sinners in the matter of eating all the time. The food is around them, they are getting meals or baking much of the time, or they are in and out of the pantry where they see it and it is second nature to pick up a bit of this or a bit of that and taste it. But it is a nature that should be firmly killed. Nibbling between meals is one of the common causes of nervousness. The stomach is irritated with food it does not need and a gnawing or false hunger sets up, which the victim satisfies with a bite of something. This is the worst thing she can do. If you find yourself nervous and constantly craving food, put yourself at once on three plain, simple meals a day, avoiding strong tea or coffee, and on no account eat between meals. I would not advise cutting out tea and coffee at once if you are in the habit of drinking either. But instead of the three or four cups of strong concoction which you have been taking at each meal, try one cup of weak tea or coffee at the close of the meal. Chew your food thoroughly and moisten it with saliva instead of washing it down with tannin extract.

Incorrect eating is the one great sin of American people, worse even than drunkenness since it involves everyone, practically, from the tiniest infant to the hoary-headed grandfather who is probably a deacon in the church. But it is a sin of ignorance, we have not been taught. If we can come to a full realization of the effect of food on our lives many of the problems now up to sociologists will settle themselves.

### INDIVIDUALITY.

BY LALIA MITCHELL.

Cultivate the acquaintance of children, share in their little joys and sorrows but remember that they are miniature men and women and must think their own thoughts, make their own plans, and learn how to bear their own responsibilities.

If possible, even at the cost of sacrificing the guest room, every child should have a room of his own. Not a mere place to sleep, but a room where he can feel that he is indeed "master of all he surveys." When brothers and sisters tease him, when even mother fails to exactly understand, that room will be his City of Refuge, where he can sit down alone and rejoice in the fact that he has a place in the home that offers him shelter and consolation. Teach each child that he must respect the rights of the others behind the closed doors, and unless it becomes vitally necessary never follow a child into his room to complete the lecture begun somewhere else and which is much better in an abbreviated form than as a continued story.

Individuality means much in later life and the child whose own room is his kingdom is better able to think his own thoughts than the one forever in closest touch with father and mother, brother and sisters, in fact with a whole household of diverse personalities.

### THE NEED OF FRESH AIR.

If no fresh air is allowed to enter a room occupied by several people the air soon becomes foul from the air coming from the lungs. Often when one enters a room it will feel close. In that case ventilation is necessary. Breathing air over and over lowers one's vitality, which results in taking colds easily and along with the cold other troubles often start. Pure air is fully as important as pure

food. The lung surface of the average person amounts to fully 236 sq. ft. and the air brought in contact with this large surface is renewed from 15 to 20 times each minute. A little meditation over these facts will impress the necessity of having the air used as pure as it can be obtained, especially when one also realizes that upward of 49,000 sq. ft. of red corpuscle surface must be renovated every 20 to 40 seconds.

### SUNNY ROOMS.

BY AVA E. LAUTENSCHLAGER.

How careful is every woman who keeps house-plants to secure for them every bit of available sunshine during the cold winter months. A southern exposure is considered necessary for the welfare of most plants. Usually one would rather not keep any than to always have them at a north window. She has too much love for the unconscious inanimate things to keep them at all.

People need sunshine quite as much as plants do. Strong men and women who have the use of their bodies, and can get out in the world and enjoy God's glorious sunshine, can live in rooms with only a northern exposure if they so choose; but if it is possible, let us secure rooms into which all the blessed sunshine of winter can enter, for the little innocent baby, invalids who cannot leave their rooms, and aged people who are too infirm to get out of doors.

Let us stop and consider that these classes of persons, if kept in rooms with only north windows, will suffer just as much from the absence of sunshine, as green, growing plants would do in the same rooms, and their suffering is of account in proportion as a human being is better than a plant.

We all know how a bright sunny day in winter gladdens all our hearts. Then let us make some sacrifices, if necessary, in order to give the feeble ones their measure of sunshine.

### FASHIONS BY MAY MANTON.

Our large Fashion Book—containing 92 pages illustrating over 700 of the season's latest styles, and devoting several pages to embroidery designs, will be sent to any address on receipt of 10 cents.



No. 7635—Fancy blouse with Robespierre collar, 34 to 40 bust. With or without chemisette and tie-ends, with directoire collar that can be made high or low at the front.

No. 7621—Combination corset cover and four-gored skirt for misses and small women, 14, 16 and 18 years. With round or square neck, with or without shield sleeves.

No. 7639—Bath robe or wrapper, small 34 or 36, medium 38 or 40, large 42 or 44 bust.

No. 7604—Girl's double-breasted coat, 4 to 8 years. With fancy revers and collar.

No. 7623—Plain two-piece and fancy sleeves, small 34 or 36, medium 38 or 40, large 42 or 44 bust.

The above patterns will be mailed to any address by the Fashion Department of the Michigan Farmer on receipt of ten cents for each.

Kreuz und quer Durch Deutsche Lande. By Robert Metzger, Barringer High School, Newark, and Wilhelm Mueller, late Principal of the Fifteenth District School, Cincinnati. This German reader for second year classes gives an account of the trip of two Americans through Germany, commencing with the ocean voyage, landing at Hamburg, and proceeding thence through the most interesting portions of the Empire. Cloth, 16mo., 260 pages, with notes, conversational questions, vocabulary, map, and illustrations. Price, 60c. American Book Company, Chicago.



(Continued from page 158).

exceeded by the income. Mr. Hitchcock recommended among other things that the franking system be abolished and also that the parcels post law be changed so as to include packages of greater maximum amount than 11 pounds and also that the parcels post rate be reduced. He also recommended that the third and fourth classes of matter be consolidated so that books and other printed matter may be forwarded by parcels post.

The United States Senate, during the present week will consider a bill involving the government right to license, control and tax all water powers constructed in a navigable river. The conservation forces of the country are behind the measure and hope to secure for the federal government control over water power rights. The opponents of the bill are, of course, arguing state rights.

Statistics show that on June 30, 1912, Michigan had 36,222 pensioners who received during the fiscal year ending on that date, \$6,480,667.90.

A National Defense League was organized in Washington, D. C., February 2. The purpose of this organization is to improve the National Guard.

A special board of army engineers meet at Niagara Falls, N. Y., this week for the purpose of studying conditions there to make recommendations as to a definite policy with reference to regulating the diversion of water for power production as well as to protect the scenic beauty of the falls.

A bill has been introduced into Congress making "The Star Spangled Banner" the official national anthem.

A fatal dynamite explosion occurred in Cinefuegos, Cuba, Sunday. Eleven persons were killed and more than 100 injured by the explosive. The shock was felt for a radius of 20 miles and the damage is estimated at \$500,000.

Although the allied powers have recalled their representatives from London to resume war with Turkey, the latter government has ordered her plenipotentiaries to remain in London and has instructed the army to await the attack by the allied forces in order that Turkey may show she has done everything possible to avoid hostilities and thus attempt to gain more consideration from the powers. The allies appear to have lost considerable advantage by the delay and feel that in order to protect what they have already gained and secure the demands they make of Turkey that war must be resumed immediately.

A review of the money market of the world indicates that foreign countries are in the market for funds, which has resulted not only in many calls for gold, but has had an indirect influence upon the stock market, which finds it more difficult to trade in stocks when the outside demand for money is so urgent. This country has shipped to Argentina \$85,000,000 in gold since 1909. China is now in the market for \$350,000,000 the Balkan states and Turkey are asking for huge sums, as are also Brazil and Peru. The national and private banks of England, France and Germany are seeking larger stores of the yellow metal, as is also the case with these institutions in Austria.

The House of Lords of the British Parliament has rejected the Home Rule bill by a vote of 326 to 67. Mr. Gladstone's Home Rule measure which was voted upon in 1893 was defeated by a vote of 419 to 41.

It was reported late last week that Mexican rebels had surrounded Juarez. Federal forces are now on their way to relieve the place.

#### SOME SUGGESTIONS FOR LEGISLATION.

The discussion of the matter of needed legislation through the columns of the Michigan Farmer should result in the enactment of some much needed measures of vital interest to the farmers of the state, if all will interest themselves in the matter.

Now it has occurred to me that scarcely anything could be of more vital interest to the farmer, and everyone else for that matter, than the proper and effective protection of our wild birds and animals. One hundred million dollars a year is what the farmers now pay for the ruthless waste and almost useless slaughter of the wild life of the country, and the toll will soon double unless an immediate halt is made.

Not long since, at a meeting of a so-called sporting club in one of our cities, they declared for less severe penalties for violation of game laws, and for no closed season for shooting quail. There now is a closed season for quail, and other species of game. No one disturbs them, instead many farmers feed them and at the end of the closed season some city bird butcher comes along and murders the whole outfit. To kill such useful and beautiful friends of the body politic by pot shooting in the name of sport, is simply murder of the vilest sort. What we need is an indefinite closed season for well nigh everything, then when any species of game gets plentiful allow restricted hunting.

One other thing that is badly needed is the prohibiting of the use of dogs in the hunting of all kinds of game, excepting waterfowl perhaps. Farmers, as a class, cannot afford bird dogs, and a vagrant of the breed is the most despicable sheep killer on four legs. I would make it a penal offense for any one to allow his dog to run at large unless securely muzzled at all times.

But I must not presume to occupy too much of your space so will close for this time, but, of course, have hardly begun to mention all that should be done along the lines indicated.

Barry Co.

SUBSCRIBER.

## "How Railroads Help People to Get Homes"

(From Leslie's Weekly, March 21, 1912)

ONE OF the most remarkable features of present-day enterprise is the earnest efforts made by the great railroad systems of the country to find homes for persons of moderate means and to aid the latter to secure them.

Naturally the most notable instances of railways promoting migration are to be found in the West. In that vast section there are millions of acres of unsettled, and millions more of privately owned but untitled, land. There are open spaces in that extensive domain which could accommodate millions of the dwellers in over-congested districts, could these be transferred thither. The railroads have, of late years, been extremely active in calling attention to such localities. They have, in the first place, advertised extensively in regular channels the attractions and opportunities offered in their various "spheres of influence." They have also granted favorable passenger and freight rates to the immigrant and settler. Moreover, they have issued immense quantities of literature, in the shape of handsome booklets, giving reliable information concerning States, counties and towns whose populations they seek to swell.

Many of these publications are well written, beautifully printed and illustrated, and they represent in the aggregate an enormous expenditure. Pamphlets of this kind circulate all over the country and they make a strong appeal to every reader. They are a great convenience and a godsend to thousands who yearn to make a change. Their accounts and pictures of fine scenery, of flourishing towns, of fertile farms, and generous crops of fruit and grain and grasses make the far West seem like a land of promise, abounding in all good things. But the service rendered by the booklets does not end there. They also point out in more or less detail the chances of success which the settler may expect, and they give him much practical advice as to how to avail himself of them. They tell just where men of such and such means and such and such tastes and callings would wisely go. They also sometimes state the cost of getting started and right methods of getting on in the new homes, making everything perfectly clear.

fertile land that can be had on the crop payment plan. Splendid climate and bountiful crops are assured.

Let us send you descriptive literature and full information. Address

### Chicago, Milwaukee & St. Paul Ry.

O. E. SHANER, Immigration Agent, 750 Marquette Building  
H. W. STEINHOFF, District Passenger Agt., 212 F. A. MILLER, Passenger Traffic Manager, Majestic Bldg., Detroit, Mich. CHICAGO

### Montana

CHICAGO  
Milwaukee & St. Paul  
RAILWAY

Low Round Trip  
Homeseekers Rates  
In effect on the first and  
third Tuesday of every  
month

There are 3,000,000 acres of free Homestead Land in Montana, located within 10 to 50 miles of the railroad; 10,000,000 acres of farm land that can be had at from \$20 to \$45 per acre; 30,000 acres of extremely



### FARMS AND FARM LANDS FOR SALE OR EXCHANGE

We Sell Oceana Farms—Greatest Fruit country. Also Potatoes, Corn, Alfalfa, Stock. List free. HANSON & SON, Hart, Mich.

GRAIN and Bean Elevator, Coal and Feed Business for sale, or will exchange for farm property. Box P 68, care Michigan Farmer, Detroit.

CANADA LAND—Write for our 32 page booklet containing 68 photographic views, and statistical and detailed information about our lands in east central Saskatchewan. It's free. The Walsh Land Co., Winnipeg, Canada.

#### BUY NEW YORK FARMS NOW.

Best Lands. Best Crops. Best Homes. Biggest barns. Finest schools, churches, roads and transportation. For list of New York farms address: McBURNEY & CO., Fisher Building, Chicago, Ill.

Why Don't You Write to Us When You Want a Farm We have anything you want, all sizes and descriptions. DIAMOND REALTY CO., Saginaw, Michigan.

Fertile Farms and unimproved lands in Delaware. Finest fruits and ideal homes. For information address, State Board of Agriculture, Dover, Delaware.

Bargains in Ohio Farms—\$30.00 to \$65.00 per acre for farm list. J. B. RICE & CO. Write us today for farm list. Warren, Ohio Cortland, Ohio Andover, Ohio

FARMS WANTED—We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property. FREE. American Investment Association, 3 Palace Bldg., Minneapolis, Minn.

Sunny Tennessee fertile farms, good orchards on each, rural routes, telephones. Sixty-five acres \$850, 235 acres \$1500, 194 acres \$4000, 235 acres \$3000. Free list. JENKINS & SON, Huntington, Tenn.

MINNESOTA has a home for you. Good land at low prices. Literature giving information about soil, climate, price of land, etc., sent free on application to H. J. Maxfield, Commissioner of Immigration, Room 219 State Capital, St. Paul, Minn.

98 ACRES—Good soil, near town. Large house, cement floor, cement water tank. Good reason for selling. D. D. BENNETT, R. 21, Elsie, Mich.

FARM BARGAIN—For sale farm, 176 acres three miles from Decatur, Mich. 13 acres timber, 20 acres pepper mint and celery land; balance farm good loam soil. Eight room house, two barns, other buildings. Spring brook runs through both barn yards. Ideal stock farm. Would sell 116 acres. Special bargain if taken in next 30 days. For particulars write DEWEY & ROUSE, Marlon, Michigan.

FOR SALE—At a bargain: 56-acre fruit farm one mile from Fort Wayne. Price \$17,500, worth double. 750 bearing apple trees nine to sixteen years old in excellent condition. 400 bearing pear trees and some peaches, cherries and small fruits. Buildings worth \$5000. Expect 6000 to 7000 bushels apples this year but land and buildings are worth \$17,500. Owner in other business. Favorable terms. H. P. Fletcher, 724 Calhoun St., Fort Wayne, Ind.

### THE BROWN AGENCY

For Central Michigan Farms Write for descriptions and prices. E. C. Hanes, Farm, Sales Mgr., Lansing, Michigan.

### FARM FOR SALE,

One mile from Normal School. Spring creek. Some timber. Address C. A. CAIN, Hillman, Michigan.

STOCK RANCH—640 acres well fenced with woven wire. Well watered by river, grass in abundance, land first class for farming, here is your opportunity. U. G. REYNOLDS, R. F. D. No. 3, Gladwin, Mich.

GLADWIN CO. FARMS—I own and control Improved and Unimproved farm lands. Write me describing fully what you need. U. G. REYNOLDS, R. F. D. No. 3, Gladwin, Mich.

### Virginia Farms and Homes

FREE CATALOGUE OF SPLENDID BARGAINS. R. B. CHAFFIN & CO., Inc., Richmond, Va.

### OUR FARM LIST

Michigan Farm Home Co., Greenville, Mich.

FOR SALE—Toward Farm of 500 north of Ann Arbor. An excellent dairy farm. Well watered, barns capacity for 100 dairy cows, silos 500 tons, two dwellings, milk house, ice house, storage barns, one mile frontage on artificial lake. Price reasonable and terms easy. Address J. D. TOWAR, East Lansing, Michigan.

### For Quick Sale

Choice Section Saskatchewan Farm Land, 640 acres rich soil, fine wheat district, short distance from good town. Price \$20 per acre. Terms 1/3 cash, balance 5 years. Should double in value within 3 years. Must be sold. Apply P. O. Box 756, Owen Sound, Canada.

### CHEAP FARM--EASY TERMS.

Owing to other business, owner will sell 320 acres rich, level prairie, in Western Canada. Land produces 30 bu. wheat or 75 bu. oats per acre. 220 acres in cultivation. Small buildings. Water for stock on place. 2 miles from station and elevator. Price \$30 per acre, \$1000 cash, balance small yearly payments. Adjoining land sold higher and going up. Great chance for good man. D. C. VAN BUREN, Creek Bend, Sask. Can.

### WHY PAY RENT

when you can buy the Best Land in Michigan at from \$7 to \$22 an acre near Saginaw and Bay City. Write for map and particulars. Clear title and easy terms. Stafford Bros., (owners) 15 Merrill Bldg., Saginaw, W. S. Michigan.

### FREE

Literature will be sent to anyone interested in the wonderful Sacramento Valley, the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Development Association, Sacramento, CALIFORNIA

### FLORIDA FARMERS

are NOW shipping fruits and vegetables and enjoying the most ideal outdoor life. What are you doing at this season of the year? The winter months are not the only profitable farming months in Florida, because we grow at least three crops a year on the same field besides many varieties of summer fruits. Intensive cultivation on 20 acres in Florida pays a much bigger profit than the single crop on 160 acres in the North. Come, see and be convinced before buying. Our book, "FACTS About FLORIDA," tells the truth. A postal card or letter will bring it to you. Address Dept. H. (6) FLORIDA EAST COAST RAILWAY

J. E. Ingraham, Vice-President, St. Augustine, Florida or Louis Larson, N.-W. Agent, 109 W. Adams St., Chicago, Ill.

### 217 Acres, \$5600

\$3500 Income Last Year

Potatoes, corn, hay, grain, milk, poultry, fruit, etc., to the value of \$3500 were produced on this money-making New York farm last year; machine-worked fields cut 140 tons hay, wire fenced, spring-watered pasture for 35 cows, 1000 cords wood, variety fruit; splendid location, only three miles to R. R. station, high school, creamery, milk station; 9-room house, 78-ft. barn, two silos, and outbuildings; owner's other business requires all his time; if taken at once only \$5600, with \$1600 cash, balance easy terms, at 6%. Full details and traveling directions to see this and a 50-acre farm near village for \$1200, easy terms, page 45, "Strout's Farm Catalog '13", 2nd Edition. Write today for free copy. Pennsylvania and New York together have a population of 14,000,000. New York farm products total \$245,000,000 yearly. Get the facts about our soils, crops, market, climate, schools, etc., in this big catalog. Station 401, E. A. STROUT, FARM AGENCY, Union Bank Bldg., Pittsburg, Pa.

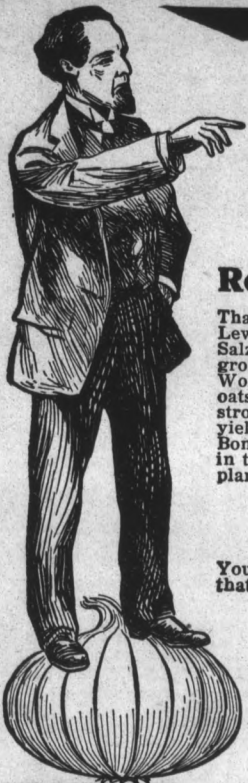
Orchardists are making Fortunes in Fruit in the famous Santa Clara Valley. Farms, dairies, vineyards, orchards, stock and chicken ranches, large and small. Write today for literature and list of places E. D. CRAWFORD & CO. 742 Market Street San Francisco

**FERTILE VIRGINIA FARMS**  
\$15 per acre and up right now buys good Farm, Fruit and Timber lands. Our climate is delightful. An abundant rainfall, good roads, best churches, schools, and neighbors. Write today for our illustrated magazine "The Southern Homeseeker" and other interesting literature. A 12 months subscription free if you send addresses of 2 friends probably interested in Va.  
F. H. LABAUME, Agt. Agt., Nor. & Western Ry. Bldg., Room 12, ROANOKE, VA.

FOR INFORMATION AS TO LANDS IN

**The Nation's Garden Spot—**  
THAT GREAT FRUIT AND TRUCK GROWING SECTION—  
along the  
**Atlantic Coast Line RAILROAD**  
in Virginia, North and South Carolina, Georgia, Alabama and Florida, write to  
WILBUR McCOY, E. N. CLARK,  
A. & I. Agt. for Florida, A. & I. Agt. for Virginia  
Alabama, Georgia, and the Carolinas,  
Jacksonville, Fla. Wilmington, N. C.





## 259 Bushels per Acre

Yes, Sir! With

## SALZER'S

### Rejuvenated White Bonanza Oats

That is the record, actually produced by Mr. Theo. Harmes of Lewis County, Washington. The facts are verified and proved. Salzer's Rejuvenated Oats are the greatest oats ever put into the ground. Have stood at the top for more than twenty years. Won \$500.00 in gold open to the world for the heaviest yielding oats. We have rejuvenated this oat and the result is an oat stronger in straw, healthier, larger, plumper, meatier kernels, yielding from 20 to 50 bushels per acre more than the old White Bonanza Oats. There is no finer, plumper, handsomer oat grown in the United States. This is the oats that every grower should plant in 1913. Write today for prices and special premium offer.

### Salzer's Seed Corn

Golden Glow (Wisconsin No. 12)  
Silver King (Wisconsin No. 7)

You cannot go wrong on either of these. Silver King is the corn that has made Wisconsin first in yield per acre west of Ohio. Golden Glow has yielded over 100 bushels per acre. This is corn with a pedigree. We select our seed corn with the greatest care, and every ear is tested for fertility.

### Salzer's Alfalfa

Three times the feeding value of Red Clover and Timothy. Hardy. A big, quick, continuous money-maker. Pure seed. Let us quote you prices. Salzer is it in this country on Alfalfa. Keep that fact in mind.

### Salzer's Potatoes

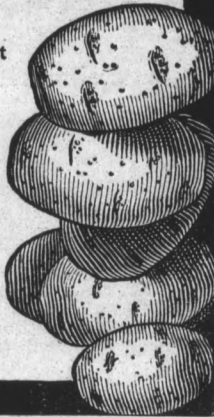
We are headquarters for seed for the great potato growers in the Northwest. Our earliest varieties and later sorts are veritable bonanzas as money producers. Change your seed stock this year while potato prices are low.

#### 10 Big Sample Packages 10c

For ten cents we gladly mail one package each new \$1,000 prize Marquis Wheat, Twentieth Century Alfalfa, Rejuvenated Bonanza Oats, Silver King Barley and other farm seed packages, together with our great seed book.

We sell direct, cut out all useless profits, give you lowest prices and add valuable premiums free on purchases of 50 cents and upwards. Look over our Premium List. See what you can get free for the farm, home and kitchen. Our catalog for 1913 is a big, handsome book—just what you need for reliable information, choicest seeds and lowest prices.

**JOHN A. SALZER SEED CO.,** 135 So. Eighth St., LA CROSSE, WIS.



**SCARFF'S FRUIT CATALOG**

Fully describes the products of our 1100 acre nursery, fruit and seed farm. Over 25 years experience in growing heaviest bearing strains of strawberries, raspberries, currants, gooseberries, blackberries, dewberries, grapes and all kinds of fruit trees and shrubs. Also seed potatoes, rhubarb, horseradish, asparagus, etc. Send names and addresses of fruit growers and get fine ornamental bush free. Catalog free.

**W. N. SCARFF,** New Carlisle, Ohio

**MICHIGAN CLOVER SEED**

is the plumpest, heaviest, strongest germinating seed grown. Our "Bell Brand" leads them all. Selected from the cleanest fields and re-cleaned until it is gilt-edged.

**Catalog and Samples Free**  
Ask for free samples of farm seeds that interest you. Also 112 pp. desc. catalog and price list.

**S. M. Isbell & Co.**  
302 Pearl Street  
Jackson, Mich.

**THE MODERN GARDEN**

with its long, narrow rows that require thorough and constant working, MUST have tools that are easy to adjust and operate; that sow, and cultivate perfectly. Many farmers who have steam heat and a telephone are still using old-fashioned tools. Do YOU use a hand hoe?

**IRON AGE** Seed Drills and Wheel Hoes

save half time, make bigger and better crops. The view shows one of 38 combinations from \$2.50 to \$12.00—our No. 6 Combined will sow in continuous rows or in hills, cultivate, weed, hoe, ridge, open furrows, etc. Parts changed quickly. Can purchase in simplest form and add to as needed. Ask your dealer to show these tools and write us for new booklet, "Gardening With Modern Tools." We make full line of potato machines, sprayers for all purposes, etc.

**Bateman Mfg. Co.**  
Box 1041  
Greencastle, Ind.

**SAVES HARD WORK**

**Great Crops of Strawberries**

and How to Grow Them

IS a beautifully illustrated book of expert information written by America's most successful strawberry grower. It gives the famous Kellogg sure-crop method and explains just how Pedigree Plants are grown on the great Kellogg plant farms in Michigan, Oregon and Idaho. Any man, woman, boy or girl, who reads this book can grow big crops and get big prices. Strawberries yield more dollars per acre than any other crop. Our book tells the whole story. It's FREE to you.

**R. M. Kellogg Co. Box 575, Three Rivers, Mich.**

**"Seeds That Grow"**

1876  
1913

**Burpee's**

Are supplied each season direct to many more planters than are the seeds of any other brand. BURPEE'S SEEDS are known the world over as the best it is possible to produce, and are acknowledged the American Standard of Excellence.

In thirty-six years of successful seed selling we have introduced more selected stocks upon our own seed farms in Pennsylvania, New Jersey and California, while FORDHOOK FARMS are famous as the largest trial grounds in America. No Government Experimental Station attempts such complete trials each season, and the information here obtained is of incalculable benefit to planters everywhere.

Each season we travel more than thirty thousand miles to personally inspect our growing crops and yet never travel a single mile to solicit an order! We ask, however, that you allow our SILENT SALESMAN to have your careful attention in the quiet of your own home.

Simply send us your address plainly written and kindly state where you saw this advertisement. Then by first mail you will receive

**The Burpee-Annual for 1913**

A bright new book of 180 pages, it pictures by pen and pencil all that is best in seeds, and tells the plain truth. While embellished with colored covers and plates painted from nature it is A SAFE GUIDE—entirely free from exaggeration.

Shall we send you a copy? If so, write TODAY! A postal card will do,—and you will not be annoyed by any "follow-up" letters.

**W. Atlee Burpee & Co., Philadelphia**  
The World's Largest Mail-Order Seed House

## Horticulture.

### ORCHARD RENOVATION—DOES IT PAY?

FOR those who have rented orchards the time is at hand when the trees should be pruned and gotten in readiness to produce a good crop of fruit the coming season. For those men who are contemplating the renting of an orchard, it is time to get the plans completed and the work started.

Usually when we speak of orchard renovation, we mean the renewal of the trees by pruning and eradication of fungous and insect pests. We never mention renovation with reference to peach orchards, for a peach tree lives a comparatively short time as compared with the apple tree and then, also, the former is so liable to peach yellows and little peach that it would hardly pay to hazard the renovation of such an orchard.

#### The Business is Popular.

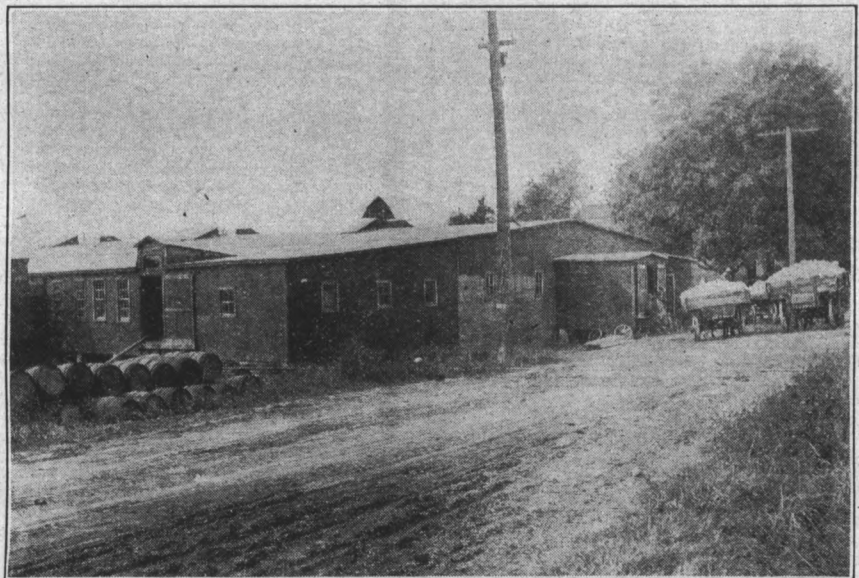
During the last two or three years the people of Michigan have gone crazy over the idea of renting old orchards and renovating them. From the number of

barnyard, he would not have rented it. As it was, two teams had to be hitched to the wagon every time a load was taken out, and this extra expense narrowed down the margin of profit.

#### Drainage a Necessity.

The question of site also presupposes the question of drainage. If an old orchard is poorly watered or air-drained, it would not be a paying proposition to renovate it. In all operations with the orchard, we must ask ourselves if we are going to have it long enough to get back the extra amount of money which we will have to put into it to get a good crop. This is the deciding point. If the land is poorly air-drained, it would be folly to spend any time or energy in trimming it up for the trees would not bear heavily and fungous troubles would be very serious.

Of course, exposure would have something to do with the productiveness of the orchard. We could not expect a piece of land surrounded by woods and sloping to the north to be overly productive and would not get what we expected if we



In Many Communities Co-operative and Private Packing Concerns are Saving Producers Much by Furnishing a Market for the Bulk of the Cabbage Crop.

orchards which have undergone such treatment, one would judge that there was a vast amount of profit in the operation but such conclusions would be erroneous, in most cases. Where people have rented orchards, one of several things has made it impossible for them to realize a profit from the investment which was required to get the trees in the good bearing condition. In fact, orchard renting has proven more popular than profitable.

There have been cases when it has paid well for farmers to rent old orchards but it has been when they have used judgment in the selection of the orchards, and the marketing of the fruit. I do not wish to present an argument stating that the farmer, or fruit grower, should not go into the business of a professional orchard renovator for with the right kind of methods and a proper consideration of the advantages and disadvantages, the right man may succeed at this as well as in any other business. However, I do want to point out some of the things which might well be considered before anyone goes into this business and invests money which may be lost.

When the horticulturist is questioning whether a certain orchard will prove profitable or not, he is usually concerned with five important details.

#### Figure Carefully.

Probably the prime question is, will it pay? That is, is the orchard near a good market or so situated that the fruit will not be worn out or damaged badly in getting it to the market? There are many orchards in the state which would prove valuable assets to the owners but for the fact that they are so far from market that it takes all the profit off in getting them to the point of shipment. In other sections, a good orchard is hedged in away from market by a short mileage of very bad roads. One of the most successful orchard renovators in the state was heard to remark last fall that if he had known he would have to haul the apples from a certain orchard through a

did. In all events, see that there is good circulation of air through the fruit trees.

#### How Old Are the Trees?

What has the age of the trees to do with renovation? This important question is often asked. It would not be wise to rent and renovate an orchard of Baldwins whose trees had nearly reached the age limit, for the chances are that the fruit received would not be enough to pay for the work done. On the other hand, it would probably pay well to rent a Spy orchard whose trees were the same age as the Baldwins mentioned above, for the Spy lives longer and consequently would return more fruit for the labor expended.

Carefully notice the varieties growing in the orchard. Do not renovate an orchard of Ben Davis apples for this is not a good commercial variety and it would take some very good crops to get back the money invested in the care of the trees and fruit.

#### Period of Tenancy.

For how long should we rent? In most cases, it has not paid to rent an orchard for only one year. Except in rare cases, that is not time enough for it to pay back much of the capital invested. An old orchard might profitably be rented for three to five years or longer, for then, if there is not a good crop the first or second years, perhaps the fruit the third year will make up for the failure which has taken place.

One should notice carefully the prevalence of fungous diseases and harmful insects. Go through the orchard and note those trees which are badly infested with the scale and all other indications of the frequency of either diseases or insects.

#### Find a Survey Helpful.

Some of the most successful fruit men make out a plan of the orchard and take it with them through the field and mark all the worst trees and put down all other information which they think would come handy in determining which ones should be cut out. This is perhaps one of the best schemes of all for, with this



## FREE BOOK ON ALFALFA

How you can grow it on your land  
How to get "catch" first planting  
How to select and prepare the soil  
How to get more than average crops

These and hundreds of other questions that you want answered are clearly and distinctly covered in our new book just issued entitled "Alfalfa—Wonder Crop". This remarkable book contains a priceless fund of information about alfalfa growing, secured from many sources; United States Government, State Experiment Stations, the best posted authorities and successful growers. In simple language, easy to understand, it tells just the things that you want to know before you start to raise this greatest of all \$cash money\$ crops. This book will convince you that you have some land on your farm where you can profitably grow alfalfa. This information was secured at a great cost of time, money and research. It tells how to grow alfalfa, how to get results from first planting, how to select the field and prepare the soil. It tells all about fertilization, plowing, liming, preparing the seed, when to plant and how to plant. Tells what to do during the growing period, how to get bigger than average crops, and how to cut and cure. The contents of this book are worth many dollars to the farmer interested in growing alfalfa. This book is ordinarily sold for 25 cents but we will gladly send it without cost or obligation of any kind if you answer at once. Don't put it off—write for free book today.

GALLOWAY BROS. BOWMAN CO., BOX 9923P WATERLOO, IA.

## FRUIT TREE

### Bargains

For Orchard Planting. All First-class. Prices lowest possible consistent with

Sterling Quality.

Apples...2 Yr. 3/4 to 5/4 to 5 ft.  
Cherries...3 " 3/4 to 5/4 to 5 ft.  
Peaches...1 " 5-16 to 7-16 3 to 4 ft.  
Pears...2 " 3/4 to 5/4 to 5 ft.  
Plums...2 " 3/4 to 5/4 to 5 ft.

Special prices on large quantity orders. Personal attention given to budding and grafting. We guarantee all trees for quality, variety, sturdiness, and to be free from Scale. Buy from our FREE 1913 Catalog and Save Half Agent's Price. Write now. DENTON, WILLIAMS & DENTON, 41 Elm St., Danville, N. Y.

STERLING Quality

## 5 STAR FLOWER SEED NOVELTIES For Only 10 Cts.

**Celosia Castle Gould**, most brilliant of flowers.  
**Crego Aster**, monster white, enormous in size.  
**Carnation Everblooming**, finest white, large double.  
**Portulaca**, a glorious new sort of marvelous brilliancy.  
**Orchid-flowered Pansies**, wonderful colors and forms.  
These 5 most superb Novelties sold last year for one dollar. Nothing better in cultivation. We mail all 5 with cultural directions and big Catalogue FOR ONLY TEN CENTS.

Our big Catalogue of Flower and Veg. Seeds, Bulbs, Plants and new Fruits free to all who apply. We are the largest growers in the world of Gladioli, Cannas, Dahlias, Lilies, etc., and our stocks are the best and cheapest.

JOHN LEWIS CHILDS, Floral Park, N. Y.

## MOREYS

### First Quality FRUIT TREES

have stood the test for over 40 years. Buy from a firm with a reputation for reliability. We grow our trees in the famous Danville nursery center where the finest trees come from. Our line of Apple, Peach, Cherry, Pear, Plum and Quince trees is very choice. Quality considered, our prices are lowest possible. We guarantee our trees true to name and free from Scale, and will refund \$3 to \$1 invested in every case where found otherwise. Write for Catalog and price list of selected stock. J. B. Morey Nurseries, 58 State St., Danville, N. Y.

## SKIPPED HILLS RAISE NO POTATOES

Every hill you miss in planting means money lost out of your pocket. No machine can plant perfectly unless there is hand correction of misses and double sows. 10 to 50 bushels more to acre, using **IRON AGE** Potato Planter. A seed piece in every space and one only. No pickers used—no injury to seed. Perfect placing of seed and uniform spacing. Can't you see that it must pay for itself? Write for new booklet, "100 per cent potato planting." We make full line Potato Machines, Garden Tools, Sprayers, etc. **BATEMAN MFG CO.** Box 1045 Grenloch, N. J.

## WHOLESALE PRICES

On \$1 worth and up. Strawberry, Raspberry, Blackberry, Bush Plants, Grape Vines, and Garden Roots. Extra heavy rooted, high grade stock. No better plants can be grown. Everything fully guaranteed. Catalog free. **A. A. WESTON & CO., Bridgman, Michigan**

## WEEDLESS FIELD SEEDS

Are what we are trying harder than ever to furnish our customers. FREE SAMPLES will show that we come pretty near doing it. In many varieties we DO IT. Red Mammoth, Alsike, Alfalfa, Timothy, Orchard Grass, Sweet Clover and all others. If seed of any kind to sell, send samples and price. Write today. **O. M. SCOTT & SON, 56 Main Street, Marysville, Ohio.**

Strawberry Plants. Early and late seed potatoes, asparagus roots. All as good as grow—at bargains. Catalog free. **J. G. PRESTAGE, Allegan, Mich.**

method, a man gets a good idea of the conditions of each individual tree and its location and this will help him in deciding which ones should be removed. Use due consideration and see that the trees which are left are spaced properly and still have a chance to get the necessary amount of food and moisture.

If the trees are to be sprayed it should be in the contract that the owner shall furnish the spray material for the first year's spraying, for if this is not stipulated, the cost entailed would take away all the profits of the fruit.

As to the general care of the renovated orchard, it will be the same as that for the general orchard, all the difference being in the pruning. Be careful not to prune too heavily the first year. The average man is too anxious to put the orchard in first-class shape the first year and so he prunes too vigorously. It is recommended by the best fruit growers that the first year, it is sufficient to prune out the dead limbs and then each year cut out those branches which should be removed, to give the tree the proper bearing shape and surface. There is always a balance maintained between the roots and the branches and this should not be disturbed. If too many branches are pruned away the first year this balance is destroyed and results in a large amount of sucker wood being produced.

Other conditions will suggest different requirements but, in the main, these are the chief considerations which should occupy the mind of the would-be orchard reenter. It requires such a large investment to start an extensive system of orchard renovation, that we must carefully consider all phases of the question.

Ingham Co.

I. J. MATTHEWS.

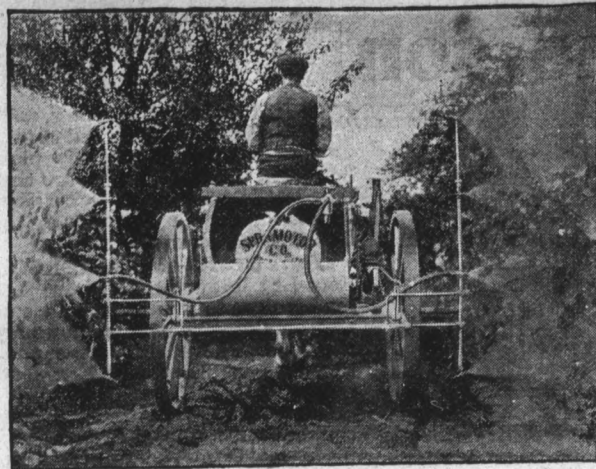
## TOMATO CULTURE.

Prof. W. W. Tracy, of the United States Department of Agriculture, in addressing the New Jersey Tomato Growers, in January, spoke upon the methods of producing high-grade tomatoes for the canneries. He pointed out the importance of careful selection of seed and growing of plants that there might be no checking from planting of the seed to setting of fruit. "Strong, stalky, transplanted plants," he declared, "are essential in order that the fruit may set and begin ripening during July and August when the days are longest and weather warm."

He recommended clay soil for heavy crops and advocated clover sod ploughed under in the field and reploughed before planting. In fertilizing, he stated he would use from 10 to 15 loads of stable manure per acre, harrowed in and supplemented with from 400 to 600 pounds of fertilizer applied in the row. By following these rules, he said he had produced 1,200 bushels, or 36 tons, of tomatoes per acre. For varieties he recommended the Improved Trophy and Stone. In outlining the most modern method of improving varieties of tomatoes, in order to obtain the large yields mentioned, Mr. Tracy said:

"Go into your field next summer, just as the plants are beginning to fruit and pick out 10 plants which have the most good fruit on them; or, conversely, pick out the plants which have the fewest poor fruit on them, and stake them. Do not pick these—let them rot—or you can pick them if you choose to, but pick all the fruit from each lot separate and put each lot away, so as to keep the seed from each plant separate from the rest. Now you have ten lots of seed, representing the ten plants which gave the largest proportion of extra good fruit in your field. The next spring, take enough to get a hundred plants, or more if you want, from each lot and plant them in ten rows, a hundred plants to the row. You will be surprised when you come to watch these. You will find there will be the greatest possible difference in the way in which these ten rows of plants show up. Some of them will show four times as many poor fruit as the others. Select and save seed from the most promising row and you will have a foundation stock of seed, which with careful selection annually can be built up into a high producing strain, with practically no number two or culls in the crop."

While the lime-sulphur has proved to be a wonderfully successful spray for early treatments, it is not satisfactory for certain diseases, like bitter-rot and blotch of the apple and black-rot of the grape. The Department of Agriculture is now making a study to determine the limitations of the lime-sulphur solution and the special advantages of using it and Bordeaux mixture for certain diseases.



The H. P. Spramotor shown here is equally efficient on row crop or orchard work. Twelve nozzles that cannot clog—sprays with 125 lbs. pressure—gets after germs, parasites, canker worms, makes the blight impossible, giving crops greatest possible chance for maximum development.

This machine will thoroughly spray two acres of row crop in 30 minutes, the increased yield will refund cost several times every season.

**Note**—There's a Spramotor built for your exact requirements. Prices range from \$6 to \$350. You owe it to yourself to find out all there is to know about it. We forward you the facts with our treatise on "Crop Diseases" without placing you under any obligation to buy.

**SPRAMOTOR LTD., 1603 Erie Street, Buffalo, N. Y.**

## LOOK at these TREE Prices

You save agent's profit of 50 to 75 percent buying direct from us, the growers. Our stock is grown in the famous nursery center of Danville, free from San Jose Scale and other tree diseases.

The trees we send you are full rooted, healthy, carefully selected and guaranteed variety true or money back.

Reilly's Reliable Trees

## OUR FREE FRUIT BOOK

gives a full description, with lowest prices, of all leading varieties of Apple, Peach, Pear, Plum, Cherry, Quince and other Fruit and Ornamental Trees, Shrubs, Berries, Vines, Roses, etc. It tells what, where and how to plant, and how to buy at lowest prices. Write for a copy now and save money.

**REILLY BROS. NURSERIES, 103 Reilly Road, Danville, N. Y.**

## STARK TREES - Best For Over 100 Years

Four generations of fruit tree growing experience, boiled down, is ready for you absolutely free of charge. Don't experiment with fruit trees of unknown productiveness, uncertain quality. Stark Trees always pay big. The secret is in Stark Brothers' perfect method of growing, transplanting, packing and shipping. **50 Years Ahead of Any Other Nursery in America** Why don't you take advantage of our Special Service Department? All Advice Free to You. We send you free the best scientific methods of preparing your soil for biggest profits; show you how to prune your trees, give you best methods of Stark cultivation; how to spray the Stark way. We make your orchard a winner and a big money maker. Write us at once for Stark Year Book, complete fruit tree literature and statistics. Write today. **Stark Bro's NURSERIES & ORCHARDS CO., R. R. No. 30, LOUISIANA, MO.** A Record of One Hundred Honorable Successful Years in Business

**DON'T BUY ANY NURSERY STOCK UNTIL YOU HAVE OUR CATALOG.** Lakeshore grown stock—hardy, rugged—best root system. French-grown seedlings. Buds from prize-winning orchards. Productive—Hardy—Begin to bear young. Catalog free. Write **LAKE SHORE NURSERIES, Box 104, Girard, Pennsylvania.**

## SEED CORN

## TREES at Half Agents Prices

10 Peach, First-class 3 to 4 ft. for 60 cents  
3 Elberta, 2 Champion, 2 L. Crawford,  
2 Crosby, 1 Greensboro.  
Other sizes accordingly. Freight Paid and Guaranteed. Send for Free Wholesale Catalog of a complete line. **THE WM. J. REILLY NURSERIES, 24 Oscler St., Danville, N. Y.**

## PULVERIZED LIME ROCK

We are now booking orders for shipment of our **Magnesian Lime Rock** for soil purposes beginning March 1 from our new pulverizing plant at Muskegon, Michigan. Write for booklets and lowest prices now. **LAKE SHORE STONE CO., Milwaukee, Wisconsin.**

## BIG SEED BOOK FREE

Just out. Contains 32 pages of valuable and useful information with prices of implements and ALL KINDS OF SEEDS, including Alsike, Alfalfa, Crimson, White, Red and Sweet Clover; Timothy, Grass and Field Seeds, Barley, Seed Oats, Seed Corn, and a complete line of Vegetable and Garden Seeds. Simply send your name and address on a postal to

**THE HENRY PHILIPPS SEED & IM-PLEMENT CO., Dept. C, Toledo, Ohio**

## ELBERTAS

—All the best varieties of Peaches. Pits from H. W. Harris, Hickory, N. C., buds direct from bearing trees. Results, sturdy trees and purity of kinds. Ask for special prices. **NELSON BOGUE, Batavia Nurseries, Batavia, N. Y.**

**Seed Corn For Sale.** Inquire of Erwin H. Kraus, R. No. 1, Box No. 7, Sebawaing, Mich.

## ALFALFA

How to grow Alfalfa, how to feed it, how to harvest and care for it. Full information for corn belt farmers who wish to grow this most profitable hay crop will be sent free on application. Also a sample of our extra choice high grade seed. **IOWA SEED CO., Dept. 62, Des. Moines, Iowa.**

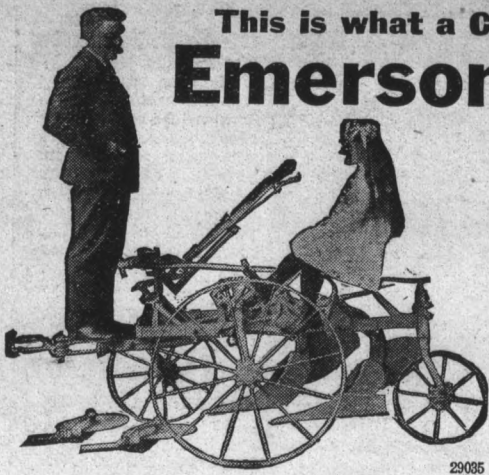
## Vaughan's Seeds for 1913

The most Beautiful Garden Path is through Vaughan's 1913 Catalogue. For 36 years we have supplied Florists and Gardeners the best Flower and Garden Seeds we could import or grow. Each year finds our good stocks better and the best ones cheaper. The quantities we use reduce the cost. You get the rarest and newest from Vaughan's at no more than regular prices. This Catalogue Gardening Illustrated covering the four great departments of Gardening mailed FREE. Don't plan your garden without it. Write to-day

For 10 cents, stamps or silver, we will mail 20 beautiful beautiful Gladioli, one-half inch size. **VAUGHAN'S SEED STORE, Dept. K. 31-33 W. Randolph St. CHICAGO.**

**APPLE TREES**—ALL KINDS Trees and plants Prices reasonable. Salesmen wanted. **MITCHELL'S NURSERY, Beverly, O.** When writing advertisers mention Michigan Farmer





## This is what a Child Can Do with the Emerson Foot-Lift Plow

**T**his little girl is lifting, with her foot, the combined weight of her father and the plow bottoms. Actual tests prove that the EMERSON is the *easiest-handled* plow in the world, the first foot-lift plow made.

**Light Draft**—The EMERSON Foot-Lift Plow is compact; the load is close to the team and carried on the wheels; the plows are locked, rigid, and in proper position always. It is the *lightest-draft* plow.

**Durability**—Celebrated Emerson magazine, always oiled, single-piece steel frame, heavy bracing, and other features make the EMERSON the *most durable* plow.

Use EMERSON plows—riding or walking—and you will have the *best value* your plow money can buy—also the *easiest-to-operate*, *lightest draft* plows that do the *best work*. Sixty years of success behind EMERSON implements. Write today for Plow booklet, or catalog on any other farm implement you are interested in.

**EMERSON-BRANTINGHAM IMPLEMENT CO. (Inc.)**

782 Iron Street, Rockford, Ill. Largest Line of Farm Machinery in the World  
Plows, Harrows, Pulverizers, Listers, Spreaders, Planters, Drills, Cultivators, Mowers, Hay Tools, Baling Presses, Corn Shellers, Gas Engines, Farm Tractors, Steam Traction Engines, Threshing Machines, Road Rollers, Wagons and Vehicles.

## WING VEGETABLES

are of as high quality as Wing's Alfalfa, Corn and other farm seeds. Try them.

**Great 10c Offer**  
We will mail large packet Beet, Lettuce, Radish, Turnip and several samples of choicest Field Seeds for 10c postpaid, "Alfalfa And How To Grow It" **FREE**

Our catalog helps farmers make more money. Is a complete guide to Alfalfa culture. Describes field, vegetable, and flower seeds. Write for your free copy. Wing Seed Co. Box 642 Mechanicsburg, O.



## A New Wonder From J. H. HALE "The Peach King"

**Ready After 8 Years' Tests—After 3,000 J. H. HALE Trees Planted—Orchardists Enthusiastic**  
At last the wonderful "J. H. HALE" peach is offered for commercial planting. The most amazing peach the country has ever known. Fruit twice as large as Elberta; color deep yellow, overlaid with carmine; flesh firm and melting; smooth, fuzzless skin; most luscious flavor; extremely hardy—27 degrees below zero failed to injure. Tested in all peach soils and climates. Experts assert it will prove the greatest money-maker ever planted in U.S. Early growers will make fortunes.

**Send Name for 100-Page Book Free**  
Describes the new "J. H. HALE" peach and complete assortment of William F. Stark guaranteed trees. No agents. You save 50 per cent and get better trees. Book sent only on request. **WM. F. STARK NURSERIES, Sta. B 16, STARK CITY, MO.**

## CLOVER \$4.50 AND TIMOTHY 1 Per Bu.

**INVESTIGATE—Best and Cheapest Seeding Known.**  
Alsike Clover and Timothy mixed. Fully 1-3 alsike, a big bargain. Greatest hay and pasture combination grown. Write for Free Sample and 76-page catalog and circulars describing this wonderful grass mixture. Beats anything you can sow and ridiculously cheap. We handle only best tested reseeded seed guaranteed. Write before advance. **A. A. BERRY SEED CO., Box 531, Clarinda, Iowa**

## BEST MAPLE SYRUP EVAPORATOR

**NOT** a single feature of our Maple Evaporator can be dispensed with. Simplest and most economical way of making Maple Syrup. Produces highest quality which brings the most money. Made in 22 sizes for large and small groves.

Write for catalog and state number of trees you tap. **GRIMM MANUFACTURING CO., 619 Champlain Ave., N. W., Cleveland, Ohio.**

## CIDER PRESSES

The Original Mt. Gilead Hydraulic Press produces more cider from less apples than any other and is a **BIG MONEY MAKER**. Sizes 10 to 400 barrels daily. Also cider evaporators, apple-butter cookers, vinegar generators, etc.

**CATALOGUE FREE.**  
**THE HYDRAULIC PRESS MFG. CO., 131 Lincoln Ave., Mt. Gilead, Ohio.**

## The Berlin Quart Our Specialty

A WHITE package which insures highest prices for your fruit. Write for 1913 catalog showing our complete line, and secure your **BASKETS, CRATES, etc.** at **WINTER DISCOUNTS.**  
**The BERLIN FRUIT BOX CO., Berlin Heights, Ohio.**

## BERRY BASKETS

Buy now. Low freight rates on account of central location. Sample of our light and durable 16-quart crate for 25 cents parcels postpaid. Hot-bed sash for sale. Catalog free. **M. H. Hunt & Son, 400 Condit St., Lansing, Mich.**

**STRAWBERRY PLANTS** guaranteed as good as grows, at \$1.00 per 1000 and up. Catalog **FREE.**  
**ALLEN BROS., Paw Paw, Mich.**

**Mention the Michigan Farmer when writing to advertisers.**

## Roses, Plants, Seeds,



**Bulbs, Vines, Shrubs, etc.,** by mail, postpaid. Safe arrival and satisfaction guaranteed. 59 years of fair dealing. Hundreds of carloads of **Fruit and Ornamental Trees.**  
1,200 acres, 60 in hardy roses—none better grown. 47 greenhouses of **Palms, Ferns, Begonias, Geraniums, etc.** Immense stock of **Superb Cannas**, the queen of bedding plants. Large assortment of hardy Perennial Plants, which last for years. **168-Page Catalog FREE.** Send for it today. **The Storrs & Harrison Co., Box 46, Painesville, Ohio.**

## GOOD SEEDS BEST IN THE WORLD

**Prices Below All Others**  
I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.  
**Big Catalog FREE**  
Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.  
**R. H. SHUMWAY, Rockford, Illinois.**

## Strawberry Plants Free

Your name on Postal will bring free, 6 plants of the famous Bradley Strawberries and our 40-page Book of instruction "How to Grow Great Crops of Strawberries" also Chapter on each Raspberries, Blackberries, Grapes, Gooseberries, Asparagus and Rhubarb, and fruit trees. All about the Fall bearing Strawberry. Write today. Postal card is all that is needed.

**BRADLEY BROTHERS, Box 23, Makanda, - - Illinois.**

## NEW STRAWBERRIES.

Catalog free. Reliable, interesting and instructive. All about the new everbearers and other important varieties. **The New Progressive Everbearing Strawberry** Rockhills Best of All. Now offered for the first. Plants set last spring and fruiting until the ground froze. Produced at the rate of \$1000 per acre. A **GREAT SENSATION.** Address

**C. N. Flansburgh & Son, Jackson, Mich.**

## Sonderegger Apple Trees

**Speciosa Seedlings, 8 to 12 in. \$1.75 per 1000**  
These are a few examples of the rock-bottom prices quoted in my new 1913 Catalog. Lists all kinds of nursery stock such as Vegetable, Flower, Grass and Farm Seed. Alfalfa, Clover, Field Grass Seed. Seed Potatoes, Corn and Grain, Fruit and Forest Trees, Small Fruits and Flowering Shrubs. Freight prepaid on \$10 tree orders. We have no agents. Send for Catalog today. **German Nurseries and Seed House, Box 115, Beatrice, Neb.**

## PURE FIELD SEEDS

Clover, Timothy, Alsike, Alfalfa and all kinds of Pure Field Seeds direct from producer to consumer, free from noxious weeds. Ask for samples. **A. C. HOYT, & CO., Potosi, Ohio.**

**500,000 TREES, APPLE, PEACH, ETC.**  
200,000 Strawberry plants. Catalogue Free.  
**W. A. ALLEN, & SON, Geneva, Ohio.**

## STRAWBERRY PLANTS THAT GROW

All Standard Varieties. Also **RASPBERRY, BLACKBERRY, CURRANT and GRAPE** Plants and **ASPARAGUS** Roots in **ASSORTMENT. WARRANTED TRUE-TO-NAME**, and of **GRADE** represented. Catalogue with Cultural Instructions Free.  
**C. E. WHITTEN, BOX 14, BRIDGMAN, MICHIGAN.**

**1878 Grown Right, Handled Right 1913**  
**KING TREES**  
**CHERRIES 4c, PLUMS 5c, APPLES 8c.**  
Write at once for our Free bulletin, a gold mine of information about buying, planting and growing trees. **KING BROS. NURSERIES, 9 Oak St., Danville, N. Y.**

## THINNING PEACHES WITH PRUNING SHEARS.

During the beautiful weather we are having, or at least have had, we can do much to lessen the work of thinning peaches next summer when our work is crowding us. Every peach grower knows that thrifty trees will have very heavy foliage and, with the picture of a fully leaved tree in mind and pruning shears in hand, a tree can be opened up to admit light when the bare trees do not indicate that any more light is needed. Most peach trees are over-loaded with fruit buds now and every little branch removed lessens the number of peaches to be removed by thinning next summer. Of course, we may get some extremely cold weather which will kill peach buds, but with wild geese present at this time of year I believe we are reasonably safe, unless the geese I saw were too lazy to go south or nature did not warn them of extremes to come.

Usually labor is available at this time of year and one can more easily get help to trim than to thin.

My method is to remove undesirable limbs from the center of the tree so that the sun can strike the north side of the tree, by thinning through the middle from above. Before removing a limb of any size (that is, from one inch up) I try to determine what the chances are for the limb just beneath it splitting off. If there is any possibility of the limb just below splitting from the trunk I leave that limb, which otherwise I would take out.

In looking through a tree many small branches will be seen which, when covered with leaves, will make a dense mass. Many times by taking out alternate branches the proper thinning will be accomplished without having to consider each branch separately. Branches that reach out beyond the majority of limbs should be headed back.

If conditions continue as they have been there will be an enormous crop of peaches. Last year practically all the fruit buds in most of the peach sections of Michigan were killed by the extreme cold weather. This year these trees are over-loaded with fruit buds. Now, unless thinning and thorough spraying is practiced the crop will be large and the quality poor.

It is a long time before the Michigan peach will be on the market and yet a long time before Michigan's 1912 crop of apples is consumed, but not too long to be considering the best means of selling this year's crop. In my mind I can see thousands of bushels of peaches offered for sale that are under-sized, scabby, and gnarly; these will bring low prices. The man who can offer for sale large-sized, smooth, perfect peaches will be able to command a good price even if he has to do extensive advertising and sell by the dozen by parcels post.

We must not forget that we can fairly accurately forecast market and fruit conditions as to fine fruit, and govern ourselves accordingly. Thin tall that is practicable between now and the time growth starts and complete the job when the fruit comes. Raise peaches that will weigh a pound each if you can.

**Berrien Co. R. G. THOMAS.**

## PROVIDE A SPRAY RIG THAT WILL MEET YOUR REQUIREMENTS.

The time is at hand when many will probably be looking up the matter of purchasing spray pumps and suggestions as to what will prove most efficient under different circumstances may be helpful in making selections. The outfit that will prove most satisfactory will depend on both the size of the trees and the extent of the orchards. Some reference will doubtless be necessary, too, to the matter of future needs. If one has an orchard of smaller trees—such as peach, plum, and perhaps pears, that are not too large, a light rig will be found most convenient. With the proper combination of pump, nozzles, rod, etc., considerable ground can be covered in a day, especially during the dormant period when spraying for scale, and a heavy rig will be found too heavy for a team to haul over so much ground. Formerly we did considerable of this work with the hand pump, having a tank carrying 100 gallons, one man driving the team and doing the pumping and another holding the spray rod. A spray rod only four feet long was found most convenient for this work, as it was long enough to reach all parts of the tree by a man standing on the trucks and it did not become tangled in the limbs as a longer rod would. A cluster of three or

four nozzles was used, depending somewhat on the capacity of the nozzles, so that the pump could be worked to its capacity. Of course, it was not practicable to spray but one side of the tree in going over the orchards in early spring, when the wind was blowing, but with this outfit we could cover one side nearly as fast as a team could walk. With full grown peach trees the nozzles were kept open the greater part of the time, turning them on the tree as it was approached, and coming to a stop for a moment just as the man with the rod came opposite the tree, then continuing as the tree receded. In this way as much as 15 to 20 acres could be covered on one side in a day. Later we found a small gas engine with a jack which was designed to work on a well pump. This was attached to the handle of this pump. With this rig one man drives and sprays, saving one man's time. We think a good deal of this rig and use it as much as any outfit we have. With a longer rod this could be used in spraying larger apple trees as well as if the orchard contains but a few trees. Some use their large two-horse rigs for spraying peach trees, using hose long enough to extend to two or three rows of trees from the wagon, and this would perhaps be an economical rig if one has a considerable acreage of apples and only wishes to keep one rig. But with very many peach or smaller trees to cover I think the lighter outfit will be found most convenient. If, however, there are very many larger apple trees the large two-horse machine will be found most efficient, as more expeditious work can be accomplished with these.

Another important matter in connection with the spray outfit is the nozzle combination. For the smaller trees there is small doubt that the funnel-shaped sprays are the finest and very best, but for the larger trees these with us cannot be made to carry the spray to all parts of the tree with any spray rod that is practicable to carry. During some of the more important applications on the apple trees only a very few days are allowed in which this work must be done, and we find that the only practical way is to do as thorough a job as possible in going over the trees once, and not presume to wait for any change of wind for a second application in finishing the work. With the funnel sprays the liquid can not be carried against the wind at all, and a nozzle becomes necessary that will do this to some extent. Something like the Bordeaux type of nozzle will do this, and while they do not make the ideal mist-like spray that the others do, yet by putting on those which are rather fine and using a sufficient number of these in a cluster to carry the maximum amount of liquid that can be economically handled, and by keeping up a good pressure a very satisfactory job can be done.

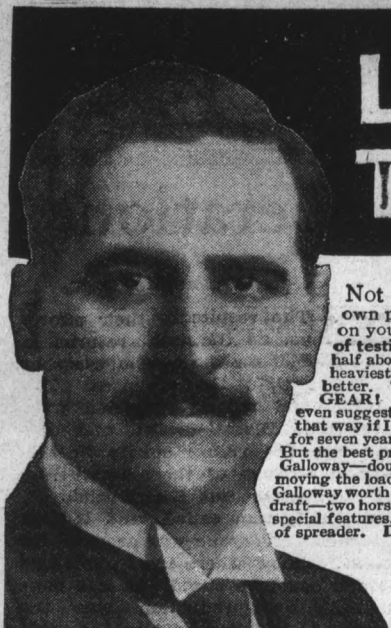
A matter worthy of mention, too, is the length of the spray rods used. We have one or two rods 10 feet long for use on the ground in reaching some of the taller apple trees, but for the most part we use eight-foot rods among the apple trees. A longer rod than this is very tiresome for a man to hold all day, and it is a better than the average hired man who will not hold his hands near the middle of a very long pole, letting the ends balance over his hands or partially so, and so really get the nozzles no farther out than does a man holding a shorter rod. Then, too, a very long rod is inconvenient in getting among the limbs of the trees as it is more likely to become tangled in the branches. I have been able to throw a spray over a tree 30 feet high with one of the above nozzles while standing on the ground and with a good strong pressure at the pump.

Most pump manufacturers are now making two kinds of pumps, one the old horizontal kind with a single cylinder and solid plunger and the other a two-cylinder upright pump with solid plungers and the packing at the top and readily accessible. With the latter any leak is apparent and a turn or two with the wrench will stop it until the packing is worn out, when it can be readily renewed. With the old style the packing is liable to wear and a large leak past the plunger occur without its being discovered. In this way the pressure may become greatly reduced before it is discovered. It is quite a job to get the plunger out, too, and repack it. The old pumps have a longer stroke than the new ones, however, and a little larger size of the new kind will be required to pump the same quantity of liquid.

**Allegan Co. EDWARD HUTCHINS.**



# Let Me Ship YOU This 1913 Spreader FREE



Not one cent down. No bank deposit. Keep your money in your own pocket. I just want you to try my new Spreader, that's all. Try it right on your own farm for a whole month free. Test it out as you wouldn't think of testing any other spreader in the world. Pile on the manure a foot and a half above the box. Put on all she'll hold. Take the fine, powdered stuff or the toughest, heaviest, tramped-down, clough-hay kind from the calf yard. If it's frozen, so much the better. Take it into your field, whip your team to a gallop and SLAM IT IN GEAR! Say, I know that's an awful test. So do you! A test no other manufacturer dares even suggest to you. But do you think for a minute I'd ship you a spreader and let you abuse it that way if I didn't know it would make good? I know what I'm doing. I've made the same offer for seven years, and the Galloway today is better than ever. 40,000 farmers have proved it. But the best proof of all is the machine itself—eleven patented features—all exclusive with the Galloway—double drive chains furnishing power from both wheels alike direct to the beater and moving the load. The only endless apron force feed, roller bearing feed spreader built. Makes the Galloway worth \$25.00 more than any other spreader sold today. Low down—easy to load—light draft—two horses will handle it easily. Pull between wheels entirely on the reach—and many other special features. I can't tell them all—just get my catalog before you buy any other make or style of spreader. Do it today.

## THE ONLY WAY IS THE GALLOWAY

You know Galloway. You know his fair, square, straight-from-the-shoulder way of doing business direct with the farmer from his factories and saving you the 30% to 50% middleman's profit. No man in the country ever gave the farmers as square a deal as Bill Galloway.

Now, I'm out to break my own records.

I know I've done it, but I'm going to leave it to you. If you can figure out a fairer proposition than I'm making for 1913, I wish you'd write and tell me—I can't.

### Write Me—Get My Special 1913 Proposition

Here comes the best news of all. I am going to help you get your spreader partly or even entirely free. No canvassing—no soliciting. When I say free, I mean FREE. I've been four years working out this plan, and say, it's the biggest, fairest and most liberal co-operative offer ever made. Now, I want you to get my offer right away. I don't want you to wait a minute. I have a special reason for wanting you to hurry and I'll tell you when you write me.

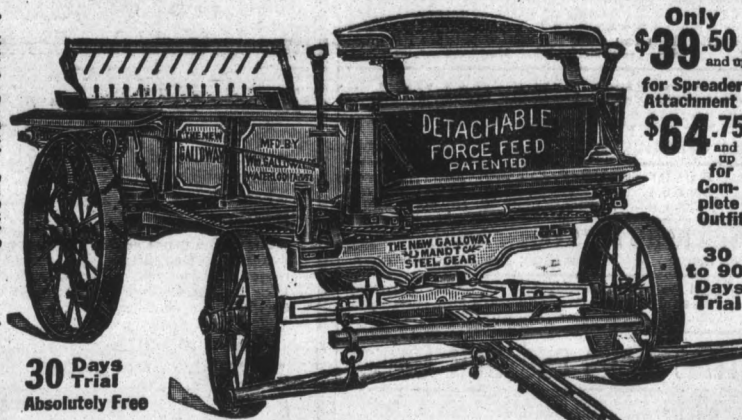
### Here's the Proof:

Gentlemen: My Galloway Spreader was ordered about the first of February, 1909, and is a 50-bu. machine. I have run over a thousand loads of manure through it. Perfectly satisfied.—W. G. SUTIN, Dundee, Ill.

Sir: My Galloway Spreader works as fine as silk, and I have the \$30 left that it would have cost me if I had bought a trust spreader.—S. E. TRENKES, Goddard, S. D.

Dear Sir: The spreader I bought of you is a dandy. I have hauled 150 loads with it without the least trouble and with two small horses not weighing over 1,100 pounds each. I use the 60-bu. size and I would advise anyone in need of a spreader to try the Galloway and see for themselves. It is the lightest running and the strongest in the market today. It is O. K.—GER. MCCARTHY, Monona, Iowa.

**William Galloway, Pres., WILLIAM GALLOWAY COMPANY, 649 Galloway Station, Waterloo, Iowa**  
Remember, we carry spreaders in stock at Chicago, Kansas City, Council Bluffs, Minneapolis and Winnipeg.



Only \$39.50 and up for Spreader Attachment \$64.75 and up for Complete Outfit 30 to 90 Days Trial

Selling Direct from Factory to Farm

30 Days Trial Absolutely Free

## Now Get My Big 1913 Catalog—It's FREE

Don't let this paper get out of your hands until you have sent for Galloway's wonderful big illustrated free spreader catalog. Find out how you can get a Galloway Spreader shipped right to your farm for 30 days' free test. And above all, get posted on my SPECIAL LIMITED OFFER. I want you to get that offer sure. Not another like it. Send me the coupon or letter or postal today.



### "A Streak of Gold"

The only book of its kind in the world. It tells you just the practical facts every man ought to know about fertilizing. Tells how to handle manure, how to treat it, keep it and use it to the best possible advantage. Worth a hundred dollars to any business farmer. Regular price one dollar. Free to you when you write me.

# FREE

### FREE COUPON

WILLIAM GALLOWAY, President, THE WILLIAM GALLOWAY CO. 649 Galloway Station, Waterloo, Iowa

I want to know more about that 1913 offer of yours. Tell me all about it and send me your latest manure spreader book and your valuable book of information, "A Streak of Gold," free.

Name.....

Town.....

County.....

R. F. D.....State.....

We will also send you FREE our new 5-color, big, 144-page general merchandising book—giving 1,000 or more bargains in machinery, buggies, harness, furniture, rugs, draperies, etc.; everything you need for the home



# PHELPS BUGGY BOOK FREE TO YOU

MORE handsome styles shown than in 25 largest dealers' stores. 160 pages bristling with buggy bargains. Just the buggy you want is pictured at a price that'll tempt your purse. You'll buy a Split Hickory Vehicle because you get 30 day Free Road Test over roughest country, money back if you're not satisfied and a 2 Year Guarantee if you buy. I've sold over 167,000 Farmers my famous Split Hickory Vehicles and fine harness. My record is 12 years of giving the best buggy values and guaranteeing to beat the dealer's prices. I sell only direct to you from my mammoth factories. Thus I can afford to chop off the middlemen. Keep his profit in your own pocket.

## Phelps Shows You the Biggest Selection of High-Grade Buggies in America and GUARANTEES \$25 to \$40 Saved!

This fine big catalog of mine is absolutely free to you and I'm even willing to pay the postage because I honestly believe you'll decide in favor of my Split Hickory Vehicles when you see them pictured—and priced so low. Send me your name and address today on a postal card or letter and get this book immediately.

H. C. Phelps, President, THE OHIO CARRIAGE MFG. CO., Station 32, Columbus, Ohio



Don't You Want a 30 Days' Free Road Test of This Auto Seat Buggy

## HURST SPRAYERS

### Free Trial

No - money - in - advance, no bank deposit.

Kill the scale—save your trees—increase your crop 50% by using a HURST SPRAYER. Sprayers for every purpose—man, horse and gasoline power. All develop high pressure and have thorough agitation. Horse power works automatically in field and orchard. No hand pumping required. All Hurst Sprayers have brass ball valves, plungers, strainer, and packing band. No leather or rubber to cause trouble.

Guaranteed for 5 years. We pay freight.

Write us today and we will send you catalog and spraying guide, showing all kinds of sprayers, also special free sprayer offer. Write today. Be first and save money.

H. L. HURST MFG. COMPANY  
243 North St., Canton, Ohio



## SPRAYERS NECESSARY

Some States make you spray now; others will follow soon. But you must apply right solutions, at the right time, in the right way. You need a Sprayer with best pumps and adjustments for your purpose.

**IRON AGE SPRAYERS**  
Have these advantages. 40 combinations—Bucket, Knapsack, Barrel, Traction and Power Sprayers—\$34 to \$300. Pumps outside, will not corrode; handle any solution. Sprayers in units, complete or in parts to build up those already in use. Ask your dealer to show them and write for new booklet, "Spraying Vines, Trees and Bushes." We also make full line potato machines, garden tools, etc.

BATEMAN MFG CO. Box 104-N Grenloch, N. J.

this at any time.

## FREE 10 DAY Orchard Test

**STAHL SPRAYERS**  
We will ship you any Barrel Spraying Outfit in our catalog for a thorough Ten-Days' FREE Test. Get Our New Catalog—Special Free Trial Offer Direct-from-factory-to-farm Selling plan saves you fully 40%. If not greatest bargain you ever saw, return it—test costs nothing. Wm. Stahl Sprayer Co., Box 328 Quincy, Ill.



## New CORN BELT Oat

**CANNOT LODGE**  
—is a record breaker—bred to suit conditions in the Corn Belt. Positively the largest berried and heaviest yielding oat in the world. Strongest straw—thinnest hull and matures 10 to 14 days earlier than any other. Grain white and wonderfully rich in protein and oils.

### GARTONS NO. 5

Send 25c for half pound Sample and Coupon good for 25c worth of our pedigreed seeds. Gartons "Book of the Farm," free on request. GARTON-COOPER SEED CO. 36 First Street SUGAR GROVE, ILL.

## 120 BUSHELS TO THE ACRE

## RATEKIN'S NEW ALBERTA

## OATS

THERE IS BIG MONEY IN OATS if you grow the right kind. RATEKIN'S NEW ALBERTA, Canada, OATS grow Bigger Crops. More Bushels per acre and better quality than any Oat in the World. Our Seed all grown on new virgin soil—clean ground; free from noxious weed seeds, from crops yielding 125 TO 140 BUSHELS PER ACRE weighing 45 TO 50 LBS. PER BUSHEL.

**FREE SAMPLE** Ask for sample and compare them with any other seed oats offered, or in the World. Our Big Illustrated Seed Catalog of Oats, Seed Corn, Grass, Clover and all kinds of farm and garden seeds mailed FREE on Request. ADDRESS RATEKIN'S SEED HOUSE SHENANDOAH, IOWA Box 17

ALWAYS mention the MICHIGAN FARMER when you are writing to advertisers.

## Planet Jr.

**No 8 Combined Horse Hoe and Cultivator** cuts down the work of growing corn, potatoes and similar crops. Gives bigger and better results. Adapted for more different kinds of field-work than any similar tool. Strong, light, easy to handle. Fully guaranteed.

FREE 64-page illustrated catalog. Write for it today. S L ALLEN & CO Box 1107M Phila Pa

## MICHIGAN APPLES

Look as well as the finest western product and their quality is better. Our trees are hardy, and disease-resisting. They have strong roots and sturdy trunks with many branches. Abundant crops are the rule from Kalamazoo trees. Fruits bring highest prices. Money-Saving Catalog FREE Describes and illustrates our complete line of fruit trees, and berry plants. We grow all the best Ornamental Shrubs, Roses, Climbers, Hardy Plants, etc. Catalog offers splendid bargains and valuable advice. Helps planters to better paying orchards. Write for your free copy today. Celery City Nurseries, Box 22 Kalamazoo, Mich.



## OATS

Reg. Swedish Select and Imp. American. Two heaviest yields from score varieties tested. Also Alfalfa, Clover, Timothy, Barley, Millet, Seed Potatoes and GARDEN SEEDS. High quality, low price. Samples and Catalog Free. THEO. BURT & SONS, Melrose, Ohio.

## Farm Seeds

Corn, Oats, Medium, Mammoth and Alsike Clover, Timothy, Grasses, Beans, etc. O. C. SHEPARD CO., 3 M Ave., Medina, O.



## BREEDERS' DIRECTORY.

## CATTLE.

**For Sale**—Horses, cattle, sheep, swine and poultry, nearly all breeds. Sires exchanged. South West Michigan Pedigreed Stock Ass'n., David Woodman, Sec'y., Paw Paw, Mich.

**Aberdeen-Angus.**

Herd, consisting of Trojan Erics, Blackbirds and Prides, only, is headed by Egerton W. the GRAND CHAMPION bull at the State, West Michigan and Bay City Fairs of 1912 and the sire of winners at these fairs and at THE INTERNATIONAL, Chicago, of 1912. WOODCOTE STOCK FARM, Ionia, Mich.

**AYRSHIRES**—One of foremost dairy breeds: young bulls and bull calves for sale. Berkshire swine. All pure bred. Michigan School for Deaf, Flint, Mich.

**GUERNSEY BULL CALVES, YORKSHIRE PIGS.** Good Stock. HICKS GUERNSEY FARM, Saginaw, W. S., Mich.

**REG. GUERNSEY BULL CALVES**—large improved Yorkshire hogs, sows bred of the best breeding. Price cheap. JOHN EBEELS, R. 10, Holland, Mich.

**HATCH HERD HOLSTEINS**—Choice sires from ARO dams. Reasonable prices. HATCH HERD, Ypsilanti, Michigan.

**CHOICE Bull Calves** from A. R. O. dams. Sired by our herd sire whose dam and sire's dam each made over 30 lbs. in 7 days. E. R. Cornell, Howell, Mich.

**Service Bulls and Bull Calves**

Sired by Johanna Corcordia Champion, whose sire's dam and dam's dam average 34.06 lbs. butter in 7 days, average fat 4.67%. Also cows and heifers bred to him. I can offer you bulls at bargain prices. Try me and see, and do it quick.

**L. E. CONNELL,** Fayette, Ohio.

**Holstein Bull** Calf, out of grand daughter De Kol 2nd. Butter Boy 3rd. Sired by best son of Pontiac Butter Boy. Price only \$50. C. D. WOODBURY, Lansing, Mich.

**Bigelow's Holstein Farms**

Breedsville, Mich. Have for sale several fine young bulls out of cows with high official butter and milk records.

Send for circular.

**Holstein Bulls.**

1 3-year-old Herd Bull, \$200. Very Choice, Gentle and guaranteed.

1 12 Months old, \$150  
1 4 " " 75  
1 3 " " 60

**LONG BEACH FARM, Augusta, (Kalamazoo Co.,) Mich.**  
**FRED S. KENFIELD, Prop.**

**FOR SALE—HOLSTEIN BULL CALF**

Born June 5, 1912, sire a son of the King of the Pontiacs from a daughter of Hengerveld De Kol. Dam of calf, an A. R. O. daughter of Sadie Vale Concordia's Paul DeKol, her dam a 20 lb. imported cow. **ED. S. LEWIS, Marshall, Mich.**

Purebred Registered  
**HOLSTEIN CATTLE**  
The Greatest Dairy Breed  
Send for FREE Illustrated Booklets  
Holstein-Friesian, Assn., Box 164, Brattleboro, Vt.

**"Top-Notch" Holsteins.**

Yearling bulls all sold. Choice bull calves from 1 to 4 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices.

**MCPHERSON FARMS CO., Howell, Michigan.**

**Lillie Farmstead Jerseys**

(Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed.

**COLON C. LILLIE, Coopersville, Mich.**

**FOUR CHOICE A. R. O. HOLSTEIN BULL CALVES** from six weeks to one year old. Price \$40 to \$150. **ELLIS W. DORIN, Brookside Farm, Sunfield, Mich. R.F.D. 3.**

**BULL CALVES**—Richest Hengerveld, DeKol and Korndyke breeding. Special prices for quick sale. **YPSILAND FARMS, Ypsilanti, Mich., Cole Brothers, Owners.**

**A FEW CHOICE** Holstein Friesian Bull Calves for Sale. A. R. O. Stock. **GREGORY & BORDEN, Howell, Michigan.**

**Holstein Friesian Cattle**—young bulls out of A. R. O. dams and sired by a bull with a 31 lb. dam. **W. B. JONES, Oak Grove, Michigan.**

**FOR SALE**—Registered Holstein Bull, ready for service. A. R. O. breeding. Price \$100. Write for pedigree. **OHAS. S. RILEY, Metamora, Mich.**

**Hereford Bulls For Sale, Also Poland China Hogs.** **ALLEN BROS., Paw Paw, Michigan.**

**Registered Holstein heifer**, born Jan. 8, 1912. Mostly R. white. Sires 3 nearest dams have 7-day butter records that average 21 lbs. Delivered at your express office for \$125. Write for pedigree. **Hobart W. Fay, Mason, Mich.**

**Jerseys**—Bulls ready for service, bred for production. Also cows and heifers. **Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.**

**FOR SALE**, Jersey Bulls, old enough for service, sired by a grandson of Imp. Interested Prince and from cows that produce 400 to 500 lbs. butter annually. **A. Newman R1, Marlette, Mich.**

**BUTTER BRED JERSEY BULLS FOR SALE**  
**CRYSTAL SPRING STOCK FARM,**  
Silver Creek, Allegan County, Michigan.

**Scotch Shorthorn Bulls and Heifers For Sale.** **W. W. KNAPP, Howell, Michigan.**

**Dairy Bred Shorthorns**—Two yearling heifers for sale. Price \$100 each. Bulls all sold. **J. B. HUMMEL, Mason, Michigan.**

**Dairy Shorthorns**—Large Cattle—Heavy Milkers. No stock for sale at present. **W. W. KNAPP, R. No. 4, Watervliet, Mich.**

**ALWAYS mention the MICHIGAN FARMER when you are writing to advertisers.**

**Earn Money, Boys!**

There's a nice chance to pick up some money among the neighbors with a **Rumely Watts Corn Sheller No. 2**

AND A **Rumely Olds Engine 4 1/2 H.P.**

You can do your own shelling at home—save half the cost of contract shelling and do it when it should be done. Then when work is slack—work for the neighbors.

The engine comes skid mounted or portable so you can take it anywhere. This sheller will be a money maker for you. Working with a Rumely-Olds Engine 4 1/2 h.p., it will handle from 100 to 150 bushels an hour.

Send for Sheller Data-book No. 351; Engine Data-book No. 344.

**RUMELY PRODUCTS CO.**  
(Incorporated)  
Power-Farming Machinery  
Battle Creek 546  
Home Office: LaPorte, Ind.

**SAW WOOD**

Saw your own wood and save time, coal and money; your neighbors and **MAKE**

**\$5 to \$15 a DAY**

Hundreds are doing it with an **APPLETON WOOD SAW**

We make 7 styles—steel or wood frame—stationary or mounted on truck with gasoline engine, making a

**Portable Wood-Sawing Rig** Rigid frame, lathe-turned arbor, running in self adjusting, non-heating, dust-proof boxes makes our saw frames simple, strong, safe and successful.

We also make the famous **FRICITION-DRIVE DRAG SAW** **APPLETON CIRCULAR LOG SAW.**

Ask for our complete free catalog. **APPLETON MFG. CO.**

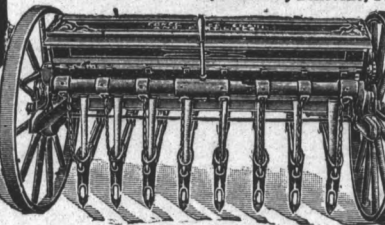
620 Fargo St., Batavia, Ill.

**\$10,000.00****Guarantee Protects You**

If this Hertzler & Zook Grain Drill does not satisfy you in every way and we fail to return your money in full and pay freight both ways, we forfeit a \$10,000 local bond which our bankers hold to protect you. Mustn't we be mighty sure that ours is the best all-round drill on the market, or would we dare back it up with a \$10,000 bond? The matter is all one-sided in your favor—you can't possibly lose. We pay freight and send you the

**HERTZLER & ZOOK****Grain Drill****On 30 Days' Free Trial**

If it satisfies you, keep it at our low price. If it doesn't, ship it back at our expense and we will refund all your money or forfeit \$10,000—our bankers hold it for you. This drill sows all kinds of grain, seed or fertilizer accurately. Built for hard work. High, broad-tire wheels lighten draft. Large capacity grain box. We also make a low-down and plain seed drill. We sell direct from factory—save you \$20 to \$50 dealer's profits. Write for catalog, our \$10,000 guarantee and low prices. Special offer to everybody who answers right away. **HERTZLER & ZOOK CO., Box 103, Belleville, Pa.**

**ELECTRIC**

**Steel Wheel Handy Wagons**

**Are Big Money SAVERS!**

No more High lifting or pitching. Saves you work and lightens draft nearly 50%. Don't rut fields or roads. We also furnish Electric Steel Wheels to fit ANY wagon. Wheels can't dry out or rot. Send for free book of facts and proofs. **Electric Wheel Co., 85 Elm Street, Quincy, Ill.**



**MILNE STUMP PULLERS** for trees or stumps. You can cut them down. New All-Steel machines. Stump-anchored or self-anchored. Unbreakable; rapid; powerful. Double, Triple and Quadruple Attachment, also Rotary Power for sawing, grinding, etc. Write for free catalog. **MILNE MFG. CO., 875 Ninth St., Monmouth, Ill.**

**Farm Commerce.****A Need for Co-operation.**

By W. H. Ingling, General Manager Monmouth Co., N. J., Farmers' Exchange.

IN the last issue of the Michigan Farmer we considered the expensive methods now employed in distributing farm products, the comparatively small portion of the price paid by the consumer that goes to the farmer and the possibilities offered in working together under some organized plan rather than in selling to middlemen. This week we desire to show that co-operation actually affords economical advantages to the producer by pointing out examples of concerns that have saved to the members a much greater portion of the last price paid for the products than is received under the present system. Before we do this, however, we shall direct the attention of our readers for a moment to a few general subjects that need to be in the mind of every person who is giving thought to the marketing problem.

**Much Waste May be Eliminated.**

Now as we see it, the farmers and fruit growers are the producers and original owners of a vast quantity of food products. Why should not they be the distributors also? The waste in distributing these enormous productions under the system now generally in vogue is very great, because of the lack of knowledge of market conditions, and amounts to millions of dollars annually. Much of this waste might be saved if the growers would organize a co-operative exchange and distribute their own products; then they could see to it that the markets in general were not oversupplied.

**Should Prepare to Hold Products.**

Is there any reason why the farmers should not own their own elevators in the grain districts, their warehouses protected against frost in the potato districts of the north, the cold storage and packing houses in the fruit districts, prepare and pack their products and place them on the market through their own organization, instead of allowing others to do this work for them at their expense? Individually they could not do this, but by joining hands with their brother farmers of a county or section, they could do all of this and much more to their mutual benefit.

In every other business enterprise the manufacturer or the proprietor fixes the price at which his goods shall be sold, always subject to market conditions. But the farmer has no voice in fixing his. There ought to be some way to change this situation and give the grower a better chance. The agitation now going on throughout the country on this subject will produce results.

The farmer is being aroused, and soon must take this matter more seriously, and the outcome will be that in all sections where large quantities of grain, fruit and vegetables are grown, there you will find his co-operative organization selling his products and buying the many necessary articles for the farm. Strange as it may seem, this awakening of the farmer must, in every case, be preceded by dissatisfaction and discontent over the local conditions prevailing in each particular locality. As long as he is satisfied with the conditions, there will be no change.

**Discontent Precedes Organization.**

It is a fact that co-operation has been forced upon the sections where the great co-operative organizations are in successful operation today. The old system of distribution, under which they worked, proved entirely inadequate, and when the year came in which everyone had a bumper crop, each individual grower was trying to find a market for his own goods, and the result was that everyone seemed to find the same one, which was soon greatly over-supplied and the consequent losses were very heavy. To illustrate this statement, permit me to refer to the causes that brought about the organization of the California Fruit Growers' Exchange.

In 1893 the conditions in the fruit district of California were almost identical with those stated above. Their crops of oranges and lemons exceeded all expectation—4,100 carloads—a large quantity for them at that time. Consternation prevailed among the growers as they endeavored to market their fruit under the

old system. The results of their efforts were disastrous, as the total returns in the entire district for the season were but a little more than the expenses. The time, labor, and money expended were without avail. Dissatisfaction and discontent were the ruling spirits in this community, because of these conditions.

**Not Production But Distribution.**

A convention was called, and it was well attended. Everyone was aroused, for all wanted to know where the trouble was and how it could be cured. It was suggested that over-production was the cause. Some questioned whether this really was the reason, while others intimated that it could not be the cause, for 4,100 cars of oranges were not enough to glut all the markets in this country, as that amount would be only five oranges apiece. There must be some other reason. Then the inspiration came to one of their number, and he exclaimed if not over-production, then it must be improper distribution, and if this was so, then they could find a remedy if they would. By joining together in a co-operative exchange, all shipments could be handled by one intelligent head from a central office with a full understanding of all trade conditions. This would prevent markets from being overstocked, and also open new ones then unknown and untouched, thus securing a fair and reasonable price for all of their goods.

**A Great Organization.**

This was the keynote of the meeting, and it was the beginning of The California Fruit Growers' Exchange, an incorporated, co-operative organization, which today is the most perfect and scientific in this country. The result of the working of this great Exchange was that while the production increased from 4,100 to 31,000 cars in three years, yet they were all sold and distributed in such a scientific manner that each market received just enough of the fruit to give good returns to the grower. Today their output is over 40,000 carloads, and over-supplied markets are unknown. They own over 100 packing houses, with all necessary machinery to automatically assort classify and wrap the fruit ready for market, representing an investment of over two and one-half million dollars, and is operated solely for the producers' benefit. Great care is exercised with the fruit from the tree to the box, and it is this care to have every box first-class of its kind and the proper distribution of the crops that gets the price.

Thus you see preparation and marketing of crops are closely related, and ought to be controlled by an exchange if you expect the best results. In the case of The California Fruit Growers' Exchange, all fruit is brought to the warehouses by the growers, receipted for by the Exchange, and is assorted under the brand and grade in which it belongs, and the grower is paid according to the quality of his fruit. If he grows the best grade, he gets the price for the best; if inferior, it is priced as inferior. This assures a square deal to all, and the Exchange, having the control of the pack, always delivers exactly what it sells; builds and maintains its reputation on the quality of its fruit and manner of packing, and therefore, is always able to get the highest price.

**Announcement.**

In the next number of this series which will appear in the issue of February 15, Mr. Ingling tells how the farmers of Virginia extricated themselves from the hands of a merciless combination of middlemen and got on their feet through organization. Readers should not forget one essential thing about co-operative enterprises and that is that a large number of the farmers of the community should be informed on the principles of co-operation before it is likely to be made a success. To interest neighbors and present the matter to your Grange Farmers' Club and at other gatherings, therefore becomes a duty that every person who reads these pages should eagerly undertake as a personal contribution of service in the fight to secure better markets and marketing conditions.



# THE NOMID SYSTEM—A PLAN FOR MARKETING FARM PRODUCTS.

Chapter VII.—Continued from last week.

## Warranty Defined.

Warranty has been defined as an undertaking by the seller that the goods are of a certain quality. It may also refer to the title the vendor has in the goods. Warranties are of two kinds: Implied and express. The offering of goods for sale by one who has them in possession is an implied warranty that he has title. If goods are bought to fill some specified purpose that is made known to the vendor and the buyer has no opportunity of inspecting the goods, there is an implied warranty that the goods are adapted to the purpose for which they were purchased. An express warranty is an assertion by the seller about the goods upon which the buyer relies in making his purchase. If express warranties are made then no implied warranties as to other qualities of the goods may be added. There is another rule of law which limits warranties where the goods bought are seen and examined by the purchaser or his agent, and that is the rule that caveat emptor (let the buyer take care). This means that the buyer is supposed to know what he wants and his examination of the goods should exonerate the seller from faults of the goods. But this rule does not cover fraud. A distinction should also be made between assertions by the seller as to the quality of the goods and mere statements of opinion. For the latter the seller cannot be held responsible for damages.

## Specific Uses of Warranty.

In the sale of foods used for human consumption there is an implied warranty that they are fit for food and wholesome. It was held in a New York case that the seller of such goods is bound at his peril to know that provisions for domestic use are sound and wholesome; this ruling being necessary to preserve health and life. In other states this holding is modified with regard to the sale of live animals. It being held that a farmer is not liable for the unwholesomeness of the meat of animals sold, even when he is aware that the animals were to be butchered and the meat placed upon the market. In the purchase of vegetables, fruits or grain one may usually recover damages even though inspection has been made, and certainly where the real nature of the goods was covered by false packing. As regards food for the feeding of animals the courts generally hold that there is no implied warranty that it is fit for such purpose. In selling horses a general warranty that the animal or animals is sound binds the seller. Such warranty, however, does not cover defects or blemishes that are pointed out to the buyer by the seller. Such a general warranty made any time before the animal is delivered has been held to be binding upon the maker. In an Iowa case it was held that a general warranty that a horse was free from disease enabled the buyer to recover damages when other animals were infected with a contagious disease from the animal purchased.

## Remedies of the Buyer.

Where the buyer finds the goods purchased do not measure up to the warranty of the seller and the latter refuses to make good the loss, the buyer may act in one of three ways: He may hold the goods until he is sued for the purchase price and then offset or recoup his damages. Second, he may sue for damages after accepting and retaining the goods in question. Third, he may refuse to receive the article, or return it and rescind the sale if it has been delivered to him. It is usually not necessary that the buyer return the goods before bringing an action for damages for breach of warranty. Even where the buyer examines the goods he may still demand a warranty from the seller and collect damages if the goods fail to measure up to the claims made.

(Continued next week.)

## PRICES OF FARM PRODUCTS ARE LOW.

The average of prices received by producers of the United States for staple crops, increased 0.5 per cent from December 1 to January 1, which compares with an increase of 0.6 per cent in the same period a year ago and an average increase of 1.5 per cent during December of the past five years. On January 1 prices of staple crops averaged about 17.2 per cent lower than on like date of 1912, 6.5 per cent lower than in 1911, 17.3 per cent lower than 1910, 5.9 per cent lower

than 1909 and 7.7 per cent lower than in 1908, on like date. This indicates that the average prices for these products on Jan. 1, 1913, was 10.9 per cent below the average for the past five years.

The following tables compares the average prices received by producers for staple products on Jan. 1, 1913, with the average prices for the same staples for Jan. 1 of the three preceding years:

	Jan. 1 1913.	Average 1910-1912.
Corn, per bu.....	.489	.576
Wheat, per bu.....	.762	.90
Oats, per bu.....	.322	.404
Barley, per bu.....	.499	.679
Rye, per bu.....	.638	.769
Buckwheat, per bu.....	.668	.698
Flaxseed, per bu.....	1.062	1.931
Potatoes, per bu.....	.506	.649
Hay, per ton.....	11.86	12.87
Butter, per lb.....	.284	.282
Eggs, per dozen.....	.268	.301

Additional articles with comparisons made on Dec. 15, instead of Jan. 1 and the average prices for Dec. 15 of the two years preceding 1912 instead of three years, are herewith given:

	Dec. 15 1912.	Average 1910-1911.
Hogs, per cwt.....	6.89	6.44
Beef cattle, per cwt.....	5.33	4.41
Veal calves, per cwt.....	6.88	6.18
Sheep, per cwt.....	4.21	4.13
Lambs, per cwt.....	5.70	5.26
Wool, per lb.....	.186	.167
Cabbage, per cwt.....	1.15	1.66
Apples, per bu.....	.73	.93
Beans, per bu.....	2.30	2.31
Onions, per bu.....	.84	1.06
Cloverseed, per bu.....	9.00	9.48
Timothy seed, per bu.....	1.79	5.42

## MICHIGAN FARMERS ARE CO-OPERATING.

Hillsdale county farmers, in session at Litchfield, after listening to an interesting talk by Jay Hawkes, on the benefits coming from co-operation in marketing farm produce, appointed a committee to draw up plans for an organization along lines indicated. The committee is composed of Clare Stoddard, Jay Hawkes, Fred Wade, Lester Corey, Mrs. C. Barnes and Mrs. Chas. Heiserman.

Members owning the co-operative elevator at Ithaca, Gratiot county, have voted an increase of capital stock from \$25,000 to \$50,000. A bean dryer and other equipment will be added. The company is prosperous.

Celery growers of Hudsonville, in Ottawa county, see the advantage of conducting their business along co-operative lines. They have organized and will build a central warehouse, giving attention to inspection and the pack, and employ a competent manager.

Farmers of Chippewa county met at Pine Grove and discussed plans for a co-operative association. A company will be organized, with \$30,000 capital, and warehouses will be built at the Soo, Dafer and Rudyard for the disposal of farm products.

Kent Co. A. GRIFFIN.

## A LARGE GROWERS' ORGANIZATION.

The Four-States Fruit and Truck Exchange, a non-profit, purely co-operative organization, with headquarters to be at Texarkana, has entered the field to solve the marketing problems of Arkansas, Oklahoma, Louisiana and Texas. Among the many activities in which the organization will engage are the following: To aid in the organization of individual growers and local growers' organizations for a more business-like distribution and marketing of their fruits and truck, and in the buying of their supplies; to aid legislative co-operation; to aid in the adjustment of complaints; to aid educational work for standardization of packs and packages; and to aid educational work among growers for better cultural methods and for the control of insect enemies and diseases of fruit and vegetables; to establish a credit-reporting service; to establish a crop-reporting service; to co-operate with transportation and refrigeration lines in all necessary matters relating to loading, packs and packages, cars, tariffs, and service.

The Exchange purposes to work in harmony with the organizations already in the field and will organize new associations on a uniform basis, incorporating the best features of the most successful associations now operating. The organization is headed by W. A. Nabors, of Winnsboro, Texas, and Chas. W. Holman, of Dallas, Texas, is temporary chairman.

## Notes Constant Improvement.

Your circular letter received. Had not intended to subscribe this year. Were taking so many others, but you are improving on the old paper so much I will send you 50¢ worth of encouragement.—C. W. Utley, White Cloud, Mich.

# Great Horse Story "Kate and Queen"

By Prof. Jesse Beery

Free

SPECIAL FREE OFFER

Prof. Beery desires that every horse owner, trainer, breeder—everyone interested in horses—should read this great story. To make it possible, for a short time he offers every interested horseman a copy FREE. He only asks that ten cents be sent to cover postage, and the names and addresses of five other horse owners. Send U. S. Stamps or coin. If you have even a passing interest in horses—if you own, train or breed them, you will gather from this book a fund of knowledge worth many dollars to you. Send for copy.

FREE With each book we also send free a beautiful colored picture of Queen—oil painting effect—suitable for framing.

PROF. JESSE BEERY, Box 577 Pleasant Hill, O.



## Test this Hay Press FREE 10 days

Spencer's Steel Alligator with 60-inch feed hole can bale 2½ tons an hour or it is yours free.

Would such a baler interest you?

Write today for FREE Catalog.

J. A. SPENCER, Dwight, Ill.

121 William Street

## Breeders' Directory—Continued.

### For Sale: 4 Percheron Stallions

2 to 4 years old, weight 1600-2000 lbs., sound and good ones, cheap, if sold at once. 10 Shorthorn cows, 5 bulls and 20 Oxford Down ewes, bred. For further particulars write H. B. PETERS, Burton, Mich.

Dual Purpose Shorthorns for sale, heifers bred to Bold Knight No. 312245, a grand May & Fotis Bull, also young bulls, sired by him. DAVIDSON & HALL, Tecumseh, Mich.

SHEEP.

## SHROPSHIRE AT AUCTION

On WEDNESDAY, Feb. 12th, 1913.

I will sell at the 10 cent barn at Flushing, my entire flock of Registered Shropshires, consisting of 15 bred ewes, 35 ewe lambs, 25 yearling rams, 25 ram lambs and 2 Choice imported stock rams. FRED R. OTTAWAY, Flushing, Michigan.

"BREED UP YOUR SHEEP" Articles sent free to any address. PARSONS, "The Sheep Man of the East," R. No. 1, Grand Lodge, Mich.

OXFORDS—Choice young registered ewes for sale at \$10 each. B. B. REAVEY, Akron, Michigan.

FOR SALE—60 Registered Rambouillet ewes with lamb—cheap if taken immediately. HOWARD M. RAYMOND, Grass Lake, Michigan.

Reg. Rambouillet Sheep, Pure Bred Poland China HOGS and PERCHERON HORSES. 2½ miles E. Morrice, on G. T. R. R. and M. U. R. J. Q. A. COOK.

SHROPSHIRE SHEEP—15 Reg. ewes for sale, bred to choice Imp. Rams. Also Reg. Clydesdale Stud Colt, 8 months old, W. P. Pulling & Son, Parma, Mich.

HOGS.

### BERKSHIRE BOARS

May and June farrow, large size, heavy bone. \$18 and \$20 each. GEO. E. LAPHAM, St. Johns, Michigan.

BERKSHIRES—Choice spring boars and gilts, priced to move quick. Farmers stock. ELMHURST STOCK FARM, Almont, Mich.

Quick Maturing Berkshires—Best breeding, best type. Satisfaction guaranteed or money refunded. O. S. BARTLETT, Pontiac, Mich.

O. I. C.—TWO BOARS fit to head any herd. Fall pigs ready to ship. C. J. THOMPSON, Rockford, Michigan.

Improved Chesters—Young breeding stock, either sex. Also a few tried sows to be bred for spring farrow and early fall pigs. W. O. WILSON, Okemos, Mich.

O. I. C. SWINE—Write me for price on Spring Pigs, pairs and trios, not akin. Have a number of service males of good type. Write me describing of your wants. A. J. GORDEN, R. No. 2, Dor, Mich.

O. I. C. Swine, both sexes. Males weighing 100 to 225 lbs. Herd registered in O. I. C. Association. GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

DUROCS OF QUALITY AND BREEDING. Will hold my bred sow sale the last of February. Will sell 30 head of extra good ones. Watch for ad later. Just one last of April boar for sale. H. G. KEESLER, Cassopolis, Michigan.

O. I. C. Extra choice bred gilts, service boars and spring pigs, not akin from State Fair winners. Avondale Stock Farm, Wayne, Mich.

O. I. C. Pigs of September and October farrow for sale cheap. JOHN BERNER & SON, Grand Lodge, Mich.

O. I. C's—All ages growthy and large, sows bred. Males ready, 100 to select from. Attractive prices on young stock. H. H. Jump, Munith, Mich.

Reg. Chester Whites—Both sexes and bred gilts, also serviceable registered Holstein bulls. Bargains. RAY FARHAM, Bronson, Mich.

O. I. C's—A fine lot of last spring stock for sale, big sired by Grand Champion boar, Scott No. 1. Half mile west of depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C's—Bred sows all sold, choice young sow pigs and boars. Holstein Bull Calves sired by Pontiac Burke 2nd. FRED NICKEL, R. No. 1, Monroe, Mich.

DUROC-JERSEYS—Fall and Spring boars from prize-winning strains. Sows all ages. SPECIAL BARGAIN in summer pigs. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

Duroc Jerseys—for sale: 20 fine service boars of fancy breeding and individual quality. Prices reasonable. John McNicoll, North Star, Mich.

### DUROC JERSEYS—A Few Gilts for Sale

CAREY U. EDMONDS, Hastings, Michigan.

### DUROC GILTS—\$20 to \$30. Shropshire Ewes \$20 to \$30.

KOPE-KON FARM, Kinderhook, Michigan.

Duroc Jersey SWINE. Spring and summer pigs for sale, both sexes. I pay express. 25 years experience. J. H. BANGHART, Lansing, Mich.

### Butler's Big Bone Poland Chinas.

We don't claim to own all the good hogs in the U. S., but we do claim to have bred and sold more big type Polands in the last ten years than any two other breeders in Michigan. If you want a good fall boar write J. C. BUTLER, Portland, Michigan.



I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN, R. No. 10 Portland, Mich.

POLAND CHINAS—Both Western and Home Bred. Either sex, all ages. Prices right. W. J. HAGELSHAW, Augusta, Mich.

POLAND CHINAS—Either sex, all ages. Something good at a low price. P. D. LONG, R. No. 8, Grand Rapids, Michigan.

P. C. BROOD SOWS—bred for April and May farrow. Big bone. Prolific. Also boars ready for use. Maplewood Stock Farm, Allegan, Mich.

LARGE styled Poland China spring and fall pigs from strong, healthy, prolific breeders, either sex at low prices. ROBERT NEVE, Pierson, Mich.

P. C. BOARS AND SOWS—large type, sired by A. A. WOOD & SON, Saline, Michigan.

POLAND CHINA SOWS—bred Single Comb Black. Minorca cockerels. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

LARGE TYPE P. C. HOGS—Largest in Mich. Boars all sold. A few fall pigs. Also some extra large spring gilts to be bred to two of the best young boars I could buy in Iowa. Come or write. Free livery. W. E. LIVINGSTON, Parma, Michigan.

## MULEFOOT HOG SALE.

Forty Sows and Gilts, all bred, and some good boars. Third annual PUBLIC SALE FEBRUARY 20th.

Write me for free catalog, ready now. Full of pictures of the hogs on sale. G. C. KREGLOW, ADA, OHIO.

## Mule Foot Hogs

At Public Auction

SALE FEBRUARY 15th, 1913

Fifty head of bred gilts. Young stock for sale at all times. Breeding stock recorded in the National Mule Foot Hog Record. Write for catalog and information. JOHN A. WILLIAMS, R. R. G, Box J, Eaton Ohio.

LARGE Yorkshires—Choice breeding stock, all ages, not akin, from State Fair prize-winners. Pedigrees furnished. W. C. COOK, R. 42, Box 22, Ada, Mich.

## CHOLERA PROOF HOGS.

I keep from 4000 to 6000 grade Yorkshire and Poland China cholera immune hogs and am selling prolific brood sows, also shoats weighing from 50 to 150 lbs. at prices that make them desirable on cholera infected farms. Sows weighing more than 100 lbs. are supposed to farrow in April and May. I expect to have several thousand pigs from immune sows and boars for sale next spring.

ALVAN BROWN'S PIG FARM, Grand Rapids, Michigan.

### As Good As The Best!—Yorkshires.

Gilts bred for spring farrowing. WATERMAN & WATERMAN, Meadow Land Farm, Ann Arbor, Mich.

FOR SALE—Must change. Offer 30 mo. full blood Yorkshire boar for \$25. Address, Samuel Swigert, Manager Peters Stock Farm, Wellston, Mich.

LARGE YORKSHIRE SWINE—August farrowed gilts \$20 each. No males in stock. Geo. S. McMullen, Clitz, Phone, Grand Lodge, Mich.

### Lillie Farmstead YORKSHIRES

A splendid lot of fall pigs at reduced prices, pairs and trios not akin. Young sows and gilts bred for April farrow. Your money back if you are not satisfied.

COLON C. LILLIE, Coopersville, Mich.



# Markets.

## GRAINS AND SEEDS.

February 5, 1913.

**Wheat.**—The wheat market made a gain of 1½c during the past week, notwithstanding the fact that statistics were mainly on the bear side and there was a sag in prices on Monday due to the heavy snowfall on portions of the winter wheat section. The world's visible supply increased 2,701,000 bu., but these bearish factors were overbalanced by the resumption of fighting in the Balkans and dry weather in India. A cable stated that 10 per cent of the crop in India had already been lost and that 70 per cent would be beyond help if the dry weather extended 10 days longer. The influence of the war is considered a minor one, due to the danger of other powers becoming involved in European trouble. European millers are active buyers due to the review of European conditions being slightly unfavorable. The home conditions favor lower prices. Stocks are large and buying is quiet. Millers are buying sparingly and exporters are not operating at present. The winter wheat outlook is improved because of the general covering of snow in the winter wheat section. The price for No. 2 red wheat on this market one year ago was 99½c per bu. Quotations for the week are as follows:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	1.11	1.10	1.14	1.14	95½	95½
Friday	1.12	1.11	1.14	1.14	96	96
Saturday	1.12	1.11	1.15	1.15	96	96
Monday	1.13	1.10	1.15	1.15	95½	95½
Tuesday	1.12	1.11	1.15	1.15	96	96
Wednesday	1.12	1.11	1.15	1.15	95½	95½

Chicago, (Feb. 4).—No. 2 red, \$1.10½; No. 1, 1.11½; May, 94½; July, 91½.  
New York, (Feb. 4).—No. 2 red, 1.09½ at elevator and \$1.11 f. o. b. afloat, nominal; May, 89½-16c; July, 97½c per bu.  
**Corn.**—An advance of 1c on the market during the week is attributed to a vigorous campaign among brokers and one of the largest houses on change to raising quotations in order to force a widely scattered interest to cover. Many who were sold short were compelled to buy on the advance and deals in futures were rather the feature of the Chicago market. However, there was a good demand on the local market for corn and prices for the cash grain here were advanced. One year ago No. 2 corn sold on this market for 66½c per bu. Quotations for the week are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	49	50
Friday	49½	50½
Saturday	50	51
Monday	50	51
Tuesday	50	51½
Wednesday	51	52

Chicago, (Feb. 4).—No. 3 yellow, 48½¢; May, 53½c; July, 54½c per bu.

**Oats.**—The market in this grain advanced in sympathy with corn, but no corresponding increase in activity in trading was noted. One year ago standard oats sold on this market at 53½c per bu. Quotations for the week are as follows:

	No. 3	Standard.	White.
Thursday	35	34	34
Friday	35½	34½	34½
Saturday	35½	34½	34½
Monday	35½	34½	34½
Tuesday	35½	34½	34½
Wednesday	36	35	35

Chicago, (Feb. 4).—No. 2 white, 37c; May, 34½c; July, 34½c per bu.

**Beans.**—Complaints continue to come in from growers regarding the methods of buyers in grading beans. On the other hand, members of the Bean Dealers' Association pointed out at their recent meeting that the bean market is in a much more stable condition and prices average higher than before a uniform method of marketing was inaugurated. Owing to the fact that few samples of beans grade high this year this complaint is more general than ordinarily. Also the bean deal is very slow, due to the fact that many beans are not dry enough to ship. Quotations for immediate, prompt and February shipment are \$2.10 per bu; May, \$2.20.

Chicago, (Feb. 4).—Pea beans are in only light request and a further decline in this market occurred during the week. The market for red kidneys is quiet. Pea beans, hand-picked, are now quoted at \$2.25@2.27; prime, \$2.28@2.30; red kidneys choice, \$2.25@2.30.

**Clover Seed.**—This continues to be an active market and a further strengthening in price occurred during the past week. The advance during the week aggregated 15c per bu. Prime spot is now quoted at \$12.50 per bu; prime alsike, \$13.50, which is 10c above last week's quotation.

Toledo, (Feb. 4).—Prime, cash and February, \$12.45; March, \$12.52½; prime alsike, \$13.65; March, \$13.75.

**Rye.**—This market remains inactive with another advance of 1½c in price over last week. Cash No. 2 is now quoted at 65c per bu.

Chicago, (Feb. 4).—No. 2 rye, 63½¢@65c per bu.

**Barley.**—Chicago, (Feb. 4).—This grain is quoted at 49¢@70c per bu; market nominal.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in ½ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.60; second, \$4.90; straight, \$5.20; clear, \$4.90; spring patent, \$5.10; rye flour, \$4.90 per bbl.

**Feed.**—Detroit jobbing prices in 100-

lb. sacks are as follows: Bran, \$24; coarse middlings, \$28; fine middlings, \$28; cracked corn, \$24; coarse corn meal, \$21.50; corn and oat chop, \$20 per ton.  
**Hay.**—Holders of hay have little encouragement in the market. The late fall and open winter have reduced consumption in the country, thus augmenting the effect of large production on market. No change in the deal. Carlots on track at Detroit. No. 1 timothy, \$14.50@15; No. 2, \$13@13.50; light mixed, \$13.50@14; No. 1 mixed, \$12.50@13 per ton.

Chicago.—Demand light and market lower. Choice timothy, \$17@18; No. 1, 14@16; No. 2 and No. 1 mixed, \$12@13.50; No. 3 and No. 2 mixed, \$9.50@11.50; clover, \$7@11; alfalfa, choice, \$16@17; do. No. 1, \$14.50@15.50; do. No. 2, 11@13 per ton.

New York.—Market lower; standard, \$18.50@19.50 per ton; No. 1, \$20@21; light clover, mixed, \$18.

**Straw.**—Car lot prices on wheat and oat straw on Detroit market are \$8.50@9 per ton; rye straw, \$10@11 per ton.

Chicago.—Higher. Rye, \$7@8; wheat straw, \$6@6.50; oat straw, \$6@7 per ton.

New York.—Rye straw, \$19@20 per ton.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—The butter market has been materially strengthened by the change of weather and good quality stock is firm and higher everywhere. Elgin advanced a cent on Monday and creameries have made a like gain in the local market. Jobbing prices in the Detroit market are: Fancy creamery, 34c; firsts, 32c; dairy, 22c; packing stock, 21c per lb.

Elgin.—Market firm at 34c.

Chicago.—Demand for creamery goods of almost every grade shows a distinct improvement and all grades are higher. Dairies in fair request at unchanged figures. Quotations: Extra creamery, 34½c; firsts, 31@33c; firsts, 27@29c; seconds, 25c; dairy extras, 30c; firsts, 26c; seconds, 23c; packing, 12@20½c as to quality.

New York.—Creamery prices in this market have made a gain of 2c. Dairies are little higher, but all kinds are firm. Creamery extras, 36½@37c; firsts, 33@36c; seconds, 29@32c; thirds, 26@28c; state dairy best, 32@34c; good to prime, 28@31c; common to fair, 22@27c; packing 17@21½c as to quality.

**Eggs.**—The influence of the weather upon the egg market is again seen this week, good advances having been scored since the drop in temperature. Locally the gain since this time last week is 1½c. At Detroit current offerings, candled, and cases included, are quoted at 24½c per dozen.

Chicago.—Demand here is better than in some weeks and receipts that are up to grade sell readily at 1@1½c above last week's figures. Receipts of so-called fresh eggs which contain a mixture of stale and held stock are hard to sell, being considered less desirable than a good grade of storage eggs. Miscellaneous receipts, cases included, are quoted at 17@23½c; do. cases returned, 16½@23c; ordinary firsts, 18@22c; firsts, 24½c; refrigerators, firsts, 17c per dozen.

New York.—Market firm, practically all grades quoted 1c higher. Fresh gathered extras, 27@28c; extra firsts, 25½@26c; firsts, 24@25c; seconds and lower grades, 22@23½c; western gathered whites, 25@28c.

**Poultry.**—So little doing in this market that quotations are largely nominal, although a number of changes from recent high values are noted. Quotations are: Dressed—Spring chickens, 15@15½c; hens 14@15c; turkeys, 21@23c; ducks, 17@18c; geese, 14@15c per lb. Live—Spring chickens, 15@15½c; hens, 14@15c; No. 2 hens, 9c; old roosters, 9@10c; turkeys, 17@20c; geese, 12@14c; ducks, 15@16c per lb.

Chicago.—Steady under demand that is just about sufficient to absorb offerings. Ducks and chickens again higher. Quotations on live are: Turkeys—good weight, 15c; others, 10c; fowls, good, 14c; spring chickens, 14c; ducks, large, fat, 17c; do., thin, ordinary, 15@16c; geese, full feathered, 13c; do., plucked, 8@10c per lb.

New York.—Dressed stock firm. Fresh killed western chickens, 14@20c; fowls, 13@17c; turkeys, 14@24c per lb.

**Cheese.**—Michigan flats ½c lower; no other changes. Quotations: Wholesale lots: Michigan flats, 15½@16c; New York flats, 18½@19c; brick cream, 16½@17c; limburger, 17½@18c.

**Veal.**—Detroit.—Firm and higher. Fancy 14½@15c; choice, 12@13c per lb.

Chicago.—Fair to choice, 80@110 lbs., 12½@14c; extra fancy stock, 14½c; fair to good chunky, 11½@12½c.

## FRUITS AND VEGETABLES.

**Apples.**—Despite the prospect that colder weather will curtail receipts or increase the risk in shipping, last week's slight gain in values has not held. Detroit quotations now are: Fancy, per bbl., \$2.50@3; ordinary, \$1@1.25.

**Potatoes.**—The local market has not been affected by the change of weather. Offerings ample and demand steady. Michigan stock in car lots, 50c in sacks, 46c in bulk.

Chicago.—Offerings continue to run below those of a year ago and the consumptive demand is steady, but in the face of this prices are lower than a week ago. Market in good condition, however, at the lower range. Fancy Michigan stock 45@47c per bu.

**Onions.**—Local market is dull with quotations for home-grown yellow at 45@50c per bu. in carlots.

Chicago.—Trade dull and market easy under heavy offerings. Reds and yellows quoted at 40c; whites, 75@85c.

## MISCELLANEOUS.

**Provisions.**—Ruling prices in Detroit are higher. Quotations:

Detroit.—Family pork, \$23@24; mess pork, \$20; clear backs, \$21@22.50; hams, 15½@17c; briskets, 12@13c; shoulders,

13c; picnic hams, 11½@12c; bacon, 16@18c; pure lard in tierces, 11½c; kettle rendered lard, 12½c per lb.

Chicago.—Mess pork, May, \$19.27½; lard, do., \$10.30; short ribs, do., \$10.30.

**Honey.**—Detroit.—Steady. Choice to fancy comb, 16@17c; amber, 14@15c; extracted, 9½@10c per lb.

## DETROIT RETAIL PRICES.

Detroit Western Market.—Notwithstanding the colder weather, vegetables were offered pretty freely this week, with many kinds rather slow sale. Cabbage of nice quality hard to sell at 25c per bu; onions of fair grade bringing 50c; carrots, 30@35c; beets, 30c; turnips, 35c; white kidney beans, 10c per qt, or \$2.50 per bu; no celery offered. Apples were not very plentiful, some nice sound medium-sized Steel Reds bringing \$1 per bu., poorer grades ranging from 45@75c. Potatoes in good supply and not moving very freely at 50c per bu. A number of dressed hogs were on sale, bringing 10½c per lb. Poultry was scarce; eggs not in large supply and selling from 35@40c, according to quality. Butter, in rolls, 35c. Ear corn offered at 35c per bu. and buckwheat at 90c.

## Grand Rapids.

Jobbers are paying the country trade 22c for fresh eggs and 24c for butter. Live poultry, delivered, is selling as follows: Hens, 11@12c; turkeys, 17c; ducks, 11c; guineas, 20c each. Dressed hogs are bringing 9½@10c. The hay market is a little off at present, prices ranging from \$10@13. Apples have been more active during the past week, with prices ranging from 50c@\$1. Wheat is worth \$1.10; rye, 45c; oats, 36c; corn, 51c; beans, \$1.70.

The city of Grand Rapids has closed a contract with the Grand Rapids Garbage Holding Co., for disposal of the city garbage. The city will receive 50c per ton for all table refuse, which is collected daily and placed on board cars at the city market. The holding company, which is composed of city people and farmers, has acquired a 200-acre farm in Newaygo county for the operation of a swinery on a large scale and cholera-proof hogs will be secured to take care of the garbage.

## THE LIVE STOCK MARKETS.

February 3, 1913.

## Buffalo.

(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York.)

Receipts of stock here today as follows: Cattle, 120 cars; hogs, 90 double decks; sheep and lambs, 55 double decks; calves, 750 head.

With 120 cars of cattle on our market here today, and 20,000 reported in Chicago, our market is just about strong, and in some instances 10c per cwt. higher than last week, the higher prices being obtained in the early sales. At the close of the market, the cattle were about all cleaned up, and the market closed barely steady with the opening.

We quote: Best 1350 to 1500-lb. steers, \$8.25@8.75; good to prime 1200 to 1300-lb. do., \$7.75@8.25; good to prime 1100 to 1200-lb. do., \$7.25@8; coarse, plainish 1100 to 1200-lb. do., \$7@7.50; medium butcher steers, 1000 to 1100, \$6.75@7.35; butcher steers, 950 to 1000, \$6.50@7.25; light butcher steers, \$5.75@6.25; best fat cows, \$5.75@6.50; butcher cows, \$4.75@5.50; light, butcher cows, \$4@4.50; cutters, \$3.75@4; trimmers, \$3.50@3.75; best fat heifers, \$7.25@7.50; medium butcher heifers, \$6@6.50; light do., \$5@5.75; stock heifers, \$4@4.25; best feeding steers, dehorned, \$6@6.60; light common stockers, \$4.50@5; prime export bulls, \$6.50@6.75; best butcher bulls, \$6@6.50; bologna bulls, \$5.25@5.75; stock bulls, \$4.50@5.50; best milkers and springers, \$6.50@7.50; common to fair kind do., \$4@5.00.

We had a very uneven hog market here today, and weight, not quality, governing the price generally. With 90 double decks here and a good liberal run in the west, our packers were very particular, but with quite a good many outside orders for light hogs, on classes weighing less than 200 lbs., we had a strong market, but other grades were no higher than Saturday. The packers bought the bulk of their hogs at \$8.10@8.15, with some heavies at 8c. Yorkers and light mixed sold at \$8.15@8.25, and pig stuff up to \$8.35; roughs, \$7@7.25; stags, \$6@6.50.

The sheep and lamb market was active today, with prices about a quarter higher than the close of last week; most of the choice lambs selling from \$9.40@9.50; yearlings, \$7@8.25. Look for little lower prices the balance of the week, as we are too high for other markets.

We quote: Choice lambs, \$9.40@9.50; cull to fair do., \$6@9.25; yearling wethers \$8@8.25; yearling ewes, \$6.50@7; bucks, \$3.50@4.25; wethers, \$6@6.25; handy ewes, \$5.25@5.50; heavy ewes, \$5@5.25; cull sheep, \$3.50@4.25; bucks, \$3.50@4.25; veals, choice to extra, \$10.50@12; fair to good, \$10@11; heavy calves, \$4.50@6.

## Chicago.

February 3, 1913.

Cattle. Hogs. Sheep.  
Received today ..... 20,000 47,000 25,000  
Same day last year..... 12,159 21,479 30,125  
Received last week..... 41,919 189,201 64,200  
Same week last year..... 46,855 218,093 111,130

This week begins with a moderate demand for cattle, and prices are no more than steady, notwithstanding the limited supply for Monday. Hogs are active at Saturday's best prices, all classes of buyers taking hold briskly. Hogs marketed last week averaged 227 lbs., compared with 216 lbs. a year ago and 229 lbs. two years ago. The run of sheep and lambs is not very liberal for Monday, with the supply largely made up of Colorado lambs. Buyers are slow in taking hold, but prices are generally reported as steady, especially for fat stock.

Cattle were marketed much less freely than usual last week, many stockmen having held back their cattle on account

of the recent slump in prices, while the trade requirements were not perceptibly much larger than usual, the moderate offerings caused a sharp advance in prices for nearly everything. By Thursday weakness prevailed, buyers refusing to operate with any freedom, but the weak as a whole was a good one for sellers, with not much doing in beef steers below \$7 nor above \$8.35. The better class of steers sold at \$8.40@9.20, pretty good lots selling at \$8.10 and over, while the cheaper kind of warmed-up, light-weights went at \$6@7. Much interest was shown in the report issued by the agricultural bureau showing the number of beef cattle on farms in the United States on Jan. 1, as a little over 366,000,000 head, or slightly more than 91 per cent of the number owned a year earlier, with milch cows numbering 20,497,000, or one per cent less than a year ago. The demand from buyers in the market continued especially strong for butcher stock, cows and heifers going at \$4.80@7.25 and scattering sales up to \$7.50, while cutters brought \$4.15@4.75, canners \$3@4.10 and bulls \$4.50@7. There was a strong demand for stockers and feeders, with the former going usually at \$5.50@7.40 and the latter at \$6.40@7.50. There were numerous inquiries for stock and feeder heifers and cows, but most of such stock fell into the hands of killers, who outbid country buyers. Good to prime light veal calves had a good sale at \$9@10.50 per 100 lbs., with sales of calves all the way down to \$4.50@6.50 for coarse heavy lots. Milch cows sold moderately at \$4@8.5 each. Cattle averaged 10@20c higher last week, with a rise of 15@25c in stockers and feeders, a few prime feeders going as high as \$7.70. Inferior stockers sold as low as \$5.25.

Hogs have been showing a much stronger undertone of late than heretofore, and additional firmness was imparted to the market last week by the report of the agricultural bureau showing the total number of swine on farms in the United States as only 61,178,000, compared to 65,410,000 a year ago. Last week opened with a big Monday supply, but runs on other days were not excessive, there being an excellent general demand, and prices averaged the highest in several weeks. Average quality of the hogs offered was good, and the bulk of the hogs sold within a rather narrow range of prices, with light and medium weights the highest sellers and coarse, heavy packing sows selling lowest of all. So many hogs are required for the fresh pork trade that the packers are experiencing much difficulty in securing enough material for manufacturing lard and cured meats, and they have been lively customers as a rule, even on advancing markets. Farmer-stockmen have been free sellers of hogs when they could obtain \$7, and the receipts have ran largely to hogs of only moderate weight. The close of the week saw hogs sell at \$7.30@7.70, the top being 5c higher than a week earlier. Pigs went at \$6@7.40, and medium-weight hogs topped the market. Stags brought \$7.90@8.20 and boars \$3.25@4.50, while throwout packing sows sold at \$6.60@7.10.

Sheep and lambs have undergone big reductions from the extremely high prices seen a short time ago, killers having refused to operate except at lower values, but sales last week were still effected at much higher prices than were paid in most former years. The well-known marked shortage everywhere, except in Colorado, Idaho and Utah, is the cause of the high prices, but when prime handy-weight lambs got up to \$9.50 per 100 lbs., the consumption of lamb and mutton began to fall off materially. After prices had declined a good deal, last week saw some good rallies all along the line, but particularly in prime stock, the receipts having fallen off surprisingly. Colorado lambs and yearlings are showing up in steadily increasing volume, and most of them are of choice quality. The demand centers still in medium-weight lambs and yearlings, with heavy stock discriminated against strongly. The week closed with sales of lambs at \$7@8.65 for poor to prime, yearlings at \$6.40@7.75, wethers at \$5.25@5.85, ewes at \$3.50@5.35 and bucks at \$3.50@4. Ewes selling below \$4.50 were culls. Sheep and lambs closed mainly 25@35c lower than a week ago, with feeder lambs firm at \$7@8.40.

Horses are meeting with an increasing general demand, with interest centered chiefly in farm chunks, however, pairs selling largely at \$370@390 for desirable kinds, while farm mares sell in pairs around \$450@460. Inferior animals sell singly very slowly around \$75@100, while desirable drafters are salable at \$175@300, with few offered prime enough to bring \$275. The demand for farm horses has opened unusually early, and farmers have bought freely at auction and private sales in the smaller markets. The government report shows 58,000 more horses on farms than a year ago.

Hogs weighing around 180 to 220 lbs. have been particularly good sellers of late in the Chicago market, and this has encouraged their shipment.

Buyers of half-fat cattle in the Chicago market have been claiming that prices must be held down, because they have been selling relatively too near the long-fed cattle, costing too high in the beef and are dressing out very poorly. Hitherto they have been kept from declining by the good demand from feeders, who wanted them badly and bid against killers to get them.

The dull, weak beef cattle market that was experienced during the past month was only a repetition of a similar market in January of 1912; only the past month showed a bigger decline in prices. Lent begins unusually early this year, and naturally this will help to curtail the consumption of beef, as well as other meats. Of course, the dearthness of beef this year is an added depressing factor in the cattle trade.



## THIS IS THE FIRST EDITION.

In the first edition the Detroit Live stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday, the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

## DETROIT LIVE STOCK MARKETS.

Thursday's Market.  
January 30, 1913.  
Cattle.

Receipts, 1540. Market steady at Wednesday and last week's prices; trade a trifle slow.

We quote: Extra dry-fed steers and heifers, \$8.25; steers and heifers, 1000 to 1200, \$6.50 to \$7.50; do. 800 to 1000, \$6 to \$7; do. that are fat, 500 to 700, \$5.50 to \$6; choice fat cows, \$5.50 to \$6.25; good fat cows, \$4.75 to \$5.25; common cows, \$4.25 to \$4.50; canners, \$3.45 to \$4.25; choice heavy bulls \$6 to \$6.50; fair to good bolognas, \$4.50 to \$5.25; stock bulls, \$4.50 to \$5; milkers, large, young, medium age, \$5.00 to \$6; common milkers, \$3.00 to \$4.50.

Sundry Sales.—Mich. B. Co. 1 steer weighing 1100 at \$8.25, 4 butchers av 915 at \$5.75, 10 do av 736 at \$6.25, 3 do av 770 at \$6.40, 3 cows av 1127 at \$5.75, 3 do av 1010 at \$4.50; to Nagle P. Co. 2 bulls av 1235 at \$6; to Wyness 5 butchers av 770 at \$5.75; to Nagle P. Co. 9 cows av 990 at \$5.90; to Wyness 7 do av 810 at \$5.90; to Bresnahan 5 heifers av 666 at \$5.35; to Mich. B. Co. 1 cow weighing 1200 at \$5.75, 2 do av 775 at \$4.65; to Mason B. Co. 4 steers av 980 at \$7.10.

Sundry Sales.—To Mich. B. Co. 16 steers av 864 at \$6.40, 3 oxen av 1660 at \$6, 11 cows and oxen av 1050 at \$5.50, 1 bull weighing 1490 at \$6; to Wyness 1 steer weighing 660 at \$5.50, 4 cows av 1037 at \$5; to Nagle P. Co. 2 do av 885 at \$4, 8 do av 1066 at \$5; to Sullivan P. Co. 4 butchers av 545 at \$5.50, 9 do av 855 at \$6.50, 7 do av 704 at \$6, 2 bulls av 1565 at \$6, 3 cows av 1123 at \$5.50, 2 steers av 775 at \$5.50, 4 do av 1062 at \$5, 5 cows av 1094 at \$5.50, 3 do av 937 at \$4.25, 1 bull weighing 1570 at \$6.10, 2 do av 1300 at \$6, 8 cows av 1077 at \$5, 10 butchers av 710 at \$6.10, 6 cows av 863 at \$4, 14 do av 877 at \$4, 10 do av 937 at \$4.75; to Mason B. Co. 3 steers av 932 at \$7.50, 4 do av 752 at \$6.35; to Thompson Bros. 4 cows av 825 at \$4, 4 do av 1032 at \$4.85; to Breitenbeck 8 do av 927 at \$4.30, 4 do av 930 at \$5.25; to Goose 5 butchers av 746 at \$4.75; to L. Rattkowsky 5 cows av 1016 at \$4.65, 4 butchers av 462 at \$4.65; to J. Rattkowsky 11 do av 976 at \$5; to Hirschleman 14 steers av 770 at \$6; to Kamman B. Co. 4 do av 952 at \$6.50, 11 do av 812 at \$6.50; to Mich. B. Co. 8 do av 812 at \$6.35.

Bishop, B. & H. sold Newton B. Co. 21 steers av 930 at \$6.75, 1 bull weighing 890 at \$5.50, 9 butchers av 847 at \$6.50, 4 cows av 865 at \$4, 1 do weighing 750 at \$3.75, 2 heifers av 795 at \$6, 2 steers av 1000 at \$6.75, 1 cow weighing 950 at \$3.75, 6 do av 830 at \$5, 10 do av 906 at \$4.25; to Mich. B. Co. 2 do av 1275 at \$5.75; to Nagle P. Co. 4 do av 1022 at \$4.75; to Sullivan P. Co. 6 do av 1080 at \$5; to Mason B. Co. 4 steers av 712 at \$6.35, 1 bull weighing 1060 at \$6, 2 steers av 970 at \$7.25, 1 cow weighing 900 at \$5; to Parker, W. & Co. 1 bull weighing 1650 at \$6.25; to Hammond, S. & Co. 1 heifer weighing 690 at \$6, 6 cows av 1065 at \$5, 1 heifer weighing 690 at \$6, 6 cows av 1065 at \$5; to Nagle P. Co. 1 do weighing 1220 at \$6.25, 1 do weighing 1170 at \$5.75; to Bresnahan 7 butchers av 614 at \$5.75, 11 do av 583 at \$5.40; to Goose 8 cows av 909 at \$4.65, 6 do av 970 at \$4.75; to Sullivan P. Co. 3 steers av 827 at \$6, 2 do av 645 at \$6, 5 cows av 840 at \$4.50; to Mich. B. Co. 2 bulls av 955 at \$6, 1 cow weighing 920 at \$5.75, 6 butchers av 610 at \$5.75, 4 do av 765 at \$6.25; to Hostetter 4 cows av 1007 at \$4.25; to Mich. B. Co. 3 steers av 860 at \$6.50, 4 cows av 1050 at \$4.70.

Roe Com. Co. sold Sullivan P. Co. 3 steers av 910 at \$6.50, 2 canners av 710 at \$4, 2 cows av 1170 at \$4.75, 2 heifers av 810 at \$5; to Nagle P. Co. 8 steers av 937 at \$7.25, 7 cows av 1060 at \$5.40; to Wyness 4 do av 1035 at \$4.25; to Goose 3 do av 816 at \$4.60; to Nagle P. Co. 10 do av 1062 at \$5.25; to Newton B. Co. 1 do weighing 740 at \$3.75, 2 do av 805 at \$3.75, 8 butchers av 682 at \$5.90, 10 do av 784 at \$4.25, 1 bull weighing 1150 at \$5; to Sullivan P. Co. 6 butchers av 715 at \$5, 6 cows av 808 at \$4, 4 do av 827 at \$5, 3 do av 897 at \$4, 22 butchers av 712 at \$6.15; to Mich. B. Co. 5 cows av 1103 at \$5.65; to Kamman B. Co. 1 bull weighing 600 at \$6.50, 10 butchers av 843 at \$6.60; to Thompson Bros. 5 cows av 1028 at \$5.25.

## Veal Calves.

Receipts, 514. Market strong at last week's prices. Best, \$9.50 to \$11; others \$4 to \$9.

Sundry Sales.—To Sullivan P. Co. 2 av 125 at \$9.25, 5 av 120 at \$8.50, 3 av 140 at \$9.50; to Goose 4 av 155 at \$11; to Mich. B. Co. 5 av 120 at \$9.

Bishop, B. & H. sold Parker, W. & Co. 1 weighing 150 at \$10.50, 2 av 130 at \$10.50, 1 weighing 150 at \$10.50, 4 av 155 at \$10.50; to Goose 3 av 150 at \$11; to Hammond, S. & Co. 3 av 140 at \$8, 5 av 145 at \$10, 1 weighing 200 at \$10.50, 4 av 135 at \$8, 1 weighing 130 at \$8.50, 5 av 160 at \$10.50; to McGuire 9 av 140 at \$11, 3 av 150 at \$11, 9 av 140 at \$10.25, 4 av 140 at \$11; to Hammond, S. & Co. 2 av 125 at \$9, 3 av 140 at \$10, 6 av 155 at \$10.50, 1 weighing 190 at \$7, 1 weighing 140 at \$9.50.

## Sheep and Lambs.

Receipts, 5418. Market opens steady at last week's prices; few choice at \$8.50. Best lambs, \$8.25 to \$8.50; fair lambs, \$7.50 to \$8; light to common lambs, \$4.50 to \$6;

fair to good sheep, \$4.50 to \$5; culls and common, \$3 to \$3.50.

Bishop, B. & H. sold Costello 113 lambs av 81 at \$7.35, 16 do av 55 at \$7, 24 do av 75 at \$8, 20 do av 65 at \$8; to Mich. B. Co. 82 sheep av 97 at \$4.90, 98 do av 100 at \$4.50, 34 lambs av 92 at \$8.50, 23 do av 52 at \$6.50, 55 do av 48 at \$5.50; to Thompson Bros. 8 sheep av 85 at \$4.50; to Chapman 49 do av 125 at \$4.50; to Hammond, S. & Co. 12 do av 95 at \$4.50, 13 do av 120 at \$5.25; to Hayes 35 lambs av 50 at \$6.50, 9 sheep av 115 at \$4.75, 48 lambs av 57 at \$6.50; to Sullivan P. Co. 11 sheep av 100 at \$4, 17 do av 80 at \$3, 30 do av 82 at \$3.50; to Bray 166 lambs av 73 at \$8.25, 204 do av 63 at \$7.75, 67 do av 67 at \$8; to Parker, W. & Co. 84 do av 70 at \$8.25; to Thompson Bros. 13 sheep av 100 at \$4.75; to Hammond, S. & Co. 6 do av 125 at \$4.75; to Eschrich 8 lambs av 75 at \$7, 9 do av 50 at \$5; to Newton B. Co. 112 do av 65 at \$7.35.

Sundry Sales.—To Young 63 lambs av 55 at \$6.75, 35 do av 73 at \$8.25.

Roe Com. Co. sold Bray 2 lambs av 80 at \$6, 41 do av 77 at \$8.40, 16 do av 70 at \$8, 6 sheep av 110 at \$4.50; to Barlage 50 lambs av 70 at \$8.

## Hogs.

Receipts, 4200. Market steady at Wednesday's prices; 15 to 20c higher than last week.

Range of prices: Light to good butchers, \$7.60 to \$7.75; pigs, \$7.70; light yorkers, \$7.60 to \$7.75; stags one-third off.

Roe Com. Co. sold Sullivan P. Co. 425 av 200 at \$7.55.

Bishop, B. & H. sold Hammond, S. & Co. 1500 av 175 at \$7.55, 1010 av 210 at \$7.70.

Sundry shippers sold Parker, W. & Co. 200 av 180 at \$7.80, 750 av 190 at \$7.55, 450 av 200 at \$7.70.

## Friday's Market.

January 31, 1913.

## Cattle.

Receipts this week, 1757; last week, 1817. Market steady at Thursday's prices on all grades. Extra dry-fed steers and heifers, \$7.50 to \$8; steers and heifers, 1000 to 1200, \$6.75 to \$7.25; do. 800 to 1000, \$6 to \$6.75; do. that are fat, 500 to 700, \$5 to \$6; choice fat cows, \$5.50 to \$6.25; good fat cows, \$4.75 to \$5.25; common cows, \$4.25 to \$4.50; canners, \$3.45 to \$4.25; choice heavy bulls, \$6 to \$6.50; fair to good bologna bulls, \$4.50 to \$5.25; stock bulls, \$4.50 to \$5; milkers, large, young, medium age, \$5.00 to \$6.50; common milkers, \$3.50 to \$4.50.

## Veal Calves.

Receipts this week, 661; last week, 577. Market, quality considered, steady with Thursday. Best, \$9.50 to \$10.50; others, \$4 to \$9. Milch cows and springers steady.

## Sheep and Lambs.

Receipts this week, 7685; last week, 4957. Market 15 to 25c higher than on Thursday. Best lambs, \$8.50 to \$8.60; fair to good lambs, \$7.50 to \$8; light to common lambs, \$5.75 to \$7; fair to good sheep, \$4 to \$5.25; culls and common, \$3 to \$3.75.

## Hogs.

Receipts this week, 6159; last week, 6228. Market for pigs steady; others 5 to 10c lower: Light to good butchers, \$7.65 to \$7.70; pigs, \$7.75 to \$7.85; light yorkers, \$7.65 to \$7.70.

and thoughtful enough to stock up liberally at the start, and their flocks are now beginning to show up in the Chicago and other western markets in increasing numbers. It is probable that before long these offerings will become important factors in establishing prices. People are eating mutton generally to a much greater extent than in former years, but much higher prices would undoubtedly tend to check its consumption. Many of the cattle coming to market. Sheepmen should bear in mind that slaughterers are discriminating severely against heavy lots of lambs and yearlings, the demand centering strongly on well fattened medium weights. Heavy lambs are wanted at yearling prices and heavy yearlings are wanted at near the prices for aged sheep.

The hog industry starts off another year under highly promising aspects, even if sales are made at present at very much lower prices than those paid at the highest time in 1912. Hog prices last year were uniformly higher than for the previous year, but they failed to reach the high levels of 1910, in which year all previous high records were smashed. The marked gains in prices during the fall, which put hogs up to exceptionally high levels, and among the highest ever reached, excepting 1910, were brought about by a cholera scare, the state of Iowa being visited by probably the worst outbreaks of the malady ever experienced, just as Illinois had been during the previous year. But the epidemic in Iowa proved even more severe than it had been in Illinois, and enormous numbers of pigs and hogs sickened and died, causing severe financial losses to the farmers of Iowa. In many counties of Iowa the glow of fires caused by the burning of the dead hogs was seen at great distances in the sky at night.

Numerous flocks of fed western range wethers and lambs that were grazed on the stump lands of northern Michigan have been marketed in recent weeks in Chicago, and as a rule they were nicely fattened and sold extremely well, making generous profits for their owners. It has been thoroughly demonstrated by this time that the cut-over lands of northern Michigan are admirably suited for raising and fattening sheep, the cost involved being very small. These lands can be bought for comparatively low prices in many instances, and it is highly probable that they will in the coming years be bought up and largely given up to the sheep industry.

Snow's annual report on number and value of farm animals shows a decrease in the number of every class of animals. Milch cows show a decrease of 442,000 head; other cattle a decrease of 1,838,000 head; hogs a decrease of 5,550,000 head, and sheep a decrease of 2,373,000 head. The loss in hogs is wide-spread and heavy, especially in sections where hog

cholera has prevailed. The falling off in cattle and hog supplies is heaviest in the corn surplus and meat-producing states, and where it will most severely affect commercial supplies. In the seven surplus corn states of Ohio, Indiana, Illinois, Iowa, Missouri, Kansas and Nebraska, there is a shortage of 4,000,000 hogs out of a total shortage of 5,000,000 hogs reported in the entire country, and the same states show a cattle shortage of 820,000 head of the total shortage of 1,838,000. The shortage of hogs on feed and available for market during the winter months is decidedly greater than the shortage in total numbers, as young sows that would ordinarily be marketed are everywhere being held for breeding purposes in an effort to increase the hog supply for next year. Estimates of the numbers now on feed are sensationally small in some districts, and show a general shortage of between 15 and 20 per cent as compared with last year in the strictly hog states.

Farmer-stockmen of northern Illinois lost so many of their hogs from cholera that they have been buying a great many stock hogs from farmers of northern Wisconsin, where feed is scarce, paying around \$7 per 100 lbs. for light weights. Northern Illinois farmers were favored with abundant corn and other feed crops, including plenty of roughage, and they were shrewd enough to fill their feed lots some time ago with cattle, the greater part of their feeder steers costing from \$7.25 to \$7.70, most of these cattle having carried considerable flesh and grading high when purchased. Corn in northern Illinois has been selling around 39c per bushel, and roughage is plentiful and is being used largely for carrying cattle through the winter. Most of the cattle are expected to be ready for returning to market well finished as beeves from April to June next. Quite a number of stockmen make a point of staying in the cattle and hog feeding business year after year, no matter how conditions may be.

F. O. Link, an experienced feeder of prime cattle, of New Bloomfield, Mo., marketed in Chicago recently on Monday 44 branded western grade Hereford steers that averaged 1,513 pounds at \$9.10 per 100 pounds. While on full feed they were given as much ground corn and cob meal as they would eat, in addition to six pounds of molasses feed per head daily, with clover hay used for roughness.



There are many superior features in the

**Nappanee Silo**

Let us tell you about them

Reliable Agents Wanted.

"Buy a Nappanee and get a guarantee"

Nappanee Lbr. & Mfg. Co.,

315 So. Madison St.,

NAPPANEE, INDIANA.

## 9 CORDS IN 10 HOURS



BY ONE MAN. IT'S KING OF THE WOODS. Saves money and backache. Send for FREE catalog No. B44 showing low price and testimonials from thousands. First order gets agency.

Folding Sawing Mach. Co., 161 W. Harrison St., Chicago, Ill.

## AGENTS

One cent invested in a postal card will bring you a \$35 to \$60 a week proposition.

BOWMAN CO., Div. F 219, Waterloo, Ia.

## COUNTY MANAGER WANTED

We want a reliable Manager in each County to secure and look after local canvassers to sell Mills SEEDS, PLANTS, BULBS, etc., (which are well known everywhere). Canvassers report to the County Manager and he reports to our office. Easiest kind of work to look after. It requires only a few days to establish a County Manager and will take only a small portion of time afterwards.

Excellent opportunity. Any reliable person over 21 years of age, located in the city, village or country who can qualify will be acceptable as our Manager. If interested apply quickly for full particulars naming County desired. Address

Mills Seed House, Dept. 66, Rose Hill, N. Y.

## Wanted

A sober, industrious and steady man to work on dairy farm. Good milker and kind to stock. COLE BROS., Ypsilanti, Mich.

## SOY BEANS FOR SALE

By the first man in the field, with seventeen years experience as grower, originator and introducer. EDW. E. EVANS, West Branch, Mich.

## CULL BEANS \$15 TON, f. o. b. Detroit

sacks included. We buy beans any variety, wet or dry. Send samples in tin cans to avoid drying out in the mails. Mich, Farmers Elevator, 983 Junction Ave., Detroit, Mich.

## We Want HAY &amp; STRAW

We get the top price on consignments, make liberal advancements and prompt remittances.

Daniel McCaffrey's Sons Co.

PITTSBURG, PA.

Reference, Washington Trust Company, or any bank in City

## HAY

Ship your carload lots to us. THE E. L. RICHMOND CO., Detroit, Michigan.

## HAY

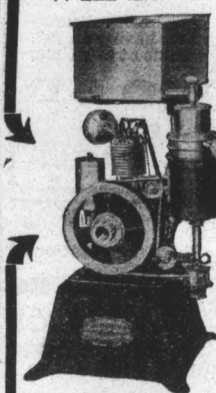
Good stock of hay for sale at \$7 to \$10 per ton on cars Rudyard. E. D. WHITE, Rudyard, Chippewa Co., Mich.

## IT'S A SHAME TO LET YOUR WIFE CRANK A SEPARATOR

Such drudgery is unfit for a woman. It's a backbreaking grind. And there is no let up. It comes every day, morning and evening. Doesn't she work hard enough on the farm without doing a hired man's heavy chores?

You cannot afford extra help? Very likely. But you can afford an "AUTOMATIC" Cream Separator. It will skim without cranking. Requires no labor but pouring in milk. A child can do that, as the milk tank is only 37 inches high. And the

## The 1913 "Automatic" Cream Separator Will Save You Money



It skims closer than any hand power machine, with a skim milk record of less than 1-100 of 1% butter fat. It skims without variation. The bowl spins at a high even speed. The result is more and better cream. The speed of a hand machine varies. When the operator tires, it slackens, and butter fat is lost.

## Engine &amp; Separator in One

The two are so nicely adjusted and so solidly combined that there is no trace of vibration in the bowl. Engine can be used to drive churn or washing machine. It's a little wonder.

You don't have to buy an "AUTOMATIC" without knowing all about it and seeing it in actual operation. Write us for full information. We'll send you our catalogue and tell you where you can see the Separator work. If you will give us the name of your dealer, we'll write him direct.

## Standard Separator Co.

Box D-33 Milwaukee, Wis.

## CANADA'S OFFERING

To The Settler

The American Rush to Western Canada is increasing

Free Homesteads

160 ACRES

FARMS IN WESTERN CANADA

FREE

Excellent Railway Facilities

In many cases the railways in Canada have been built in advance of settlement, and in a short time there will not be a settler who need be more than ten or twelve miles from a line of railway. Railway Rates are regulated by Government Commission.

SOCIAL CONDITIONS. The American Settler is at home in Western Canada. He is not a stranger in a strange land, having nearly a million of his own people already settled there. If you desire to know why the condition of the Canadian Settler is so prosperous write to any of the Canadian Government Agents and send for literature, rates, etc., to

M. V. McInnes

176 Jefferson Ave.

Detroit, Mich.

or address Supt. of Immigration, Ottawa, Canada.

THE LARGEST AND BEST LINE OF

## WELL DRILLING

MACHINERY

have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 14. Send for it now. It is FREE.

Austin Manufacturing Co., Chicago.

## STUMP PULLER

Warranted the most practical machine made. One man can lift 20 tons. 3 styles. 10 sizes. \$25 and up. Screw, Cable or Hand Power.

We make cheapest TILE DITCHER and the best

Corn Harvester ever sold. One horse cuts 2 rows.

Agents wanted. Our new 64-page Catalog FREE. Write Today.

M. L. BENNETT & COMPANY, WESTERVILLE, OHIO.

## PATENT YOUR IDEAS

\$9,000 offered for certain inventions. Book "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. Patents advertised for sale at our expense in Manufacturers' Journals.

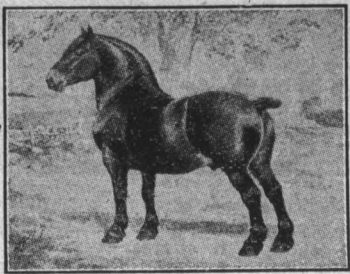
CHANDLER & CHANDLER, Patent Att'ys

Established 18 Years

1037 F. Street, Washington, D. C.

ALWAYS mention the MICHIGAN FARMER when you are writing to advertisers.





## HEWO BELGIANS

NEW IMPORTATION

We have given more than a quarter century to importing breeding and distribution of the Belgian horse. We handle no other breed and believe we have now in this new importation of stallions and mares a class of horses that will please you, and all are for sale at prices not equalled by anyone in the business when merit is considered. Will be pleased to have you ask about them and to visit us at any time.

**H. & H. WOLF**  
Wabash, Ind.  
HEWO STOCK FARM

### A. A. PALMER & SONS

Open the season with the finest aggregation of

## PERCHERON Stallions and Mares

they have ever offered to the breeding public.

60 Head to select from.

P. O. Belding, Mich. R. R. Orleans.



### DUNHAMS' PERCHERONS

are today as for the past

forty-seven years the

**-B-E-S-T-**

Fresh importation. Catalogue FREE.

DUNHAMS, Wayne, Du Page County, Ill.

### PERCHERONS—BLACKS and GRAYS

We can show more bone and muscle than any breed in Michigan. Young stock for sale from mares weighing 1800 to 2000 lbs. Imposant 79403 (79835) weight 2300 lbs. at head of stud.

CHAS. OSGOOD & SONS, Mendon, Mich.

PERCHERONS—One extra good dark gray, 3-year-old Stallion, a ton horse, also yearling stud colts. R. OVERHOLT, Dutton, Mich.

Reg. Percheron Stallion and Mare Colts for Sale. M. A. BRAY, Okemos, Mich.

Imported and pure bred Stallions. We make a special of Belgian & Percheron. Also two spring Colts. Bone and Weight. G. & H. LOCHER, Bluffton, Ohio.

## PERCHERONS

bred for utility as well as show quality. Stable includes several international winners. Young stock for sale. Come, or write. B. F. ANDERSON, R. No. 1, Adrain, Michigan.

Come fine young registered Clydesdale Stallions for Sale from 1 to 4 years old. In the spring some will make ton horses with lots of quality and good action. Must be sold before the first of April. F. A. PETZ, Capac, Michigan.

Maple Grove Stock Farm—Registered Percheron Stallions, Mares and Colts for sale, with size, bone and quality. EARL W. BARNARD, R. No. 13, Saranac, Mich.

FOR SALE—One three-year-old Percheron Stallion, a good one. Also two spring Colts. CHARLES R. DEAN & CO., Vermontville, Michigan.

### JACKS and MULES

Raise mules and get rich. 15 Jack and Mule farms under one management, where can be seen 420 head fine large Jacks, Jennys and mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices to day. Address

KREKLER'S JACK FARM West Elkton, Ohio.

Branch barns: Clinton Ind.



# STALLIONS!

GOOD ONES.

## PERCHERONS :-: BELGIANS

Low Prices. Easy Terms.

Will be sold so you can own one. If you want a good Stallion see ours. For quality and action they are unsurpassed and will please you.

Write us about them or come to the barns and pick one that will suit you.

**GEO. W. SOUERS and SONS,**  
(Stallion Service Book 10c.) **Huntington, Indiana.**

## Healthy Cows All The Year Round!

A natural food that strengthens and builds up is far better than any kind of tonic or medicine for animals, as well as for men. Scientists have proved that this new food increases the value of any kind of feed, when mixed with it.

### Buckeye Feeding Molasses

is pure, cane sugar molasses. One user says "I formerly paid the veterinary \$60 per month—now he and I are strangers."—(Signed) John Freer, Detroit, Mich.

Buckeye Feeding Molasses helps make more milk, and keeps your cows in good condition. It is also a good fattener for beef cattle.

**For Horses**—Buckeye Feeding Molasses is relished by horses. It keeps their stomachs in perfect condition, aids digestion and besides saving feed, prevents kidney diseases, colds, etc.

**For Sheep**—Will keep your flock healthy and well; adds weight and makes finer wool and more of it.

**For Hogs**—Makes every hog a big hog—no runts. Larger profits in pork.

### Our Free Trial Offer:

Send this coupon today and get our test proposition.

### W. H. EDGAR & SON,

562 Lafayette Blvd., :-: Detroit, Mich.

I have.....head of cattle.....

sheep.....hogs and.....horses

Send me your trial proposition to prove that Buckeye Feeding Molasses will benefit all of them.

Name.....R. F. D.....

P. O.....State.....

## CLEAR-EYE FOR HORSES' EYES.

Best remedy ever discovered for Moonblindness, Pink-Eye, Cataracts and all ailments of eyes of animals. \$2 a bottle. Guaranteed. Write for our free horse book "Forty Facts for Horse Owners."

THE LAKESIDE REMEDY CO.,  
5409 Calumet Ave. Chicago, Ill.

**MINERAL HEAVE REMEDY**

In Use Over 50 Years

**NEGLECT Will Ruin Your Horse**

**Safe—Certain**

**\$3 Package** will cure any case or money refunded

**\$1 Package** cures ordinary cases. Postpaid on receipt of price. Agents Wanted Write for descriptive booklet

Mineral Heave Remedy Co., 463 Fourth Ave., Pittsburg, Pa.

## Veterinary.

CONDUCTED BY W. C. FAIR, V. S.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to someone else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

**Impaction.**—We have a mare that has had occasional attacks of colic and blocking of bowels. W. B., Pentwater, Mich.—Give her ground ginger, and a little salt with each meal; exercise her daily and keep her bowels open. By watching her bowel movements, you can prevent her having impaction, but if it does occur, give her aloes, calomel and ginger, followed by large doses of raw linseed oil.

**Lice on Cattle.**—Please inform me of the proper way to kill lice on cattle. J. H., Chelsea, Mich.—Put 5 ozs. crushed stavesacre seed in a gallon of boiling water, let it simmer for two or three hours, strain through cheese cloth, fill to original gallon then apply to lousy cattle two or three times a week and it will soon kill the lice. Or apply any one of the coal tar disinfectants regularly advertised in this paper.

**Barren Cow.**—Have cow that freshened in May; since then she has failed to come in heat. J. H. T., Pittsford, Mich.—Give her 1 dr. ground nux vomica, 3 drs. of ground capsicum and 15 grs. powdered cantharides at a dose in feed twice a day.

**Lumpjaw—Scours.**—Have a two-year-old heifer with large lump on lower jaw and I would like to know what can be applied that will remove it. Also, what had I better give calves that have scours? W. McC., Erie, Mich.—Apply one part red iodine mercury and four parts lard every week and give 2 drs. potassium iodide at a dose three times a day. Give your calves 10 or 15 grs. of salol at a dose three times a day.

**W. R. T., Plymouth, Mich.**—See remedy for killing lice on cattle, this column.

**Paralysis.**—I have a yearling steer that is unable to stand on fore legs, but seems to be all right in hind quarters. D. C., Stockbridge, Mich.—Give your yearling steer 1 dr. ground nux vomica and 1 dr. potassium iodide at a dose in feed three times a day. Apply equal parts aqua ammonia, turpentine and olive oil to shoulder once a day.

**Obstructed Teat.**—Heifer has small sores on end of teat which interfere with milk flow. Would you advise me to let her wear a teat plug and withdraw it when she is milked? I also have another cow that has small kernels or bunches in milk duct. A. L. L., Coldwater, Mich.—Insert a clean teat plug and leave it in between milking time and apply one part powdered alum and five parts boracic acid to sore twice a day. Remember, the teat plug and if you use a milking tube, they should be thoroughly cleaned every time they are used. Apply iodine ointment to teat that is obstructed.

**W. C., Cassopolis, Mich.**—See prescription for cow that does not come in heat, this column.

**Spasm of Larynx.**—My young pigs frequently have a sort of fit, following the first mouthful or two they take. After this fit they pass off they stagger around a little then go to eating. These pigs are about two months old. C. S., Yale, Mich.—Your pigs either choke themselves or else the food is quite cold and produces spasm of larynx; I am inclined to believe they choke on the first mouthful of food. Feed them warm semi-solid food and spread it out thin, this will prevent them taking too much food in mouth at once.

**Barren Sow.**—We have a brood sow supposed to be 10 or 11 years old, a Poland-China that comes in heat irregularly, but does not get with pig. We had a sow that seemingly remained in heat during pregnancy and had a litter the 112th day after she was bred. M. A. C., Wayne Co.—I have known similar cases to the one you mention and should advise you to not have your sow served until perhaps April, for she may possibly be pregnant; however, at her age she may be barren.

**Rickets.**—Have a pig two and one-half months old that I purchased a short time ago which is somewhat inclined to fall when walking. The whole trouble appears to be in back or hind quarters. D. A., Montague, Mich.—You have perhaps fed your pig too much corn. Feed some oats, oil meal and give him a tablespoonful or two of lime water at a dose in feed three times a day. Also keep him dry and warm and let him exercise more. Feed him some roots.

**Sore Throat.**—I have a sheep that has been acting dumpy for the past week; she does not eat and I have noticed later that her tongue is some swollen and there is a small paunch below jaw. She is also quite constipated and we have given her salts and oil with poor results. P. D., Ida, Mich.—Apply camphorated oil to throat twice a day. Dissolve 2 drs. of chlorate of potash in a pint of water and give her a dessertspoonful at a dose to gargle throat five times a day. Also give her 2 grs. of quinine at a dose three times a day.

**Acute Indigestion—Rheumatism.**—We found a dead sheep in lot considerably bloated; she had appearance of blood settling in neck and I would like to know if this sheep's death could have been caused by eating too much Sal-Vet? We

(Continued from page 151).

Hogs need some mineral matter, and this can be very nicely supplied by letting them at all times have access to ashes, charcoal and salt. By having these substances where the sows can get them at all times it will be noticed that there is a marked tendency of the sows not to desire to eat their young at time of farrowing. All during the time of pregnancy the sow's system should be kept toned up well. Keep the bowels of the pregnant sow in good shape and do not allow them to remain constipated. I think it pays well to have your sows accustomed to being handled.

I find no special harm in allowing the brood sows to all have common range up to within a couple of weeks of farrowing time, at which time I think best to put each sow into quarters of her own. This private quarter should be clean, dry and well ventilated, and she will not now require much exercise.

U. S. Dept. Ag. A. M. LATHAM.

### LIVE STOCK NEWS.

The peculiar conditions surrounding the cattle trade of the country are freely commented on everywhere, and many stockmen in feeding districts are "up in the air," acknowledging that they are bewildered by the changes in prices and the character of the demand. Ever since the high time late in 1912, when the choicer class of corn-fed beefs sold in the Chicago market at \$10 to \$11 per 100 lbs., with handy little yearling steers going nearly as high as the best heavy long-fed lots, there has been an almost uninterrupted downward movement in values, resulting from the lack of a demand for high-priced beefs. Every buyer draws the line now strongly against anything in the cattle line that is held at a high figure, and the demand runs mainly on something cheap that can be cut up into light cuts of beef and retailed at moderate prices in the meat markets of the country. Fortunately for their owners, most of the prime corn-fed cattle of good weights were marketed some time ago, and what pass for prime beefs now would not have been termed so when the market was the highest in early December. For some time past stockmen have been marketing a good many short-fed, warmed-up cattle, owners showing a disposition to accept the good profits while they were obtainable, and they have in many instances purchased thin cattle for refilling feed lots for spring and summer feeding. The commoner cattle have sold much higher than late in 1912, and even ordinary canners, cutters and bulls are extremely good sellers. To a large extent common to fair cattle have been selling 40@50c per 100 lbs. higher than at the time last year when choice beefs were the highest.

Patrick Cudahy, the Milwaukee packer, went on record a short time ago as predicting that there will be \$9 hogs by next April and probably \$10 hogs by August. He believes it will be along in November or December before swine will be plentiful again. He added that he could not see anything ahead but higher prices for hog products. "The extremely cold weather last winter and spring had its effect on the pig crop," he said, "and owing to high prices for feed all last summer, there was no incentive for farmers to breed. I think it will be next November or December before we are back in hogs again. Cured hams here in January are a scarce article and are selling at considerable premiums over green hams, something very unusual. We are over one million hogs short compared to normal since the first of last November, and between now and next November there will be a shortage of two million hogs. Exports of hog meats are small, but large of lard, but foreigners are beginning to take hold of meats. I see no sense in selling corn at 20 to 25 cents per bushel lower than a year ago and do not believe farmers will market more from their last crop than of the 1911 crop. They all have plenty of money and corn cribs and will be likely to hold on. If anything happens to the corn crop next summer, a little old corn will come in handy."

Iowa hog raisers are being championed in the legislature by Henry Bernbrock, of Waterloo, in that state. He not only favors state aid for the farmers in preventing the spread of hog cholera, but he proposes to do what he can to stop the practice of packing houses in docking hogs, his intention being to introduce in the present session a bill making it illegal for a slaughter house to dock weights on hogs on account of "stags." His proposed measure would apply only to Iowa packing plants, and he believes such a law would encourage hog growers to ship to Iowa packing houses. He intends to make the bill applicable only to swine shipped within the state, so as not to permit outside shippers to take advantage of Iowa packers by shipping in "stags." Did you ever see any "stag" pork offered for sale in a butcher shop?" he asked. "No, of course not. The packing houses sell these stags they dock weights on at the same rate they sell other pork. There is absolutely no justification for taking 80 lbs. off a man's hog because it is under quality when they make no distinction in the quality when they offer it for consumption."

W. S. Pipes, of Linn county, Mo., who sold 31 head of steers that averaged 1,316 pounds in Chicago recently, said that cattle are so scarce in his part of the country that it requires hard riding all day long to obtain a few small lots of feeding cattle. This has not been the case for many years, he added, and in past years a buyer could buy from 400 to 500 head of good stocker and feeder cattle in the course of a day's riding.



## SAVE-THE-HORSE

(Trade Mark Registered.)



VERYONE ASKS HIM, "HOW DID YOU DO IT?"

WILBUR HOLMES of Somers, Conn., Aug. 5, 1912, writes: The very day I ordered Save-the-Horse our horse got so bad we telephoned for a doctor. He ordered poultices on several days. It finally broke and ran, and the foot looked to be coming off; we were frightened. Did not know what to do about using Save-the-Horse. The crack kept growing wider and we expected to lose him. Finally I said we might as well try it; we had spent the money and had this medicine; it can't surely make him worse. We began with Save-the-Horse and SURE AS THE WORLD the crack began to close and finally healed and he now steps SQUARE on that foot. Every one says, "How did you do it?" and "What did you use?" People are surprised. I have been sick or you would have heard from me before, we are so pleased. It surely did save my horse. Save-the-Horse has stood alone and unique among veterinary remedies for over seventeen years.

Every bottle of Save-the-Horse is sold with an iron-clad contract that has \$60,000 paid-up capital back of it, guaranteeing to permanently cure or refund the money; no matter whether it is Bone or Bog Spavin, Tendon disease or Pulls—nor how aged, serious or complicated the lameness or blemish may be.

But write, describing your case, and we will send you—BOTH—sample contract, letters from Breeders and business men the world over on every kind of case, and advice—all free (to horse owners and managers).

Write! AND STOP THE LOSS.

TROY CHEMICAL CO. 20 Commerce Ave., Binghamton, N. Y. Druggists everywhere sell Save-the-Horse WITH CONTRACT or sent by us Express Prepaid.



## ABSORBINE

Will reduce inflamed, strained, swollen Tendons, Ligaments, Muscles or Bruises, stop pain, Cure the Lameness from a Splint, Side Bone or Bone Spavin. No blister, no hair gone. Horse can be used. \$2 a bottle delivered. Describe your case for special instructions and Book 2K with colored race picture free.

**ABSORBINE JR.** the antiseptic liniment for mankind. Reduces strained, torn ligaments, enlarged glands, veins or muscles—heals ulcers—allays pain. Price \$1.00 a bottle at dealers or delivered. W.F. YOUNG, P. D. F., 268 Temple St., Springfield, Mass.

## Run On Coal Oil

Ellis Engines give more power on coal oil than other engines on gasoline. You save 50c on the dollar in fuel. Strongest, simplest engines made—only three working parts. New two-cylinder 12 H. P. engine does work requiring up to 15 H. P. All Ellis Engines can be run on gasoline, distillate or any fuel oil without extra equipment.

**ELLIS ENGINES** 30 Days Free Trial

have patent throttle, giving three engines in one. Automobile muffler, speed-changing governor, runs either way, reversible while running. Guaranteed 10 years. We pay freight. 30 days free trial. Buy direct and save money. Write for catalogue showing 1913 models with special prices.

**ELLIS ENGINE COMPANY**  
111 Mullett St., Detroit, Mich. We pay Freight

## BOWSHER

Ground feed will make your hogs, steers, all animals bring bigger profits. Bowsheer Mills do the job quick, because they are light running, with perfect control and balance, different from all others. Sold with or without elevators.

Crush ear corn (with or without shucks.) Grind Kaffir in the head and all kinds of small grains. Handy to operate. 10 sizes—2 to 25 H. P. Also sweep grinders.

**FREE** Send for folder on values of feeds and manures.

**B. N. P. Bowsheer Co. South Bend, Ind.**

## FEED MILLS

## Use KEROSENE Engine Free!

Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves Kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil.

### Gasoline Going Up!

Gasoline is 9c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline.

### Amazing "DETROIT"

—only engine running on coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts—no cam—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 H. P., in stock ready to ship. Engine tested before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric lighting plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate money-saving, power-saving "DETROIT." Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, you get Special Extra-Low Introductory price. Write! (135)

**DETROIT ENGINE WORKS, 145 Bellevue Ave., Detroit, Mich.**

have another sheep that appears to be stiff and sore. G. H., Prescott, Mich.—Feeding Sal-Vet would improve the condition of your sheep and it is not poisonous. Your sheep died the result of acute indigestion. Give your other sheep 5 grs. sodium salicylate at a dose three times a day until the stiffness and soreness disappears.

Breeding Questions.—Is there any feed, medicine or treatment for a young sow so that the periods of heat may be plainly discovered? I have a thrifty Poland China sow six months old which I hope to breed in January. Have watched for signs of heat, but have seen nothing positive. Took her to boar twice, but was not ready. Is there any advantage in allowing a young sow to idle eight or nine months after first litter, before the next one? Say, have her farrow in June at one year and then not again till next spring? E. E. W., Ann Arbor, Mich.—Give her ½ teaspoonful capsicum, one-sixtieth of a grain of strychnine and a teaspoonful of ginger at a dose in feed two or three times a day and you will perhaps be able to discover her when in heat. If your sow is well developed and growthy it will not be necessary to wait so long before mating her again.

Catarrh.—My chickens are troubled with a cold and cough and I have been wondering if they did not have roup. A. B. C., Mt. Clemens, Mich.—Perhaps your chickens roost in a damp draft; if so, keep them in a well-sheltered, well-lighted room and give them plenty of nutritious food.

Chronic Stiffness.—I have a nine-year-old mare that is in foal, which is extremely stiff and sore, caused by fast driving, hard work and exposure. G. D. S., Quincy, Mich.—Give your mare a teaspoonful of powdered nitrate potash and a teaspoonful powdered colchicum at a dose in feed three times a day for a week, then give her a teaspoonful sodium salicylate at a dose in feed three times a week. Then repeat this treatment until she shows improvement. Clip hair off coronet in front and apply one part cantharides and six parts lard three times a month.

Acute Indigestion.—I have a mare that is not less than 15 years old that has an attack of acute indigestion every three or four weeks. W. K., Elsworth, Mich.—Feed her oats, some dry bran and well cured timothy, exercise every day and give her two tablespoonfuls of ground ginger, a tablespoonful of powdered charcoal, a dessertspoonful of salt and a tablespoonful bicarbonate soda at a dose in feed two or three times a day.

Fractured Hip.—I have a colt coming two years old that fell on ice and knocked hip down and is causing great lameness, but lately he travels better. Is there a remedy for this ailment? W. O. B., Martin, Mich.—Your colt fractured bone of hip which has perhaps united and if a bony union took place instead of a fibrous union, the animal will soon go sound, but perhaps step a little shorter with injured leg. The hip will always be a little deformed, but the animal should be useful.

Partial Dislocated Stifle.—We have a seven-months-old colt that has either sprained or dislocated stifle joint and there is a bunch on joint which causes colt to drag this leg. This joint snaps at every step. Our Vet. prescribed hot water and liniment, but it fails to help him. C. D. W., Ewart, Mich.—Apply one part red iodine mercury and ten parts cerate of cantharides to stifle joint three times a month.

Brood Mare Out of Condition.—We have a Clydesdale mare heavy with foal which is very thin and much out of condition. She raised a colt last summer and worked hard last fall. She is only four years old and when fleshy will weigh 1,650 lbs. G. H., North Branch, Mich.—Groom your mare well twice a day. Increase her food supply, exercise her daily and give her 1 oz. ground gentian, 1 oz. ground ginger and ½ oz. fenugreek at a dose in feed two or three times a day.

Roarer.—Cough.—My 11-year-old mare had sore throat last summer causing her to cough and blow badly when exerted. She eats and drinks plenty, but is thin. She may be with foal. E. W. L., Tawas City, Mich.—Apply equal parts tincture of iodine and camphorated oil to throat three times a week, and give 1 dr. ground nuxvomica, 1 dr. powdered lobelia and a dessertspoonful Fowler's solution at a dose in feed three times a day. Her recovery is doubtful; however, a surgical operation on throat might make her well.

Contracted Foot.—Have a horse that stumbled last spring and is still very lame. The hoof is dry, hard and contracted. She walks best on soft ground. C. M. W., Kibbie, Mich.—Clip hair off coronet and apply one part powdered cantharides and six parts lard three or four times a month. The foot should be kept moist.

Looseness of Bowels.—I have a horse that is troubled with looseness of bowels and I had his teeth floated, but it failed to help him. J. C., Birch Run, Mich.—Give him 1 oz. ginger, 1 oz. powdered catechu, and ½ oz. prepared chalk at a dose in feed two or three times a day. Be sure and water him before feeding grain and if driven fast avoid giving him too much water at a time.

Weak Stifle.—My 18-months-old colt is not lame, but his stifle must be weak; he went wrong eight months ago. B. J. B., Bad Axe, Mich.—Apply one part aqua ammonia, one part turpentine and four parts raw linseed oil to stifle every day or two.

Blocked Quarter.—I have a cow that came fresh ten days ago and I am unable to draw milk with a milking tube from one quarter. The quarter of udder was all right when she went dry. W. A. R., Jackson, Mich.—The function of quarter is destroyed and you will never be able to get much milk from it; therefore, you had better leave her alone.

**Feed 1/2 OF THIS Barrel at Our Risk** FREIGHT PAID

## Make Your Pork Grow Faster Make Your Profits Grow Bigger

Do you know that Molasses is the best and cheapest feed for growing pigs and fattening hogs? Do you know that a gallon of Molasses is equal in feeding value to almost a bushel of corn or oats? It is a fact, and farmers who are feeding this are **Doubling Their Stock Profits.** Read this:

### The U. S. Dept. of Agriculture Says

in Bulletin No. 170, "The principle content (food value) of oats, for example, is Nitrogen Free Extract, of which Oats contains 45.7% digestible. The principle content of Cane Molasses is Nitrogen Free Extract of which it contains 69.3% digestible"—almost 50% more.

### The Maryland Experiment Station

shows in Bulletin No. 117, that Molasses increases the digestibility of all grain and hay fed with it 24%. Is it any wonder that when fed with grain it makes stock grow and fatten as you never saw them grow and fatten before. And remember, Molasses is all feed—there is no waste. And it costs you one-third to one-half less than any other feed. It is by far the cheapest and best you can use—especially for fattening hogs and steers and for all farm stock. It is easy to feed—simply pour it on the grain when fed or in the slop for hogs.

## FEEDING Empire MOLASSES

is the guaranteed, unadulterated Cane Molasses. Contains the natural digestive juices of the sugar cane—is appetizing—nourishing and healthful. Tones up the digestive organs—keeps the bowels free—greatly lessens dangers from disease—No other feed can compare with it for results. We don't ask you to take our word for all this—we prove it or no pay.

## Feed Half A Barrel At Our Risk

### Ask the Stockbuyer

In your neighborhood what he thinks of molasses as a profit-producing feed. He knows that the men who are making big money and topping the market with Prime Stuff Feed Molasses.

Simply send us your order direct from this advertisement for one or more barrels. We pay all freight charges. When it arrives feed one-half a barrel and watch results. If you don't find it the best and cheapest hog feed you ever used and great for steers, sheep and horses, simply return what is left at our expense and we will refund your money, making no charge for what you have used. We ship in 56 gallon barrels only. Price 19c a gallon—or \$10.64 a barrel. Freight paid. Send draft or money order, or your personal check if more convenient. You take no risk—no chance of loss or disappointment.

**WATTLES & COMPANY, Inc., Litchfield, Mich.**  
Largest Exclusive Distributors of Feeding Molasses in the United States

**19¢ a Gal.**  
In Barrels Freight Paid

East of Mississippi River and North of Tennessee. Proportionate freight allowance to points further West and South.

### OR ORDER DIRECT From This Advertisement

You take no risk whatever. We ship freight prepaid in 56 gal. barrels. (No other size sold.) Price 19c a gallon—\$10.64 a barrel, delivered at your railroad station, freight prepaid. Send draft or money order, or personal check if more convenient. Money back after you have fed 1-2 barrel if you are not satisfied. Send today. No shipments made less than a barrel—56 gallons.

**Test the Simmons Line By These Tools**

You can't afford to dig post holes in the old way this spring when you can buy a Keen Kutter Post-hole Digger at such a low price. This digger has sharp, jaw-shaped steel knives that stick deep into the hardest ground and yank up a big load of dirt in a jiffy. You can make more post holes with this digger in a couple of hours than you could make in a whole day with a bar and shovel.

**KEEN KUTTER Quality Tools**

Pitching manure with a Keen Kutter fork is an easy job, because there is "give" or elasticity to the tines and there's heft to the handles. You can test the quality of the whole Keen Kutter line of tools and cutlery by these two money, time and labor saving tools. Be sure you see the trade mark before you buy.

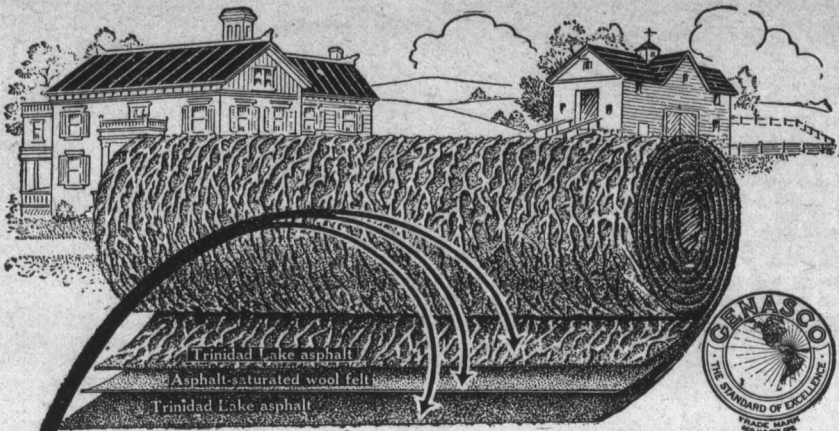
**"The Recollection of Quality Remains Long After the Price is Forgotten."**  
Trade Mark Registered. —E. C. SIMMONS.

If not at your dealer's, write us.

**SIMMONS HARDWARE CO., Inc.,**  
St. Louis Minneapolis New York Philadelphia Toledo  
Chicago Milwaukee St. Paul Kansas City Wichita

When Writing to Advertisers please mention the Michigan Farmer.





**Have a roof that needs no care**  
Lay Genasco, and end your leaks and "mends".  
It is made of Trinidad Lake asphalt—the perfect everlasting waterproofer of Nature.

# Genasco

THE TRINIDAD-LAKE-ASPHALT  
**Ready Roofing**

is armored with the natural life-preserving oils that give lasting resistance to all kinds of weather.

Ask your dealer for Genasco. Guaranteed. Every roll of smooth surface Genasco contains Kant-leak Kleets which make seams watertight without cement. Write us for the Good Roof Guide Book and samples.

**The Barber Asphalt Paving Company**

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

Trinidad Lake Asphalt  
New York Philadelphia San Francisco Chicago



## Why Be a Donkey-Engine?



Don't let heavy hoisting turn your back into a donkey engine. Simplify your hoisting with a



**Jumbo Safety Hoist and Wire Stretcher**

Here's a wonderful little labor-saver that you can try for 30 days free—a hoist that holds the load in mid-air as well as hoisting it up. Thousands of farmers are tickled at the way this hoist saves work. It's the handy way to lift wagon bodies, swing butchered hogs or anything else you want to hoist. It's a peach of a wire stretcher, too. It will save labor—earn its cost in scores of different ways.

**How It Works**—In the upper block of the Jumbo is an automatic lock which engages the pull rope the instant you let up on it. The heavier the load the tighter the grip. Yet so simple in construction, so perfect in

action, that the mere pull necessary to lift the load is sufficient to release the lock.

Simplicity is the secret of the Jumbo's big success. It is the only self-locking hoist on the market with patent adjustment for ropes of all conditions. Made of best steel, critically tested and inspected before shipment. Shipped for 30 days' FREE use anywhere; guaranteed everywhere.

Besides the Jumbo Safety Hoist and Wire Stretcher, we make nine other sizes Hall Hoists, capacity 400 lbs. to 4 tons. Mail your name and your dealer's for the catalog and that BIG FREE OFFER—right now!



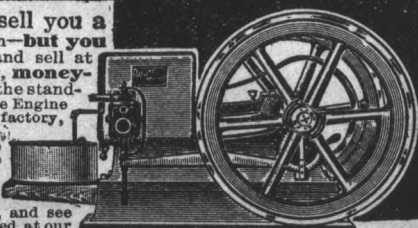
**HALL MFG. CO.**  
806 Main St., Monticello, Ia.

## SAVE THE DEALERS' PROFIT

They may tell you that they can sell you a gasoline engine for as low prices as we can—but you know better. We are manufacturers and sell at wholesale direct to you. Get our factory, money-saving prices on the best engine built—the standard engine of America for 43 years. Every Witte Engine is run under a full load for six whole days in our factory, insuring absolute perfection in every detail.

**THE WITTE ENGINE** has been made and sold by one firm 43 years at only one small profit. It has every improvement up-to-date; will run on every grade of fuel and will save you money on gasoline. Come to the Witte factory if you can, and see your engine made and tested—you will be surprised at our factory, our product, our 5-Year Guarantee, and our Money-Saving Offer. If you can't come, made in 64 styles and sizes. In writing state size and style wanted. Address

**WITTE IRON WORKS CO. KANSAS CITY, MO.**



## Practical Science.

### THE BLEACHING OF FLOUR.

BY FLOYD W. ROBISON.

As is well known to all millers and likewise to many farmers, there has been current a demand for flour which has been aged. As is customary in certain other lines of production and manufacture, the aging of flour seems to produce certain desirable results which seemingly enhance its value when used for bread-making purposes.

#### Aging of Flour Like Aging of Meat.

A notable example of a similar effect in another product is shown in the aging of meats. It is generally considered desirable, through the caprice of the trade, that meat should be held in storage for varying lengths of time after slaughter, in order that certain beneficial conditions brought about during the storage or aging may be permitted. Some dispute the desirability of aging meat but we think there is no doubt that general market conditions demand the storage of meat for a short period of time before its consumption. In the case of flour there seems to be an almost general unanimity of opinion that it is improved from several points of view, either directly or indirectly by the aging process.

#### Effect of Aging Whiskey Compared.

Some years ago we were advised certain very desirable results were accomplished by the aging of whiskey, developing thereby a certain mellowness which it was claimed the freshly distilled product did not exhibit. We then supposed that this mellowness in whiskey which was brought about through the aging process was chiefly the elimination through oxidation of the fusel oil which the raw distillate contained. It has been demonstrated since that this assumption was incorrect. However, many commercial chemists had begun turning their minds in the direction of artificially aging whiskey and the bulk of these processes involved the removal of the fusel oil. Of course, this line of operation became obsolete when it finally became proven that the removal of the fusel oil was not the change which actually took place during the aging of the whiskey.

So now we come again to the proposition of the aging of flour. Just what change or changes take place during the aging of flour are unknown. Without doubt, as in the ripening or aging of meat, certain enzymic or possibly bacteriological changes take place. Whatever the agent which causes the activity that is exhibited in the aging of flour, the resultant product for some purposes seems to be in greater demand in commerce than the freshly milled flour.

#### Change of Color.

One change in flour during storage which is very readily recognized is the change in color. In other words, flour becomes bleached after storage for a considerable period of time, under certain conditions. Flour, especially from spring wheat, has a very marked bloom, in some instances has a decidedly creamy appearance which color seems to be contributed by the oil or fat in the flour. The coloring matter being dissolved in the oil, after a prolonged storage, becomes bleached, thus materially whitening the flour.

#### Storage a Big Expense.

The question of the storage of flour is quite an item of expense, especially when a great many hundred barrels are held for varying lengths of time to suit market conditions, storage space becomes an item of some considerable importance and accordingly millers have attempted to shorten this storage time as much as possible. Several patents have been issued in this country and abroad for what has been termed the artificial aging of flour or as we more commonly hear it, the artificial bleaching of flour. It is admitted that the only result accomplished by resorting to the artificial bleaching of flour is the changing of the color. In other words, the oil in the fat of the flour becomes so changed that it is practically colorless. Therefore flour which has been artificially bleached, to the eye at least, is comparable to flour which has been stored for a considerable length of time. One of the great objections to the artificial bleaching of flour is the fact that the color change is the only change which the flour undergoes. Consequently what other desirable enzymic or ripening changes the natural aging of flour may contribute are entirely ignored in the

artificial bleaching. If naturally aged flour, therefore, contributes a better quality of loaf to the bread, than the same flour before aging, it is natural that the assumption should be made that the artificial bleaching of flour removes the very indicator of the desirable conditions which aging exhibits. On the other hand, if the color change is the only change which flour undergoes through the natural aging process then, of course, the artificial aging of flour from this point of view would be as desirable as the other. But other counts have been raised against artificially bleaching flour.

#### Possible Injury to Health.

The first one which the Department of Agriculture laid its greatest stress upon was the possible injury to health brought about by the artificial bleaching of flour. The other contention was that in such artificial bleaching of flour it became possible to substitute in part or in whole a commercially inferior grade of flour. The litigation which has been presented to this matter up to date has had to deal almost entirely with what is known as the Alsop bleaching process.

#### The Alsop Process.

This process is sometimes known as the "Flaming Arc." It was discovered that if flour of a creamy consistency, or dark in color, were allowed to fall between the poles of an electric arc, that when it passed the arc it would fall on the underside completely bleached. Research seemed to establish that this effect was brought about by the presence of nitrogen peroxide in the atmosphere produced by the electric discharge and as evidence that nitrogen peroxide was present the United States government in the cases at court presented evidence showing varying quantities of nitrites or nitrite reacting material in the flour. It was contended by the government that these nitrites were injurious to health. This point has not at the present time been fully established.

#### Concealment of Inferiority.

The other point, regarding the substitution of commercially inferior substances was the point which attracted the writer as the most serious one. We have understood that when the agents for this bleaching process went about among the millers soliciting the sale of bleaching machinery, one of the arguments most frequently used was that by the use of this bleaching machinery the amount of high grade patent flour in a certain wheat could be materially increased. As is well known, the percentage of patent flour in a wheat is controlled in the mill by the arrangement of the sieves and bolting cloths. In other words, the difference between a high-grade patent flour and the flour of the next grade inferior commercially is a difference which is recognized in the mechanical separation of the flour.

#### Illustration.

If by way of illustration we might consider all of the flour which passes through we will say, a No. 20 bolting cloth, to be patent flour, and that which stays behind and, we may say, passes through a No. 18 bolting cloth, should be marked as second, then we should expect to find a difference in the composition of the patent flour going through the cloth and the second flour left behind. Our natural inference would be that the patent flour would be lower in fiber and lower in ash. Now then, if by bleaching artificially the second flour, we were able to permit it to pass with the patent, or No. 1 flour, naturally it may be seen that we have thus substituted a commercially inferior flour in part.

#### Cases Undertermined.

It does not seem that up to the present time these various counts have been fully substantiated. We are waiting with very much interest the final results of the court investigation in the matter as to their being no possible jeopardy to health and should there be no possibility of deception and fraud, and should the artificial process substitute all of the desirable qualities of the natural aging process, then it would seem too bad to litigate against it. On the other hand, if the artificial bleaching does jeopardize the health or if it does permit of the concealment of inferiority or substitution of commercially inferior flour, then naturally these latter considerations should take precedence over counts of commercial supremacy.



## Farmers' Clubs

### Associational Motto:

The skillful hand, with cultured mind, is the farmer's most valuable asset.

### Associational Sentiment:

The farmer, he garners from the soil the primal wealth of nations.

### A CO-OPERATIVE FARMERS' CLUB.

The Co-operative Farmers' Club of Wolverine and vicinity was organized at Wolverine, Saturday, January 18. Its object as stated in its constitution, is to promote co-operation in horticultural and farm industries by united efforts to grow better crops, stock and fruit, to secure better markets and to co-operate with all other farmers' associations or societies for mutual good. J. L. Barber, Rondo, Mich., is president and C. K. Redfield, Wolverine, Mich., secretary.

### FARMERS' CLUBS IN OTHER STATES.

Encouraging reports are from time to time received of the development of Farmers' Club work in other states, showing that this movement, which had its inception in Michigan, is gradually spreading throughout the country. The latest of these reports is from Ohio, a recent press bulletin from the Ohio State University containing the following item regarding Farmers' Clubs in that state:

"For the betterment of agricultural conditions in the state, the three Apple Creek Farmers' Clubs are a type of organization that might well be imitated by other communities. From an organization originally instituted for the consideration of neighborhood problems, these Clubs have, during the past three or four years, developed to over a hundred members, gathering semi-monthly for participation in programs of general agricultural interest. The development from the original phase has been an insistent one, created by the increasing desire of the people for information concerning better and more scientific agricultural methods. The sessions are held in the district school house, and each program comprises interesting discussions of important topics, directly and indirectly allied with agricultural progress, by men identified with activities in other parts of the state and in the school of agriculture, as well as suggestions by the more successful members. The dues are only ten cents annually, with an initiation fee of 25 cents, thereby prohibiting no one, and at the same time maintaining the dignity of organized effort. Entertainments in the village assist in breaking the winter's monotony, while corn and fruit shows, at which prizes are awarded, have done much to increase interest in the quality of seed corn used by the farmers of the community, and in the advantage of scientific spraying operations. Surmounting in all other features, however, there is a spirit of co-operation to which can be attributed much of the success of the organization, and the advancement of the Apple Creek district should be steady and substantial."

### A PLEA TO PARENTS AND TEACHERS.

In the Michian Farmer of February 17, 1912, was reproduced in reduced size, one of the "Motto Cards" which the State Association of Farmers' Clubs has been instrumental in placing in the school rooms of Michigan; more than 9,000 of these "Motto Cards" having been thus placed. Inquiry brings reports from many school commissioners that they have placed the motto cards as requested, and doubtless, each and every school commissioner has done his duty in this matter, realizing that most valuable results are sure to come therefrom.

The purpose of this brief article, is to seek to impress on the minds of teachers and of parents, the great importance of making an earnest effort to inculcate in the minds and hearts of the 760,000 boys and girls, pupils in our schools, the great value, to them, of adopting as the guiding principle of their lives, the truth, expressed on the motto cards: "It Pays Always to Do Right, and, It Never Pays to Do Wrong." Would that I might take by the hand each one of these boys and girls and, while looking into their bright eyes, tell them how deeply I am interested in their highest welfare—these boys

and girls who are soon to constitute "The Citizens of Michigan."

J. T. DANIELLS.

### WHAT THE LOCAL CLUBS ARE DOING.

As usual the conference of the local Club workers, held during the recent meeting of the State Association of Farmers' Clubs, was a most interesting session of that convention. As usual we will present from time to time in condensed form the principal features of the reports of the several delegates of local Clubs throughout the state at this conference to the end that Club workers throughout the state may have a better knowledge of the work which is being done by other local Clubs. This conference was ably presided over by Mr. C. B. Scully, of Almont. The first of these reports follow:

**Ingham County Farmers' Club.**—Mr. Robb, delegate from this Club, stated that it has a membership of 60 families with a membership fee of 50 cents per family. This is the oldest Club in the state, having celebrated its fortieth anniversary last year. This Club uses yearly printed programs and has a number of special meetings during the year. Last February a Corn Club was organized, 34 boys being interested who grew one-eighth acre of corn each, doing all the work after plowing. Twenty-six of these stayed until the finish and an October meeting was held at which exhibits were made and prizes awarded. Three factors were considered in the awarding of prizes, viz., the yield per acre. The exhibit of the best ten ears and the best description of the methods used in producing the corn, the first two factors being given a value of 40 points each and the last one 20 points. In May an orchard meeting was held, three expert demonstrators being present and four spraying rigs being used. In August a Young People's Meeting was held and in November, Women's Day, at which meeting the men served the dinner. A meeting is held each month except in July.

### CLUB DISCUSSIONS.

**Hold Annual Meeting.**—The Columbia Farmers' Club held the annual meeting Saturday, Jan. 11, at the home of Wm. Ambler, with an attendance of 45. The election of officers resulted as follows: President, W. S. Culver; vice-president, Mrs. W. E. Randall; secretary, Mrs. A. W. Dunn; reporter, Mrs. Lena Taylor; chaplain, Rev. Sidebotham; chorister, Frank Ball. The woman suffrage question was pretty well discussed. Mrs. H. J. Peterson had a fine paper on the affirmative while Dr. Palmer struggled with the negative, many points being brought out on both sides. The next meeting of the Club will be held at the home of Dr. and Mrs. E. N. Palmer, Saturday, Feb. 7.

**The Annual Oyster Dinner of the Hadley and Elba Farmers Club** was held in the Hadley Town Hall, Jan. 23. Though the weather was stormy and disagreeable over 100 were present to enjoy the pleasant occasion. After the bountiful dinner, President B. L. Snook called the meeting to order and the necessary business was transacted. A short but spicy discussion of the mortgage tax law ensued and a committee appointed to draw and circulate a petition asking for the repeal of the present law. Dr. Stewart furnished some fine music on the phonograph and the long looked for day was over.—Mrs. C. P. Johnson, Cor. Sec.

**Hold Big Mid-winter Meeting.**—The Somerset Farmers' Club was entertained at the home of Mr. and Mrs. L. T. Smith, Saturday, Jan. 25. The day being an ideal mid-winter day a large attendance from all parts of the township was the result. At one o'clock the company of 85 were served to a pot-luck dinner, "fit for a King." After this enjoyable repast was over they assembled in the parlors to enjoy a feast of reason, the principal of which was an address by the Rev. Mr. Oberlin. Our newly elected president, Mr. Harry Lombard, presided. First a song by the Club, "Battle Hymn of the Republic," followed by other opening exercises, and the business session. The first on program was the most excellent address on community building. First, social; second, educational; third, religious, by the Rev. Mr. Oberlin, was given in a forceful and interesting manner. There must be clean, wholesome, helpful, social advantages furnished in our rural communities if we would keep our people, especially the young, from going to the towns and cities to satisfy their social cravings, and this is best furnished by the church. The educational part he thinks is sadly neglected in many ways. Many of the rural school buildings are not fit places for the young to spend so much of their time; they are unattractive, unventilated, etc. The religious part is a most important one and it should be the duty and privilege of every person in the community to help by their presence and financial support to carry it on. We cannot do justice to this in this report. Suffice it say it was well received and appreciated. Roll call was responded to with current events. A good literary and musical program was then given and the Club adjourned to meet with Mr. and Mrs. James Dubois, Saturday, Feb. 22.—Mrs. E. White, Cor. Sec.

## Grange.

Our Motto—"The farmer is of more consequence than the farm, and should be first improved."

### THE FEBRUARY PROGRAMS.

#### Suggestions for Second Meeting.

Song, "Merrily Sing."  
Parliamentary review (Guide in Digest, first ten paragraphs).  
Choice and Care of Household Utensils, a talk.  
Music by orchestra.  
Do we Need Better Farm Credit Facilities in Michigan? discussion.  
Echoes from entertainments recently enjoyed, by three persons.  
Music by orchestra.  
"Six School Lunches," planned and described by a mother.  
Questions on "Work of Departments of the State."  
Refreshments—Sisters A., B. and C. bring two dozen sandwiches each; sisters X., Y and Z, a cake each; bachelors furnish sugar, coffee and cream.

### OUR PURPOSE FOR 1913.

State Master Ketcham has asked that the letterheads used by members of State Grange Executive Committee this year shall carry this purpose for 1913: "One new Grange in every county. Ten new members in every Grange, and a program at each Grange meeting. Also a live Pomona in every county in Michigan."

Now this is in accord with what a lot of us would like to see, no doubt, and if we are to have these new Granges, and these new members, if we are to have a live Pomona in every county, and a good program at each meeting, it is up to the rank and file of the order to bring the Grange to the point where such a thing is possible. The State Master can not do it, the Executive Committee can not do it; it is simply up to the strong, intelligent, honest people who make up our membership. Surely it is not too much to ask. Indeed, we should not be content with less in the way of progress.

Now, just a few suggestions as to how this thing can be done. As to the matter of new Granges, do not wait for your county deputy to find the place where a new Grange can be organized, but go to your deputy, or write to him, and suggest places where farmers should organize. Such knowledge will be welcomed by him and, after you have told him, do not let him forget. The pay of the county deputy is not large, and his work comes along so irregularly that he is often tempted to put it off for a more convenient season. The Pomona, too, can help in this work. The extension of the order should receive attention at each meeting. The county deputy should be at every meeting of the Pomona unless detained for very good reasons, and he should ask and receive the hearty co-operation of the members in his work of organization and supervision. The deputy who has no time for the Pomona, and who neglects his own Grange, without excellent reasons, is in the wrong place and should pass his commission on to someone who has the interest of the order more at heart.

It may not be possible to organize a new Grange in every county, but it is much more nearly possible than it would seem at first thought. There are many counties where several Granges could be gotten, and if we all do our duty we can realize our purpose in a large way by the end of the present year.

To add ten members to each subordinate Grange should be possible. If it is to be done, however, there is some good work for the subordinate Grange to do. I believe there are a thousand people who would send their names to the several Granges of the state, at the next meeting, if they could be shown that they were going to get their pay for the time and effort essential to membership. This may sound a little strong but the fact of the matter is that the best way in the world for a Grange to get new members is by doing such good work along all lines that people generally realize that to belong to that Grange is a privilege and not simply a duty which a few people perform because they seem to feel that they must.

And what do I mean by good work? I mean activity along all Grange lines. To begin with, there is our co-operative work. Few Granges in Michigan are doing what they might in this line. Every Grange that neglects these opportunities is losing money. If we used the trade contracts as much as we should we should not only save money, but we should reap advantages in business experience that are well worth considering. But perhaps the great-

est benefit derived, aside from the direct profits from the business done, would be the habit of working together. I say habit, because it would become such after a time, and the neighborhood is truly fortunate whose inhabitants have come to know how many things they can do in common much better than they can do them as individuals.

Co-operative buying and selling, fire, cyclone and life insurance should be kept constantly in mind and should receive our generous support. Doubtless we have much to learn about business co-operation, but we shall learn faster, and our knowledge will be many times more practical, if we continually live up to our knowledge.

So much has been said about the necessity of a good program at every meeting that I despair of writing anything new. Here, again, if we are to realize our purpose, we who compose the rank and file must do our part. We enjoy programs, and we have need of them for many reasons. No Grange meeting need pass without much that is good in the lecturer's hour if we do our duty, and someone in our community, who is out of the order, will join if he or she be assured that this program will be forthcoming.

People come into the Grange for various reasons. Some join for advantages in co-operative buying, some for insurance, some for better legislation, some for the privileges of the lecturer's hour, and yet others for social uplift. If our Grange has lived up to its privilege they were all wise in joining, for all this, and yet more, is possible in our order. Yes, we could add ten members and more to most of the Granges in Michigan if we would simply live up to our privilege as "Good and faithful Patrons of Husbandry."

Shall we have that program at each meeting? Let us early talk over the matter with our lecturer and plan for it. Let us attend each meeting and do our part toward making it a fact. We can do it if we will, and it will be good for all of us.

And we want that live Pomona in every county. It is the business of the Pomona officers and members to make the organization a power for good in the county. The Pomona should help the weak subordinates; it should afford social advantages to many farmers through its meetings held at stated periods; it should have good programs at these meetings, and all who hear as well as all who take part should be stronger and better because of participation. The Pomona, however, should be more than a social or a literary organization. It should gather up, carry forward, and deliver with emphasis the best work of the subordinate Granges of the county. It should be a moulder of strong, healthful public opinion, and it should so forcefully express that opinion that the expression of it will bear fruit. Every board of supervisors, every county official, every member of either house of the legislature and every representative in Congress, should know that your county and mine has a Pomona Grange, and that that organization stands for all that is best in human life and progress. With a Pomona which is truly alive in every county, the question will be less often asked, "Why should I join the Grange?"

All in all, Master Ketcham has set our mark high. I have said our mark, because the work is ours to do. Patrons, let us work hard and earnestly to realize this splendid purpose for 1913.

W. F. TAYLOR.

**Resort Grange**, of Emmet county, is very much alive and holding some excellent programs this winter. At a recent meeting it had the new parcels post explained by a member who proved to be thoroughly informed on the subject and satisfactorily answered the numerous questions which came up. At the same meeting a clear and concise talk on the value of a knowledge of music was a prominent and pleasing feature. At a later meeting the construction of the various kinds of silos was made the paramount topic, and at its second meeting of this month it will endeavor to take up the good roads question from every angle, as the farmers of the township will be called upon to vote on the road question the coming spring.

### COMING EVENTS.

#### Pomona Meetings.

Shiawassee Co., with Durand Grange, Tuesday, Feb. 11. Frederick Newcombe, Professor of Botany at University of Michigan, will speak on "Sun and Soil, and Farmers' Crops."  
Charlevoix Co., with Maple Grove Grange, Thursday, Feb. 20.  
Ingham Co., with Cedar Grange, Saturday, Feb. 22. Patriotic program.  
Genesee Co., with Flint Grange, Friday, Feb. 21.

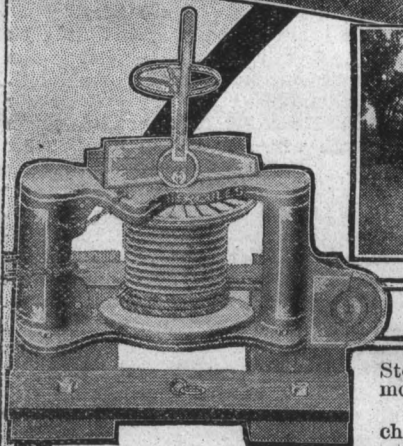


# Pull Out Every Stump

**This Year  
Write For  
My Great  
Book and  
Low Prices  
Now**



*Mail the Coupon!*



Make this your banner profit year! Farm all your land. Pull out the stumps—plant on virgin soil and reap the reward of increased land value and big crops that you won't get if you let the stumps stand!

Get my new free book at once, explaining all the facts and figures about the Hercules All-Steel Triple Power Stump Puller—the machine that so many thousands of farmers are making big money with throughout the country.

Let me tell you how you can easily make \$100.00 profit for every \$1.00 invested in the Hercules machine, not only the first year, but for years and years to come.

## HERCULES

### All-Steel Triple Power Stump Puller

With a Hercules, you turn your loafer stump land into money land and harvest money crops. The work is easy, quick, safe and sure. The Hercules pulls out the roots and all—no grubbing or plowing into snags.

#### Pulls An Acre of Stumps A Day

Let me send you my free book that shows what other progressive farmers have done and are doing. Read where they pull the biggest stumps in five minutes, clearing an acre of stumps a day. See the actual photographic illustrations of scenes from many states. Read about Hercules.

#### Construction

The Hercules is the one all-steel triple power stump puller made. It will pull any stump, green tree or hedge without straining or breaking. It is 60% lighter, and 400% stronger than any "semi-steel" or cast iron puller made. Don't be fooled on names that sound like genuine steel. Get a Hercules and be sure. It's the only puller with double safety ratchets—has self-anchoring and stump-anchoring features and is built low to the ground.

**B. A. FULLER, President**

**HERCULES MFG. CO.**

837 Twenty-First St., Centerville, Iowa

#### My 3-Year Guarantee

If any casting of your Hercules All-Steel Triple Power Stump Puller breaks, any time within three years, Whether the Fault Is Yours or the Machine's, I will absolutely replace any such part free of all cost to you. There are no conditions to this guarantee whatever. Any casting will be replaced promptly, whether the machine breaks by accident or through any flaw in workmanship or material.

#### My New Low Prices Beat All

To the first buyer in each locality I am making a special price offer this year that is bound to gain the attention and get hundreds and hundreds of orders from farmers everywhere. I want you to get in on this bargain at once. The limited number of these machines won't last long at the price I am making. If you write me at once on the coupon below or on a postal I will reserve one of these machines until I hear from you whether or not you are going to buy. Understand, your request for my book is not an order. I simply want to get the book to you at once, so that you can read the remarkable facts about the Hercules All-Steel Triple Power Stump Puller and how it does such splendid work, making big profits for owners everywhere.

#### Mail Coupon

or a postal right now before you forget, or take down the name and address and write as soon as you get a minute's time. Address me personally.



Mr. B. A. FULLER, President, Hercules Manufacturing Co.,  
837 Twenty-First St., Centerville, Iowa

Dear Sir: Please send me free book about the Hercules Triple Power All-Steel Stump Puller. Also your low price to first purchasers.

Name \_\_\_\_\_  
Town \_\_\_\_\_  
State \_\_\_\_\_  
Route No. \_\_\_\_\_

**NOTICE!**

### Grand Prize Yellow Strand Wire Rope Used on HERCULES PULLERS!

It is this Yellow strand wire rope that won first prize at St. Louis Exposition proving twice as good as next best cable. It is this Yellow strand wire rope that is being used by the U. S. Government at Panama on the real important work of building the canal. And experts say this Yellow strand rope is

one of the big helps that will enable Uncle Sam to complete the canal a whole year before expected.

Don't forget—it's the Yellow strand cable that is showing such wonderful strength, the Yellow strand rope that is beating all others on every test put to it, under all conditions

all over the world. And it is the Yellow strand wire rope that is used exclusively on the Hercules Stump Puller—not a green strand, blue strand, white strand or red strand—but a YELLOW strand—don't forget that—and don't let any unscrupulous person or company confuse you.